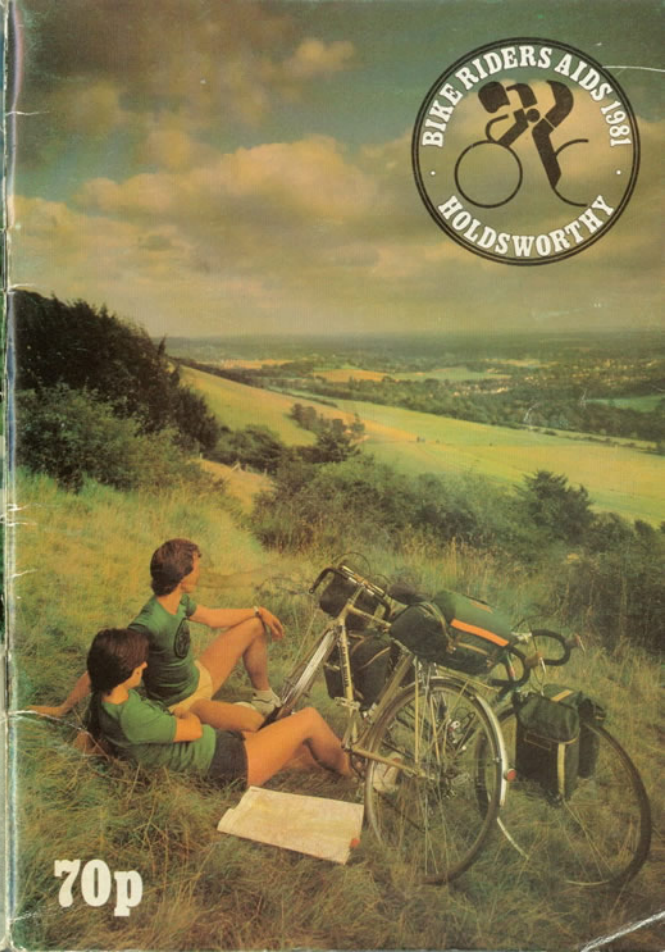
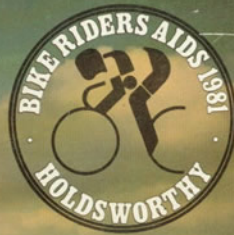


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70p

HOLDSWORTHY

Bike Riders Aids 1981



Welcome to 'Aids' the official Holdsworth catalogue.

During our 50 years service to the cyclist through the cycle dealer we have established ourselves as *the* name in superb bicycles. In our purpose built premises we combine an extensive parts and accessory service with all the traditional and highly developed engineering skills crucial to the production of the famous hand built Holdsworth and Claud Butler cycles. Representing the finest component manufacturers from all over the world, we can supply anything from the smallest part for a gear mechanism to a fully equipped racing or touring machine, not forgetting our range of all-weather, all-purpose cycling apparel.

In all we do, Holdsworth brings the same expertise to bear, — from a staff for whom cycling is a way of life.

Visit your local specialist dealer
for all items listed in this catalogue.



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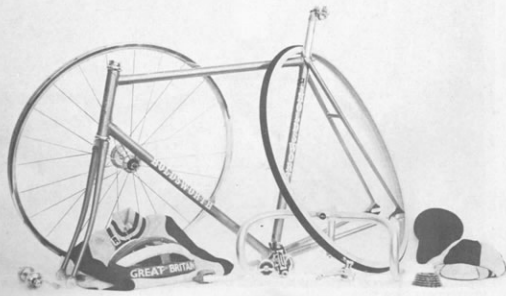
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Prices shown in this catalogue include VAT @ 15% and at the time of publication are the maximum you should expect to pay.



THE WORTHY RANGE

The Holdsworth Company has offered a comprehensive range of cycling clothing to the enthusiast since the 1930's. The styles may have changed over the years but our philosophy remains as then, to offer the finest kit for racing, training or touring, at the right price and, most importantly, with the kind of quality synonymous with our name. We think this latest Worthy collection is the best yet, go and see it at your local specialist shop now.

TOPS

Nylon Fronted Top (illustrated)

The latest thing for cheating a chilly head wind. Warm, fully washable, 100% acrylic material is faced on the front and shoulders with fine nylon. Long in the body with a full zip. Two side and two internal pockets. Elasticated cuffs, waist and neck, seal out the cold and are trimmed in "World Championship" colour bands. Available in three smart colour combinations, grey/green, black/red or red/blue. Small and medium. £22.95

Belgian Training Jersey (illustrated)

Classic style cycling top with long sleeves, short zip

and three rear pockets. In warm washable acrylic. Grey, red or black with bright vertical contrasting stripes and matching trim on neck and cuffs. Small, medium and large. £14.95

Grey Training Top (illustrated)

An English made jersey in high bulk acrylic, a material proven "tops" in terms of warmth, washability and long life. Short zip and three rear pockets. Generously cut in the arms and body for comfort. Light grey colour with bold contrasting side panels in black, yellow, red or blue and matching trim to the elasticated high neck and cuffs. Matching training hats are also available. Small, medium and large. £19.25



Right: Belgian training top, Belgian training bottoms. Left: Belgian nylon fronted top, Belgian knee length bottoms, Norge socks.

BOTTOMS

Belgian Training Bottoms (illustrated)

In 100% black acrylic. As used by continental professionals year round for training and warming up. High waist to eliminate gaps, tight below the knees. Full length bottoms have zipped ankles, knee length version look smart with our Actionman plain or Norge pattern socks. Large double layer seat for long distance comfort and good wear. Rear zipped patch pocket. Full length £11.95
Knee length £10.95

Black Training Bottoms (illustrated)

British made stylish quality. Full and knee length. Sewn-in creases, double seat and high waist. Rear patch pockets. Extra thick acrylic is warm and machine washable. Full length £14.50
Knee length £13.40

Tweed Phases (illustrated)

The thirties look - back in fashion again! Heavy brown-fleck 55% wool tweed carefully tailored in Yorkshire to look elegant on or off the bike. Ideal for the tourist and casual rider. Elastic adjusters at the side. Two front slant pockets, two rear. Large double seat with comfortable flat seams. Knee band gusseted with velcro fastener. Sizes 30" to 36" waist. £20.50



Worthy training top, bottoms and hat.

CLOTHING

Terylene Velo-Pants

The same design as above but in lightweight Terylene for the warmer weather. Light grey fleck. 28" to 40" waist. £20.65

SHORTS

Belgian Bib-Shorts (illustrated)

Made to the latest design in Belgium, where they know about racing clothing! In aerodynamic super stretch acrylic with specially lined bib to cheat the cold in early season events. Excellent quality padded chamois. Adjustable integral braces. Small medium and large. £18.99

Belgian Float Line Shorts

Super quality skin shorts in the same material as the bib shorts. Long legs and high back in the continental style. Large padded chamois with over-stitched seams for comfort. Small, medium and large. £15.99



Tweed Phases, Action Man socks, Record shoes

Belgian Super Roadline Shorts

In wool/acrylic mixture for long life, comfort and good washing characteristics. Flat seams and good chamois. Small rear pocket. Small, medium and large. **£10.99**

Belgian Roadline Shorts

As above but in 100% acrylic material. Small, medium and large. **£8.99**

Lirelle Touring Shorts

Light and washable with two button back pockets and two slant side pockets. Adjustable waist band, side V's in the legs for easy movement. Nylon pockets sewn-in creases. 28" to 40" waist in light grey or navy blue. **£13.45**

SOCKS**Action Man (illustrated)**

Absolutely superb wool/nylon knee length plain socks suitable not only for winter cycling but all other outdoor activities. White, grey, green, blue or red. Cushioned sole. **per pair £3.75**

Norge Patterned (illustrated)

Acrylic patterned in either 10" or 11" lengths. Black/white or red/blue. Look superb with knee length bottoms. **per pair £3.45**

Sportex

Short white nylon ribbed socks with red, white and blue bands on the elasticated tops. Cushioned sole. **per pair £1.28**



Belgian "Float-line" skin shorts

HATS**Training (illustrated)**

A smart hat in light grey acrylic with contrasting panels to match the Worthy training jersey. Small peak and full width contrasting ribbed section to fit snugly over the ears. **£4.70**

GLOVES**Reflexite (illustrated)**

Superbly warm hard wearing gloves. Leather palms and thumbs with thick knitted cotton backs and "Reflexite" strips to make hand signals more visible. Long elastic cuffs to overlap jersey and leave no freezing gaps. Small, medium and large. **£5.99**



Belgian Bib-shorts

El Rayado Racing Mitts

High quality workmanship in every stitch of these hand finished mitts made from top quality chamois with a generous patch. Backs crocheted with contrasting double bands, and a padded thumb panel. Finger ends are double stitched. Small, medium, large and extra large. **£3.99**

FLUORESCENT APRON

Designed as a marshals apron, but now very popular with commuting cyclists because of high visibility in traffic, also cuts out the wind. One size fits all. Plain orange reinforced vinyl. **£2.75**

SHOES**New Chiltern**

Ultimate in shoe comfort from padded ankle line which fits snugly to the foot, complementing the all leather sole and upper. This tourist shoe is generously cut on a broad fitting with a cork inner sole. The heel and toe are reinforced and the tongue padded and a patch fitted to the side to prevent chafing from toe straps. Sizes 5 to 12 in half sizes. **£26.70**

Record (illustrated)

A first class all round touring shoe. Made from tough, supple black leather with wine coloured trim and a small heel. Sizes 2 to 12 in half sizes. **£26.25**



Worthy "Reflexite" gloves

CLOTHING**CRASH HATS****C & D (illustrated)**

Lightweight rigid glass-fibre helmet that provides real head protection for track racing. Foam internal padding. Secure adjustable nylon padded straps in 'paratrooper' style. Ventilation holes. Sizes 50, 51, 54, 56, 58, 60, 61. **£21.95**

DANSK

The most popular lightweight racing crash hats. Black patent leather. Comfortable non-slip fastener. Sizes 54-61.

Road. Nylon webbing straps. Lightweight for long distance comfort. **£9.48**

Track. Heavier padding for track racing. **£11.33**

Super. Hand finished absorbent leather lining with thick leather straps. **£13.40**

'BONK' BAG

No cyclist should be without a bonk bag (or musette). Useful for carrying small essential items like Mars Bars, maps, spare tyres, tools, gloves etc. Ours is in plastic lined canvas fabric, 13" x 10" with white webbing adjustable shoulder strap and large 'Campagnolo' logo. Assorted plain colours.

502001 'Campagnolo' Musette

£1.95



C & D crash hat

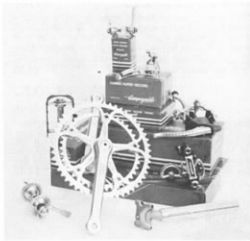
Campagnolo

a name worth saving for

Throughout the cycling world, above all others, one name immediately brings thoughts of quality in lightweight cycle components. Campagnolo's products are not cheap, but a trip to the company's headquarters at Vicenza, Italy revealed some of the reasons why.

Ask a Sikh, a South African or a Swiss about top components for cycle racing and you can be pretty sure that the name Campagnolo will be mentioned. In fact it is the most well known name in the world's cycle trade - and not without reason. Campagnolo products have been made for something like half a century, to be fitted by those who could afford them, and envied by those who couldn't. The advent of Japanese equipment in the last decade has given a practical alternative at a lower price, but usually the purchaser will admit he "can't afford Campag. at the moment". It would be difficult to find a parallel example in another industry - say Rolls-Royce cars, perhaps - where one brand name has such an envied image. Critics say for instance, that you pay for the Campagnolo 'name', that Campagnolo rarely produce anything new. But if the same derailleur gear design works, and the quality still sells, isn't that answer enough? Or perhaps not; perhaps it would take, for some sceptics, a visit to that small town in northern Italy where it all started, and where it still happens. Then they could see for themselves.

Campagnolo is a name in the cycling world. Campagnolo is an institution in the industry. But most of all, and most reassuring of all, Campagnolo is a person, the incredible driving force that motivates the company's thinking and the personnel the company employs. "He's an incredible personality. We work not for the company, but for that man", said one of the watchmen on the gatehouse at the main factory in Vicenza. And that was the message repeated by every employee. It's not



surprising. At the age of 77 Signor Tullio Campagnolo, referred to respectfully as the 'Commendatore', is still a dynamo, working all hours at the headquarters, turning up to preside at shows all over the world, and at cycling's greatest events. His mind is sharp as a razor, and his principles about as unshakeable as a double-barrelled shotgun. They say that one day, as is his habit, he was wandering through the factory and picked up a component to check it. A glance revealed something not to his liking. The offending item was despatched through the nearest window and the whole batch scrapped. Campagnolo is backed by a team of executives, research technologists, engineering experts. But until a component is right for the 'Commendatore' then it won't carry the name of Campagnolo, and everybody knows it. This explains why innovations are slow to come out of Vicenza; the company doesn't produce newcomers with the regularity of a Neapolitan momma, but when was the last time Campagnolo produced a wrong 'un?

Tullio Campagnolo believes in what the riders want, and no wonder. For wasn't he a rider himself way back in the 1920's, and didn't he discover what was needed the hard way? He was a top amateur in his day. On one occasion he had fastest time in a two-up pre-Olympic time-trial. The trouble was, he had to settle for third place because he had long since had to abandon his partner. On another occasion he was about to win a group sprint in the Coppa Italia when he was brought down by a motor cyclist ten metres from the line. One Milan-San Remo he rode as

an independent and was fourth over the line at half-distance, but two stops for mechanical trouble ruined everything, and he had to sacrifice a top position. But perhaps the most significant point in his racing career - as far as what was to follow is concerned - came in a miserably cold event in November 1925. He was first over the Dolomite climb which was the main obstacle, but on the descent he was brought to a halt by a puncture, in the middle of a blizzard. Frozen stiff, he found that his numbed fingers couldn't even undo the wing nuts of his hub so that he could change his tyre. At that point he started to reflect on how inadequate cycle components were in such conditions.

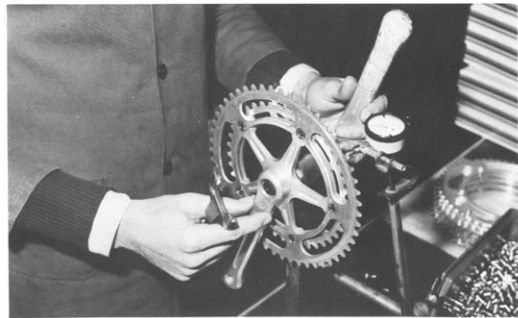
Cyclists nowadays should bless the fact that Tullio's father wasn't a baker or a printer, but instead had a hardware shop, with some interest in tools in engineering matters. It meant his son was able to work on his prototypes in the back room of the store. In due course the first Campagnolo quick-release spindle was produced, to be given the best of road tests by its inventor.

It gave him a taste for more, always with the goal of making the racing cyclist's lot easier. In 1930 he took out his first patent, which was to be followed by almost 200 more in the course of the next half-century, with appropriate extensions to give worldwide

cover. The first gear mechanism came three years later and in 1936 the big breakthrough happened. The great Italian champion Di Paco, using the first of the production models of the Campagnolo gear, started to pile up the wins. Other big names followed suit: Magni, Bartali, Tullio Campagnolo was still working alone, using specialized machine-shops where necessary to help his own production. Not until 1940 did he take on his first employee, and then further expansion was halted by the war.

In 1947 he started exporting, and as the years went on his range of components became bigger and bigger, with seatpins, chainwheels and more recently brakes, making more complete the accessory groupings. Now Campagnolo is exported to around 100 countries including those of eastern Europe, about 80% of production goes abroad. The keynotes of expansion were a continuity of quality and precision, and a constant contact with the sport at a top level, in order to get the best possible testing-ground for proposed new products.

Campagnolo's research department today has a full-time job keeping up with design trends and with new materials. When Eddy Merckx broke the world hour record in Mexico in 1972 he was using a range of Campagnolo



Checking chainrings for perfect alignment.

prototypes - pedals, hubs, seatpin which employed magnesium alloys, which have similar properties to steel but at a quarter of the weight. At big bike races all over the world, Campagnolo's service crews are present, particularly the World Championships and the Olympics, where apart from race service during the road events, Campagnolo have mechanics ready to tackle any problem and to help with new equipment. Many British international teams have benefited from this event service, with existing Campagnolo items renovated or replaced where necessary. Some countries, notably the U.S.A., have a permanent Campagnolo service vehicle. Many professional teams have Campagnolo as a co-sponsor or supplier, and the Campagnolo name is represented at cycle shows all over the world.

Sophistication is a keynote of Campagnolo these days. In the manufacture of components the machine has virtually taken over. Says their production manager, Signor Michelotti "A man only feeds our machines and checks their operation. He could never regulate the operation of a machine well enough for us. The machines work to the tolerances they are set." Campagnolo has several factories in Vicenza and another is planned soon. The Commendatore himself showed us around the newest of the factories, the machines still working late at night. He seemed as proud of the bright restaurant facilities for the work force as of the works itself, which probably gives a clue as to why he is so highly regarded by his employees. That particular works was a building of contrasts in technology. In one corner a straightforward traditional press was stamping out washers to go into a gear lever,

working 16 hours a day unattended, with just a roll of steel strip needing to be changed occasionally. Others were much more advanced, including several driven by computer tape. I watched fascinated as one machine went through several operations to produce the crank 'spider' three at a time being produced. It was typical of several mammoth pieces of hardware which carry out not one operation, but several, making manufacture much more simple.

Campagnolo's raw materials are metal rods and bars, plus alloy forgings and castings produced to their own specifications which are machined and otherwise finished at Vicenza. Naturally much technology is in the forgings themselves: alloy has a 'grain' which must run in the right direction for a particular component to have maximum strength. Every breakage returned to Vicenza is investigated. Often there are clear reasons for a component breaking - a crash, incorrect fitting, misuse. But this investigation could conceivably reveal a way of improving subsequent production. All of which doesn't mean that Campagnolo uses the customers as guinea pigs. As mentioned before, there is much testing done on every new product, and every possible care is taken to ensure that the production model is at least as good as the prototype.

There are tools to check production, of course. But there are tools to check the checking tools, to ensure consistency. There is one checking tool which is like a microscope. You look at a screen and see what looks like a chainwheel tooth in profile. But it isn't, it's the shape of a thread, seen at 30 times magnification, with any departures from the

correct shape immediately noticeable.

Compressed air, at a set pressure, is also used to test the efficacy of a thread, and similarly to secure a bolt to the correct tightness - something else they prefer not to leave to human trial and error. Everywhere there are signs reminding the workers of the importance of precision, of sticking exactly to the specifications. I saw the specification of the stages of manufacture of a chainring. Simple enough, you might think. Except that from the stage of the alloy blank to the finished ring took 29 operations. When you consider that there are 6,500 different items in Campagnolo production you start to get the feel of the operation.

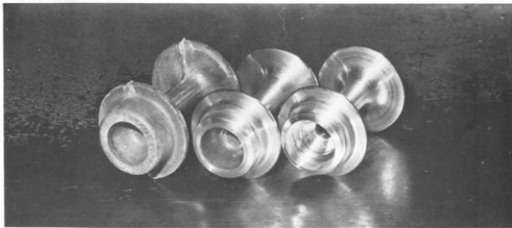
Or perhaps you don't. Because although you can see the many machines, appreciate the effect the name of Campagnolo has on the quality market, you need only go into the final assembly department to get an entirely different impression. At the assembly stage they go back to the principles of the cottage industry where 'mass production' are dirty words. I watched one man testing Nuovo Record rear gears, mounting them by the top bolt to a prepared right-angle set-up, working the spring of the parallelogram, checking that the jockey wheel cage was at exact right-angles to the spring's line of operation. Every gear goes through this operation, which takes 30 seconds apiece. Every gear he then from the Super Record range or the Nuovo Grand sport. Then I watched large-flange hubs being

checked, for the concentricity of the flanges and of the freewheel threading. I saw chainwheels bolted onto a prepared axle and checked for truth - again every one.

So Campagnolo is a company of contrasts, with big firm technology, coupled with the attention to detail, the pre-occupation with precision, which typifies much smaller operations. It says much for this Italian company that they are used as a yardstick by their customers and their competitors. Competitive lines are invariably judged in comparison with Campagnolo; on price, quality, design. Many competing companies make their components interchangeable with Campagnolo, because if they didn't, their own sales would be lower. But Campagnolo competes with other companies on its own terms. They insist that they will not lower standards, and so tarnish the company name. They insist that if the rider wants the best, then he will eventually afford the price. We are never likely to see this Italian institution, one of the centre-pieces of attention in the two wheel manufacturing world go into bargain basement production. They just couldn't reconcile it with their existing principles of production.

Luciano Giacomelli, Campagnolo's export director, put it in a nutshell. "People just cannot believe our system, they cannot believe what we do here."

After even a short trip around Campagnolo, I believe.



Three stages in the development of a small flange hub.



Inspecting the alignment of the flanges and the freewheel threads on a large flange hub.

BOTTOM BRACKET SETS



SUPER RECORD

The ultimate combination of light weight and super strength, evidence of Campagnolo's experience in the demanding field of aerospace technology. The axle is machined from weight saving titanium which is amazingly tough and resistant to corrosion. Even with steel bearing inserts the unit is 20% lighter than the equivalent all-steel axle. Precious grammes are saved too in the satin finished duralumin cups, as only the hard wearing bearing surfaces are steel, and contra threads on the axle entries effectively 'pump' water and road dirt away from the bearings. Caged 3/16" ball bearings, selected to 1/100th mm. tolerance, are supplied sealed and lubricated with special patented anti-corrosion Campagnolo grease. With the nylon sleeve installed, keeping the unit clear of unwanted debris, many thousands of miles of trouble-free, low friction performance are guaranteed. Complete with crank fixing bolts. All spares are available individually. Weight: 200g/7.06oz.

403001 Strada set, for double chainsets. To fit standard English bottom bracket. £72.45

403003 Pista set, for single chainsets. To fit standard English bottom bracket. £71.70

Strada sets also available for 70mm English and standard Italian bottom brackets.

NUOVO RECORD

The one the professionals use! This set has become the standard fitting for road racing bikes because of its unrivalled strength, reliability and efficiency over seasons of gruelling miles. The axle is hardest steel, hollowed to save weight and the races ground to the finest tolerances. The cups are satin finished steel with threaded axle bores to repel water from the bearings. The unit is sealed in use with a dust and water-proof two part interlocking nylon liner, just fit and forget. Complete with crank fixing bolts and caged bearings pre-lubricated with Campagnolo special grease. All spares available. Weight: 300g/10.6oz.

403009 Strada set, for double chainsets only. Standard English bottom bracket. £22.90

Strada sets also available for 70mm English and standard French and Italian brackets.

RECORD

The original Campagnolo cotterless bottom bracket set. An axle of finest steel, satin chrome cups and precision caged bearings, will last for years under the toughest conditions. Complete with pre-lubricated 3/4" balls and crank bolts. Sets available for standard English 68mm bottom brackets:

403006 Set for double chainset. £19.10

403005 Set for single chainset and 5/6 gears. £19.10

403007 Set for triple chainset. £20.70

All spares available including cups for French and Italian threads. Also axles in the following sizes:

403021 68-SS-120 for double chainset

403018 68-P-120 for single chainset and 5/6 gears

403022 68-P-110 for single chainset and fixed sprocket

403023 68-SS-120x3 for triple chainset.

403012 70-SS-120 for double chainset. French and Italian threads



Campagnolo Nuovo Record bottom bracket set.

BRAKES



Standard equipment for professional and amateur cycle racers alike, Campagnolo brakes have long been acknowledged as the "state of the art", often copied but never equalled. Made from the same alloy Campagnolo use to engineer spacecraft components, the brakes combine light weight with an incredible rigidity and efficiency not even approached by any other manufacturer. A cyclist with an eye for fine engineering and a concern for his safety will rarely use any other type of brake after Campagnolo.

The brakes are available in two stirrup depths, the original 'standard' being suitable for clearances to 46-58mm and the more recent shallower version, named the 'Piccolo', for the latest 'close clearance' frames with a 41-53mm range. The blocks are made from a secret Campagnolo formula and work equally well in wet or dry conditions but without 'snatch'. Smooth, cam operated quick-releases and wheel guides on the shoes ensure rapid wheel changes, important in road races where a slow change by a mechanic can mean the difference between winning the national championship and joining the 'also rans'. Flats on the pivot bolts allow precise centring with a 13mm cone spanner and the cable adjusters are cammed to prevent unwinding in use, also rubber ringed to prevent chips on the down tube. The levers are elegantly curved and satin anodised with full rubber hoods for comfort over many miles. The SUPER RECORD set has drilled levers for more grip and a smarter appearance. Sets are complete with nylon lined cables pre-lubricated with Campagnolo special grease. Also available with short centre bolts and allen-key fittings for frames with suitably recessed bolt drillings. All spares are readily obtainable. Weight of set complete: 800g/28oz.

CAMPAGNOLO RECORD BRAKE SET, Standard or Piccolo. £89.10

CAMPAGNOLO SUPER RECORD BRAKE SET, with drilled levers, Standard or Piccolo. £92.00



BRAKES



CARRERA

A really up-to-date anodised sidepull brake incorporating the refinements and attention to detail for which the Swiss are famous. Every bearing is plastic bushed, rattle-free and non-binding. Butterfly quick-release with twist off action gives 1/2cm rim clearance. Black X-pattern patented blocks in sealed shoes with wheel guides. Depth adjustable 45-60mm. Levers are drilled with translucent rubber hoods. Complete with graphite lubricated cables.

Boxed set £55.20



Weinmann "Carrera"



Weinmann "605"

"605"

Excellent value alloy brakeset with many high quality features. Quick releases. Wheel guides. Polished stirrups and drilled levers with translucent rubber hoods. Black X-pattern brake blocks for improved efficiency. Total weight with cables: 650g/23 oz.

Boxed set £21.95

"999" CENTREPULL

A classic design. Reliable mechanism bolts firmly to the frame. Fitted as standard equipment on many good bicycles. Front and rear stirrups available either shallow (50-65mm clearances) or deep (63-80mm). Total weight with cables and 161.1 drilled quick release levers 690g/25oz.

Boxed set £14.00



Weinmann "999"

SIDEPULL

Recognised as the best value in inexpensive brakes and highly favoured by time trialists for their exceptional light weight. Front and rear stirrups available either shallow (45-55mm clearances) or deep (55-73mm). With drilled quick release 161.1 levers. Total weight 530g/18.7oz.

Boxed set £10.50



Weinmann "500"

Universal "77"

A very popular and extremely high quality alloy sidepull brakeset from a well known Italian manufacturer. All the latest features but at a very reasonable price. Rubber ringed cable adjusters. Positive quick release. Wheel guides. Flats on the

centre bolts allow accurate centring with a 13mm cone spanner. For frame clearances of 49-58mm. Levers are elegantly curved and slotted with comfortable translucent rubber hoods. Complete with cables. Weight complete 700g/24.7oz.

Boxed set £33.95

CHAINSETS

Campagnolo

Campagnolo engineering, a standard by which other cycle component manufacturers are judged, and nowhere is this supreme standard more outstanding than in the Super Record, Nuovo Record and Record range of chainsets. Race proven by countless champions in the past and today the choice of such riders as Bernard Hinault, winner of the Tour de France 1978 and 1979 as well as the 1980 Giro d'Italia and World Professional Road Race Championship. A properly installed and maintained Campagnolo chainset is an investment for any serious cyclist, however. Leaving aside the superior performance, it will outlast any other make several times. In fact the cranks will last al-

most indefinitely. They are machined from forgings of the finest material, a secret formula aluminium alloy which combines unparalleled strength with light weight. Meticulously inspected at all stages of production they are chemically polished and anodized for a superb satin sheen. Available in 165mm, 170mm and 177.5mm lengths with double flanges for two chainrings or single flanges for one ring. The chainrings are worked from solid blanks of specially hardened alloy, elegantly shaped but retaining the necessary rigidity. Each tooth is individually gear cut to uncompromising tolerances and every ring is fitted to a crank and set for perfect alignment. They fit perfectly to accurately machined crank shoulders and secure with steel allen key fitting bolts and sleeves. Made in sizes 41-57 tooth in 3/32", 1/8" chainrings for track sprinters are available to order, 44-54 tooth.

Bearings supplied are for standard English bottom brackets. Others are available to special order. (see page 10). Individual parts available separately.

Super Record double chainset. Complete with Super Record bottom bracket set, double flange cranks, all fixing bolts and two chainrings. Weight: 810g/28.6oz. **£144.35**

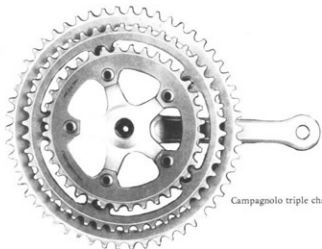
Super Record single chainset. Complete with Super Record bottom bracket set, single flange cranks, all fixing bolts and one chainring. Weight: 750g/26.5oz. **£127.50**

Nuovo Record double chainset. With Nuovo Record sleeved bottom bracket bearings, double flange cranks, all fixing bolts and two chainrings. Weight: 910g/32.1oz. **£94.87**

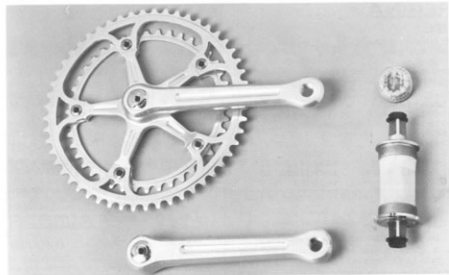
Record single chainset. With Record bottom bracket set, single flange cranks, bolts and one chainring. Weight: 850g/30oz. **£75.00**

Triple chainset. With Record 'triple' bottom bracket set and special 36 tooth inner ring attached to adapted right hand crank. Other two rings to choice, fit as normal. **£110.50**

Tandem chainset. Complete cross-over drive system with two Record bottom bracket sets, appropriate cranks, two connecting 42t rings and two drive rings to choice. **£229.50**



Campagnolo triple chainset



SR

SR
Super Apex

A popular range of Japanese light alloy cotterless chainsets. High quality but at a reasonable price and used as standard equipment by many manufacturers on some of the best production bicycles. Fittings for standard English bottom brackets.

SUPER APEX

SAX-5LA-EL. (illustrated) Racing set with one piece forged cranks in satin anodized super Duralumin. Cold rolled rings are similar in appearance and interchangeable with Campagnolo. 42/52 with 170mm or 165mm cranks. **£32.15**

CUSTOM

CT05TG. 32/50 tooth chainrings for tourists, interchangeable with Stronglight "99". One piece forged high strength cranks in 170mm or 165mm lengths. Allen key fitting chainring bolts. **£21.99**

SILSTAR

SN5 DLA-EL. A really elegant racing 42/52 double chainset with detachable Campagnolo-type chainrings. Allen-key fitting bolts. 170mm or 165mm crank length. **£19.50**



SILSTAR

SN-5DRG-AH. A lightweight five-arm alloy cotterless chainset with detachable 36/50 double chainrings. Melt-forged cotterless cranks. In 170mm or 165mm crank lengths. **£16.80**

SILSTAR

SN-5SD 11-AH. 40/50 tooth light alloy double chainset with detachable inner ring. 170mm or 165mm crank length. **£14.40**

SILSTAR

SN-S. A single ring 48 tooth version of the above. 170mm or 165mm crank lengths. **£9.95**

FREEWHEELS

REGINA

ORO

A hardened golden finish, the toughest materials and finely ground ball races still make the "Oro" range of freewheels the classics for the roadman, time triallist or tourist. Available in the following popular 5 and 6 speed sizes:

Five Speed

13-14-15-16-17	14-16-18-20-23
14-15-16-17-18	14-16-18-21-24
15-16-17-18-19	15-17-19-21-23

16-17-18-19-20

17-18-19-20-21

13-15-17-19-21

Six Speed

13-15-18-21-24	12-13-14-15-16-17
13-16-20-23-26	13-14-15-16-17-18
14-16-18-20-22	14-15-16-17-18-19

Prices from £9.20 to £10.75 depending on ratios.

Bodies and sprockets are available separately for self assembly to a personal choice of ratios.

- Standard 5 and 6 speeds use the same body.
- A special Scalare body is required for close ratio 13-17 fives and 12-17 sixes.

STANDARD ORO BODY	£6.00
SCALARE ORO BODY	£6.80

Sprocket type (See diagrams)	Available in tooth sizes	Price
2	16 to 24	£1.20
3	17 to 31	£1.40
4	15 to 22	£1.60
5	14 to 18	£1.10
6	14 to 17	£1.75
7	13 to 17	£1.10
8	14 to 20	£2.75
9	13	£1.25
10	15 & 16	£1.25
11	12	£3.10

The diagrams show the 5 usual configurations. Decide which you require and select sprocket sizes from within the range of each type as shown.

EXTRA

A good quality budget priced range of 5 and 6 speed freewheels in blued steel. Use spares from the "Oro" range.

Five Speed

13-14-15-16-17	14-16-18-21-24
14-15-16-17-18	14-16-18-20-23
15-16-17-18-19	15-17-19-21-23
16-17-18-19-20	13-15-18-21-24
17-18-19-20-21	14-17-20-24-28

13-14-15-17-19

14-15-16-18-20

13-15-17-19-21

16-17-18-19-21

14-16-18-20-22

13-15-17-19-21

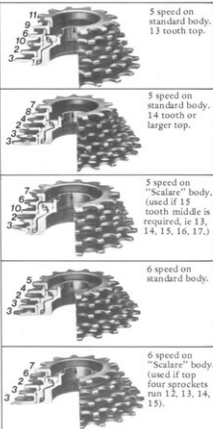
Six Speed

12-13-14-15-16-17	13-14-15-16-17-18
13-15-17-19-21	14-15-16-17-18-19

Prices from £6.10 to £8.45



SEE THE GEAR CHART ON THE INSIDE BACK COVER!



FIXED SPROCKETS



The best fixed sprockets available and the perfect complement to a Campagnolo track hub. Precisely engineered in steel or alloy, 3/32" or 1/8". 13, 14, 15 or 16.
Steel £7.20
Alloy £8.60



TDC

Best steel British made sprockets at a reasonable price. 3/32" or 1/8" 12-22 teeth. £1.00

REGINA

RECORD

A special chain for competition cycles where light weight, strength and long life are essential. Engineered from a super-hardened steel with bevelled and drilled link plates, flush fitting pins and a distinctive 'golden' finish. Weight 350g/12.3oz.
406003 Regina Record Oro 1/2" x 3/32" Chain, 116 links. £9.80

ORO

A well known chain favoured by roadmen and club riders for years, easily recognised by its hard-wearing 'golden' finish. Flexible enough for ultra-short wheelbases and six sprockets. Weight 390g/13.7oz.
406001 Regina Oro 1/2" x 3/32" Chain, 116 links. £5.10

EXTRA

A good quality hard steel chain with a smart black appearance. Standard equipment on many Holdsworth and Claud Butler production models. Weight 390g/13.7oz.
406005 Regina Extra 1/2" x 3/32" Chain, 116 links. £3.40

TURISMO

A black 1/2" x 1/8" track sprinter's chain with the necessary strength for the fiercest rider. Weight 410g/14.5oz.
406007 Regina Turismo 1/2" x 1/8" Chain, 108 links. £1.95



So you want to be the next Bernard Hinault

By KEITH BUTLER



Well it *could* happen. The way is clear and well marked, but you have to be able to do three things. Firstly, you must enjoy riding a bike. Most of the best racers are recruited at an early age from such excellent organisations as the Cyclists Touring Club, in other words they began riding a bicycle for its own sake, for sheer pleasure. The second requirement often comes as a result of the first and that is a fierce competitive spirit. The "killer instinct" that pushes a rider to be first up that next hill, fastest to the next town. Thirdly, and here's the crunch, you must have a capacity for hard training. From articles in the cycling press, you may have read about interval, circuit and weight training, diets and vitamins, telling you that these things will make you go faster and, of course they will if used sensibly and especially if you have the additional services of a good coach. *BUT* before anything else you must have this basis of long fast miles on the bike.

You must appreciate that there are no short cuts or magic potions to help you to that World Champion's jersey. It was Fausto Coppi, the "Campionissimo" of the 1950's, who was once asked for the three things that would ensure success. He gave them as:

- (1) Ride a bike
- (2) Ride a bike
- (3) Ride a bike

These sentiments have been echoed over the years by Jacques Anquetil, Eddie Merckx and today, Bernard Hinault. Unless you ride the bike, and lots, you will get nowhere. So, throw away the car keys, (or give them to someone to look after, in England you never know when it might snow).

Training, as mentioned before, has to be fast, hard and long. (ie, 20 miles an hour plus, small groups, four to eight hours). This should be the basis for everything you do. If you go training on your own, you have to do speed

work and you have got to keep it going for a long time, but with a few friends you can use each other as "chopping blocks". You are out to get top performance out of yourself and each other and there should be no mercy shown. Normally one will wait for mechanical problems, with one's friends, but apart from that you should aim to hammer the others into the ground.

What sort of races should you enter, bearing in mind your ambition? You need to be as versatile as possible. You should be able to ride in the bunch in road races, to do a good time-trial and in addition ride the track. Track racing is essential because this will give you "nippiness" in sprints, will teach you to ride very close at fast speeds in bunches with very little control (as you will appreciate on a fixed gear and no brakes) but what is most important is to give you confidence in your own bike handling. Even in a local track league, you should be thinking of the future. You should go out with the intention to demolish the opposition. Try your best tactically. Anyone can just roll around and go for a sprint at the end, whilst it may get you some attention, it will not give you the necessary boost to either your confidence or your ability to race hard and fast.

The same can be said for road racing. It is absolutely pointless "sitting in" in the bunch all day. One might as well go for an amiable potter with a few friends to the local cafe. If you enter for a race you are entering to win, and win you will if you try and try to the best of your ability. Tactically, the services of an experienced coach will help, but if you ride hard you will soon get to know other hard riders who will be prepared to work with you. Concentrate on sprinting, climbing, winning 'primes' and of course the race.

To start with, and until you have your first category racing licence, you will need to enter fairly local events, anything where you have a chance of getting in. Initially, this can be fairly difficult, as demand is high and the number of races not sufficient, but with sixty-man fields, introduced this year, there should be a better chance.

Ride time-trials with similar philosophy - to win. Looking to the future, a rider with some time-trialling experience is very useful to

continental clubs, with their team time-trials and it is my experience that an Englishman with a knowledge of steady hard work usually more than holds his own. The time triallist here, whilst he can get a tremendous amount of enjoyment and personal satisfaction from his sport must realise that this is a purely English style of cycle racing. Unfortunately, it has led to riders going for fast times on fast, flat roads and forgetting that the main purpose of racing is to win. To a great degree this is the great malaise of English cycling. We lack that sheer bloody-mindedness that will make us try the utmost to win.

With hard work and aggression you should work your way up to first category status and then aim to ride all the top quality races. If you are good there is no point in riding a lot of "fish and chip" events. While these may give you points on your licence and a few pennies in your pocket they will not improve your standard of racing. "Star Trophy" events should be your aim even if it means travelling throughout the country. If you get international selection your results will give some indication of your quality, especially when you go abroad.

Now you have to remember that to be a world champion you will need to go over and take on the existing champions on their home ground. There is little future for riders of that standard here. The opportunities are on the Continent but the average Continental club is only really interested in you if you win. Seconds, thirds and minor placings are looked upon as promising and that's about all. This is why it is so essential to get your priorities right from the beginning and race to win. No team or club official is going to take the slightest notice of any of your stories of great deeds in Britain but he will, however, be impressed by performances in International events, because there he has some way of comparing you with the riders he has under his command. These men will want to see how good you are. If you have done your work well and you are a hard, fast rider capable of working all day in a good quality field, you should be able to impress. Find the top races, and win them. Second to tenth places keeps you living abroad, they pay your expenses but wins further your career. When you've made your mark you can turn to prospective employers saying "This is what I have done".

So you've won yourself a Professional contract - but you're back at the bottom of the pile again. In the Professional class abroad you are paid for what you are worth as an athlete and entertainer so initially your monthly retainer is not going to be large - it will pay

your rent but not your expenses - it is up to you to *EARN* that. When you have *WON* races, worked hard for your team, obeyed the orders of your Manager or performed with credit in the Classics then you can ask what you think you are worth and get it, but not before.

For most of us without that elusive "star" quality it is going to take 2 years to get established, improving your fitness, race reading, getting to know the riders and the riders to know you and understanding the language. You have joined the "creme de la creme" of your sport and no race is easy. The speed is faster and more relentless and race time is about an hour longer. The last hour usually being the fastest. However, a good living can be made by "prime" chasing (early breaks are generally allowed some latitude before being "wound in") very advantageous for a young 'Pro' wanting publicity to show his potential. However, bearing in mind that 25 mph is "events" to this class you've got to be good to stay away for a long time.

The bunch sprints however have got to be experienced to be believed (hence the need for trackcraft). There is no waiting for the 200 metre flag then a jump - the sprint can start 10-15 kms out.

What is that "star" quality? Someone once put it that it was the ability to suffer a minute longer than everyone else. Another said they have a "third" mental chainwheel they change into when everyone else is flat out. Really it is both plus an innate sense of timing technically, psychologically and topographically.

Have you got it? If you haven't it is a pity because this is the only thing that could be considered a shortcut to the top. Even if you haven't what you must do is take a racing holiday, a month is best, to savour the Continental brew. You may, like myself, find you like the fast racing and you go back for more but even if you are not successful at least you can say that you have tried it. I have known riders holding 3rd category licences in England taking to Continental racing like ducks to water and earning enough to stay for years.

However, if all else fails you have still got your bike and you can ride out into the Dales, the Weald, the forest or the lakes and enjoy the beauty of Britain and the sheer pleasure of riding a bicycle along those peaceful winding lanes and you will never, never have to say "if only I had . . ."

Keith Butler was the 1962 British Amateur Road Champion, the 1964 British Professional Road Champion and was in the team that helped Tommy Simpson win the World Professional Road Race Championship in 1966. He won 11 amateur and professional races while based in Belgium.

GEARS

Campagnolo

SUPER RECORD REAR GEAR

A superb mechanism engineered in duralumin and titanium, a proven combination of strength and low weight, forming what must be the ultimate derailleur gear. Designed primarily for the uncompromising demands of cycle racing, it will function efficiently with all the latest 5, 6 and 7 speed free-wheels with up to 28 tooth bottom sprocket (36 tooth with a single chain ring).

SUPER RECORD REAR MECHANISM £45.80

SUPER RECORD GEAR ENSEMBLE WITH REAR MECHANISM, NUOVO RECORD FRONT MECHANISM, TWIN LEVERS AND TUNNELS £70.85

NUOVO RECORD REAR GEAR

To list the races won on this gear would be an endless task. Known and accepted throughout the world by professional and amateur racers, tourists and club riders alike for its unquestionable reliability and strength, it is, quite simply, a classic. Made from non corrosive brightly anodised duralumin with steel pivot bolts and hard wearing nylon

sprockets, it is available individually, with a single down tube lever or as an ensemble with a Nuovo Record front changer and double levers. In common with other Campagnolo cycle components and unlike inferior imitations, all parts are replaceable and can be obtained through a Holdsworth dealer.

12-28 tooth capacity with double chain ring, 36 tooth maximum with single chain ring. Weight 200g/7.06oz.

NUOVO RECORD REAR MECHANISM, £32.20

NUOVO RECORD REAR MECHANISM WITH SINGLE LEVER, CABLE AND TUNNEL, £35.60

NUOVO RECORD ENSEMBLE WITH NUOVO RECORD FRONT MECHANISM, DOUBLE LEVERS, CABLES AND TUNNELS, £57.75

NUOVO RECORD FRONT GEAR

The partner to the Nuovo Record and Super Record rear gears showing the same fine engineering and attention to detail. The chrome plated cage is attractively slotted and operates by means of a light alloy parallelogram-action mechanism which works particularly well over wide ratio chain rings. A hinged alloy clip holds the unit firmly to the seat tube by means of a single bolt. It should be noted that tape should not be used between the clip and the tube as it is machined to fit exactly and doing so may result in a fracture of the clip.

STOP PRESS. The Nuovo Record front gear is now available with a brazed-on frame fitting.

NUOVO RECORD FRONT GEAR CHANGER £14.75



RALLY REAR GEAR

A special gear mechanism for the dedicated tourist, adapted from the Nuovo Record rear gear sharing the same faultless design and engineering. A 3" long light alloy cage achieves fantastic chain wrap-around on the widest sprocket ratios from 13 to 31 teeth with 32/54 chain-rings. The gear we used for the celebrated Claud Butler "Cape Wrath" Super Touring Bike. Weight 230g/8.1oz.

RALLY REAR GEAR £32.20

RALLY REAR GEAR WITH RIGHT HAND LEVER TUNNEL AND CABLE, £36.25

RALLY ENSEMBLE WITH NUOVO RECORD FRONT MECHANISM AND CABLES AND TUNNELS, £58.36

NUOVO GRANSPORE REAR GEAR

A budget priced light alloy gear technically similar to the Nuovo Record but with a steel pulley cage and sacrificing some of the fine finishing work. Weight 210g/7.4oz.

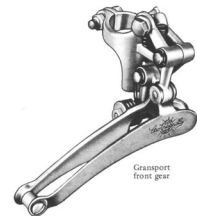
NUOVO GRANSPORE FRONT GEAR

Again a simplified version of the Nuovo Record. Same toughness and reliability. Weight 110g/3.9oz.

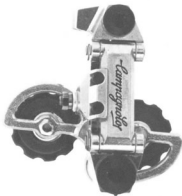
NUOVO GRANSPORE REAR GEAR £17.20

NUOVO GRANSPORE FRONT GEAR £9.80

NUOVO GRANSPORE GEAR ENSEMBLE COMPLETE WITH NUOVO GRAN SPORT DOUBLE LEVERS, CABLES AND TUNNELS, £34.50



Gransport front gear



"980" rear gear

NEW! NEW! NEW!

980 REAR GEAR

Introducing an entirely new Campagnolo gear. The distinctively styled 980 is a competitively priced high performance light alloy unit with black allen-key fitting bolts and attractive engraved logo. Performs positively and smoothly over a wide range of ratios (as Record). Now a Campagnolo gear is within the reach of every cyclist! Weight 220g/7.8oz.

980 Rear Gear, £11.95

980 Ensemble. Front and rear gears, cables and levers, £22.95



Nuovo Record rear gear

GROUPS



The Campagnolo bicycle components range is based on the "group" principle. With its uniform design and finish on the various items, a machine equipped with a whole group of matched accessories will look better, function better and the cyclist can choose the group which best fits his purse and his requirements.

SUPER RECORD

The top of the range and the lightest accessories for the rider who wants the best in materials and design. Complete with titanium based chainset and pedals, "Super Record" gear ensemble, seatpin, brakes and headset, "Nuovo Record" small flange hubs, plus all necessary brakes, tunnels and levers. £431.25

Also available is the Super Record group with steel bottom bracket axle and pedal spindles. £373.75

HANDLEBARS & STEMS



RECORD STEM

Advanced aerodynamic design in light alloy with flush fitting allen-key bolts. Internal serrated "wedge" holds handlebars firmly in place, particularly the grooved Cinelli range. Elegant anodized finish. Sizes in cm. 8, 9, 9½, 10, 10½, 11, 11½, 12, 13. Weight of 10cm 275g/9.7oz. £17.15



NUOVO RECORD

Complete group of Nuovo Record components for an uncompromisingly strong and efficient racing bike. Chainset with 42/52 chainrings, gear ensemble, pedals, brakeset, small flange hubs, headset and seatpin. £333.50

GRANSPORT

Functionally similar to the Nuovo Record group but for the discerning cyclist with an eye on his pocket, some economies have been made on finishing and less important details. £184.00

1A STEM

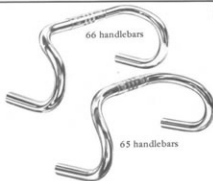
Classic streamlined shape in satin anodised non-corrosive light alloy. 6mm Allen-key fitting bolts. Sizes in cm. 7-14 in ½ steps. Weight of 10cm 300g/10.6oz. £10.00



HANDLEBARS

The finest range of alloy handlebars made. Strong and light with engraved raised middle and satin anodizing. Full width centre serrations for non-slip positioning with "Record" stem.

- | | |
|--|-------|
| 63 Square, medium drop. 40cm. | £7.95 |
| 64 Square and shallow. 40cm width. | £7.95 |
| 65 Shallow and gentle curve from centre. Time triallist's favourite. | £7.95 |
| 66 Deep and square, popular with roadmen. 40cm width. | £7.95 |
| 67 Deep curved for track racing 39cm width. | £8.85 |



FIAMME

MONTREAL STEM

A beautifully designed stem with an important innovation. The clip grips the handlebars by means of an underslung recessed Allen-Key bolt which takes the weight of the rider where it matters. Highly polished and available in sizes 8-12cm. Weight of 10cm. 300g/10.6oz. £11.20



HANDLEBARS

Light alloy handlebars with a good square roadman's section for comfort in all hand positions. Available in 40 and 42cm width and in a choice of 3 depths, "LONDON" being the deepest, "MILANO" a medium drop and "DALLAS" quite shallow. Attractively anodized with an engraved reinforced outer section, a perfect match to the "Montreal" stem. £6.00

G.B.

British made high quality alloy handlebars and stems.

Stems

- | | |
|--|-------|
| <i>Biba</i> . Satin anodised. Fully recessed allen-key fittings. Lengths 80, 100, 120mm. | £8.50 |
| <i>Accord</i> . Satin anodised. | £5.45 |

Handlebars

- | | |
|--|-------|
| <i>Ventoux</i> , satin anodised. Deep and square for racing. | £6.05 |
| <i>Menton</i> , satin anodised. | £6.05 |
| <i>Maes</i> . | £3.90 |
| <i>Mini Maes</i> . Junior size | £3.75 |
| <i>Randonneur</i> . Specialist touring design. | £3.90 |
| <i>Allrounder</i> . Roadster style. | £3.75 |



"G.B. Biba"

HEADSETS



SUPER RECORD

The ultimate headset from the ultimate bicycle components group, Campagnolo Super Record. Machined in hardened alloy for light weight with steel bearing surfaces for long life. Instantly recognisable by its beautiful satin anodised finish. Two types, for road or track. Weight (road): 140g/4.9oz. Super Record Headset, road or track £26.70

RECORD

Tried and trusted for many years, by the kind of cyclist who appreciates the best. In hardened chromium-plated steel with precision ground bearing surfaces and balls chosen to 1/1000mm tolerance. Road model has caged 3/16" balls pre-lubricated with Campagnolo special grease. Track type is complete with set (25 + 25) of loose 5/32" balls.

N.B. Track type needs 5.4mm less column length than Road, therefore it may be used when column is otherwise too short, particularly when replacing another make with a Campagnolo headset.

Weight (Road): 200g/7oz.

Record Headset, road or track £17.00



"Super Record" headset



ALLEZ

A fine quality satin-smooth headset. In chrome-plated hardened steel with precision ground bearing surfaces. Supplied with pre-lubricated caged ball bearings. £4.85

EXTRA LIGHT

With black anodised plates as above, but with nickel-chrome steel spindle.

XL Road pedals (320g/11.1 oz per pair) £40.85

XL Track pedals (310g/10.9oz per pair) £40.85

RECORD

Campagnolo's original classic pedal, unequalled by the numerous copies and phenomenally hard wearing. With chromed steel frame.

Record Road pedals (430g/15oz per pair) £32.15

Record Track pedals (400g/14oz per pair) £32.15



"Super Record" road pedal



"XL" track pedal

SUPER RECORD

The lightest and strongest racing pedals available. Cage plates are made from black anodised light alloy, complementing the finely engineered titanium spindle.

Super Record Road pedals (270g/9.5oz per pair) £78.45

Super Record Track pedals (260g/9oz per pair) £78.45

LYOTARD

An excellent range of pedals from France. For the tourist or weight-conscious racer and at some of the best prices available.

65 A very high quality racing pedal with a one piece forged light alloy body and anodised alloy cage. Silk smooth bearings with hard nickel-chrome steel axle. Complete with toe-clip bolts. Weight 380g/13oz. £23.95

79 A light alloy quill pattern cage mounted on steel barrel. Weight 280g/9.8oz. £4.50

23 Unique platform pattern allows these pedals to fit any shoe width. Stainless steel plate on steel barrel with strap slots, shoe pickup and ridge for shoe plates. Weight 380g/13oz. £5.75

45ter Light pedal with one piece alloy body and alloy serrated quill frame. Weight 295g/10oz. £6.95

45CD Light alloy quill cage mounted on alloy barrel. Weight 310g/10.9oz. £7.00

45CDN As above with black cage. £7.75

45CA Same design as above but with steel quill cage. Weight 380g/13oz. £5.50

460D Full width all alloy double sided pedal with strong centre support. £3.65

460A Simple practical steel double sided pedal. £2.60

136R Double sided with reflectors. £2.65

36 A straightforward steel allround pedal ideal for everyday use. £2.20

TOE CLIPS



Cinelli Ergal

Recommended for track and time trial competition cycles, these lightweight toeclips are made from Ergal, a special aluminium alloy, and are attractively satin anodised. In medium and long sizes. £3.95 per pair

TOE STRAPS

BINDA STANDARD

Chrome leather with plated clip and milled brass roller on quick release that will not jam in wet weather. In black, red, blue or white. £2.90 per pair

BINDA EXTRA

Super straps with a unique patented nylon insert that gives flexibility with extra strength. Natural finish. £6.55 per pair

PEDALS



79



45 CD



460 D



36



23



Cinelli M71



M71 Toe clips and straps are made unnecessary with this revolutionary design. Complete with special nylon shoe plates that lock onto pedal. Ideal for track riders and time triallists who will benefit from the greatly improved foot-to-pedal contact. Easily accessible quick release on side of pedal. With screws for attaching shoe-plates to shoes. £29.80

CHRISTOPHE "Z"

A boxed set containing a superb pair of alloy toeclips complete with toe straps in natural colour leather. Medium and long. £7.50 per pair

CHRISTOPHE

The classic French high quality toeclips, suitable for all applications. Made from extra strong spring steel, chrome plated for superb appearance. In short, medium and long sizes. £2.30 per pair

MIRA

A new item from Japan, very strong toeclips in stainless steel with an attractive satin finish. In short medium and long. £2.40 per pair



ALLEZ

Chrome leather with plated quick release clip and roller. In white, red, blue or black. £1.75 per pair

SADDLES

BROOKS

The most famous of all leather saddle manufacturers. Highest standards of materials and workmanship ensure years of comfortable use.

PROFESSIONAL SELECT

The top of the range Brooks saddle. Packed in its own presentation box and complete with "Proof-hide" cream and allen key. The very highest quality butt leather, taken only from the centre of the hide and hand finishing ensures limited production. Large flush fitting copper rivets. Matt black frame. Weight 550g/19.4oz. £25.20

TEAM PROFESSIONAL

Large hand beaten flush-fitting copper rivets. Fine quality prime butt leather on chrome frame. Favoured by long distance racing men, and often transferred from one bike to another over many years use. Weight 540g/19oz. £20.70

B17

An all-time favourite with tourists and club riders for its superlative comfort and long life. Chrome frame is complete with non-chafe saddle bag loops. Available in standard or narrow widths. Cool perforations on the top. Complete with clip. Weight 540g/19oz. £10.10

PROOFHIDE DRESSING

Protect your Brooks leather saddle from the weather with regular light applications of this fine waterproof preserving cream. 2oz tin £0.82



Very high quality lightweight racing saddles, standard equipment on most Tour de France winning cycles for years. Based on moulded nylon that needs no breaking in.

55

A simple moulded nylon perforated saddle. Black. £6.60

65

Popular on track and time trial machines. Weight 370g/13oz.

Chamois covered	£11.15
Buffalo covered	£13.45
Leather covered	£12.00

TOUR DE FRANCE

With firm sponge rubber padding between leather and nylon base for maximum comfort over long distances. Weight 430g/15.2oz.

2 padded Chamois	£15.75
3 padded Buffalo	£17.00
4 padded Leather	£16.45



SUPER RECORD

Single bolt allows perfect adjustment of saddle angle and fore/aft movement. Attractive satin anodised finish with flutes on the shaft. Weight 250g/8½oz. Standard diameter for Reynolds double butted tubing frame 27.1mm. Also available 25.0, 26.4, 26.8, 27.0. £21.80

RECORD

One piece forged alloy pillar with satin finish. Double adjuster bolt mechanism allows precise saddle positioning. 10mm bolts in duralumin. Sizes 25.0, 26.2, 27.0, 27.2. £15.80

GRANSPORT

Similar to the Record, but with chrome steel adjusting bolts. Sizes 25.0, 26.4, 26.8, 27.0, 27.2. £12.55



ROYAL

Beautifully satin anodised light alloy micro-adjusting seatpin. Similar design to Campagnolo. Sizes 26.4 and 27.2. £11.15



"Record"

SEATPINS

"Super Record"



SEATBOLTS

An allen key fitting seat bolt is far more elegant than the traditional "nut and bolt" arrangement.



Finely engineered in chrome steel.

£1.80



LEVIN

A Japanese version in high strength steel complete with a 6mm allen key. £0.86

TUBULARS

Clement

A selection from the vast Clement range of tubular tyres, chosen to suit British conditions. The ultimate for all kinds of racing.

Nuovo Super Seta Extra
185g/6.5oz Fine file tread. £29.85

No. 1 Seta Extra
145g/5.1oz Track or fast '10'. Fine file or smooth. £24.10

No. 1 Bis Criterium Seta Extra
200g/7oz Fine file or 225g/8oz Herringbone. £24.10

No. 3
175g/6oz Smooth silk for track or short time trial. £18.80

No. 6 Criterium
220g/7.8oz Silk road, with latex walls. Fine file. £21.80

No. 6 Criterium
250g/8.8oz Herringbone tread. £21.80

No. 9
200g/7oz Cotton track, smooth tread. £18.30

No. 10
230g/8oz Cotton track, matt tread. £18.30

No. 12 Bis 'Criterium'
255g/9oz Superb cotton road tubular. £18.30

No. 12 Bis 'Strada 66'
250g/8.8oz Road/time trial, matt tread, cotton. £18.30



No. 13 'Campione del Mondo'
275g/9.7oz Fat silk road tyre. £21.80

No. 18 'Campestre'
380g/13.4oz Top cyclo-cross tyre, knobbly tread. £11.20

Condor Super
270g/9.5oz Narrow section training tyre. Butyl inner. £6.85

70
265g/9.3oz Rib and file training tubular. £10.35

50
265g/9.3oz Sturdy ribbed training. £9.65

700 x 25 (to fit 700C standard or narrow section rims). £4.90

Matching butyl inner tubes. £0.10

Rim bands. £0.13

WOLBER

W20

An extremely narrow and light 20mm section H.P. cover (weight with inner tube 400g/14.1oz. For narrow section rims such as Super Champion 'Gentleman'. (700C only) £4.30

Special inner tube. £1.95



W23

Using the technique applied to the 'Invulnerable' tubular, the W23 H.P. cover has a double stainless steel mesh beneath the tread. Vastly increases resistance to flints, thorns and glass. 700C or 27 x 1. £7.65

WOLBER

A French manufacturer well known for training tubulars, now rapidly becoming established worldwide with an excellent range of very high quality racing models.

Record Pista

Continuous research and development at Wolber has given birth to a new generation of racing tyres. This is one - weighing 150g/5.2oz, in cotton with a smooth tread and an incredibly narrow 18mm cross section. £18.75

Record Route

Slightly heavier at 170g/6oz and with 19mm section for time trial/road use. £18.75

Competition

Entirely hand-made high performance racing tyre with fine cotton case and latex inner tube. 210g/7.4oz. Mixed tread. £16.50

Performance

As above but with file tread for time trials. £16.50

Neo-Pro

250g/8.8oz. Mixed tread for road-racing. Butyl inner tube. £9.80

International

280g/9.8oz. Excellent performance for all applications. Rib and file tread. Butyl inner tube. £8.40

Special Course

280g/9.8oz. Rib and file tread. Butyl inner tube. £9.40

Route Renforce

365g/12.8oz. An extra strong tubular with a heavy diamond pattern tread and rubbered walls for winter conditions. Butyl inner tube. £7.25

Cross Super

365g/12.8oz. Special anti-skid tread for cyclo-cross. Butyl inner tube. £8.65

Junior Butyl

330g/11.6oz. Strong fast tubular ideal for training, popular with young riders. Butyl inner tube. £7.55

Club Strada

330g/11.6oz training. Butyl inner tube. £6.55

333

333g/11.7oz. A fast ribbed training tyre with butyl inner tube. £6.10

Invulnerable

275g/9.7oz. Evidence of Wolber's continuous research. A fine stainless steel mesh beneath the tread greatly increases this tubulars puncture free performance. £11.50



Liberty 24

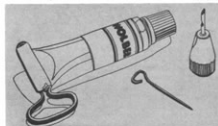
300g/10.6oz. For cyclists who like tubulars but not repairs. The world's first tubeless tubular tyre. It has no inner tube or stitching and can be repaired from the outside without removing the tyre from the rim by using the special Liberty Repair Kit. Full instructions enclosed.

Liberty tubular

£10.30

Liberty Repair Kit

£1.20



Liberty repair kit

PANARACER

Two new Japanese tubulars with the latest 18mm section. Weight 150g/5.3oz. Ideal for track or short distance time trials on good roads.

Panaracer Ultima

£14.30

Panaracer Rapide

£14.30



TYRES

WORTHY

Our own superb range of tyres and tubes. Excellent quality for all types of cycling and available to fit 27" and the increasingly popular 700C (sprint rim) size. Fine nylon fabric. Hard wearing tread.

Green Label

A rugged 360g cover especially suitable for touring. 27 x 1.1/8 (to fit 27" 1/4 or narrow section rims) £4.10

700 x 28 (700C standard or narrow section rims) £4.10

also available for 26" wheels.

Blue Label

Lighter and narrower for fast touring and training. 27oz.

27 x 1 (to fit 27" 1/4 or narrow section rims) £4.55

700 x 25 (to fit 700C standard or narrow section rims). £4.55

Red Label

A cover that compares well to a tubular for weight and 'feel' 20oz.

27 x 1 (to fit 27" 1/4 and narrow section rims). £4.90

TUBULAR CEMENT

DUNLOP Rim cement. 113g tin with brush. £1.00

CLEMENT Rim cement, tube £0.55

100g tin £1.40



WHEELS

ROVAL

From France, the latest in wind-tunnel tested design and ideal for time-trialling. 24 elliptical spokes front and rear, laced radially at the front and 8 radial on the off-side rear, 16 tangential on the gear side. Stronger than conventional wheels because the spokes have no bend at the head, instead they anchor directly into slots in the small flange alloy hubs. Satin smooth bearings. Rear hub spaced for 6 speed. Rims have deep V section which conceals the nipples and smooths the airflow. Hollow spindles accept Campagnolo quick release fittings. (not supplied) per pair £135.00



HUBS



RECORD ROAD

The choice of experts. Famous for smoothness, reliability and long life. Machined from solid alloy with accurately drilled and countersunk spoke holes. Ground and highly polished bearing surfaces with, like all Campagnolo bearings, balls selected to 1/1000th mm tolerance. The quick release, developed by Campagnolo and copied all over the world, provides firm locking with easy wheel removal. For 5 or 6 speeds. Large or small flange. 24, 28, 32, 36 or 40 hole.

Record large flange hubs per pair £39.70
Record small flange hubs per pair £36.50

RECORD TRACK

Overall heavier construction to withstand the stresses of fierce sprints and steep bankings. Solid spindles with specially hardened chromed nuts. Large or small flange. 24, 28, 32, 36 or 40 hole. Complete with lock ring.

Record large flange track hubs per pair £35.45
Record small flange track hubs per pair £32.15

GRANSPORT

A quick release hub with similar high quality features to the Record but simplified for economy. One piece alloy shells with large or small flanges. 36 hole only.

Gransport large flange hubs per pair £22.90
Gransport small flange hubs per pair £20.15

SANSHIN

Japanese large flange, quick release hubs with solid alloy shells. 36 spokes only. 5 speed.

per pair £11.10



Campagnolo large flange track

SUPER CHAMPION

Excellent quality from this French manufacturer.

ARC-EN-CIEL

A superb light sprint rim with strength to spare. Ideal for time trialling. Beautiful polished finish. 24, 28, 32 or 36 hole. Weight 330g/11.6oz. each £7.75

COMPETITION ROAD

Road racing rim that is light, rigid and responsive. Easily the most popular 'sprint' rim in the U.K. 28, 32 or 36 hole. Polished finish. Weight 350g/12.3oz. each £6.25

GENTLEMAN

The leader of the new type 'narrow section' high pressure rims. Very light, very strong and when combined with a good quality H.P. tyre such as a Worthy or a Wolber, the whole look and 'feel' is as good as a tubular on a sprint rim. Inner 'lip' grips tyres and prevents blow-off at very high pressures. Ferruled spoke holes, 36 only. Weight 470g/16.6oz. Width 20mm. Sizes 27" and the increasingly popular 700C.

each £7.20

FIAMME

A well established popular range of rims for all kinds of bicycles, from one of Italy's leading light alloy specialists.

HARD SILVER

Recently introduced, this sprint rim is ideal for road racing and has an extremely hard scratch resistant silver-grey finish. Nickel plated ferrules. 36, 32 or 28 hole. Weight 350g/12.3oz. each £14.00

ERGAL

Ergal, an amazingly strong, light alloy, makes a great racing rim. Only 310g/10.5oz Deep, square and highly polished. 28, 32 or 36 hole. each £9.85

MODEL 1

A strong classic road rim, popular for all kinds of racing and strong enough for cyclo-cross. 32, 36 or 40 hole. each £5.55

MODEL 71 H.P.

A square sided high pressure rim with ample strength for 'rough stuff' touring and the heaviest riders. Sides scoured for high breaking efficiency. 27" only. 36 hole. each £5.20

RIMS



MODEL 58 H.P.

A versatile alloy rim recommended for all touring cycles. Strong and rigid, they stay true for years and look beautiful. Compatible with any of the latest narrow Worthy or Wolber H.P. tyres as well as a traditional fatter tyre. In 700C and 27" sizes. Weight 480g/16.9oz. Width 22.5mm.

36 hole each £7.10
40 hole (27" only) each £7.75

STARAL

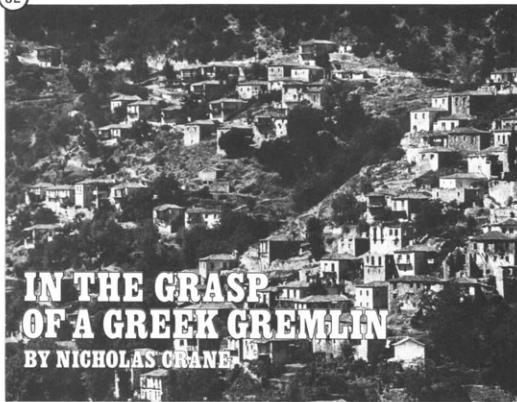
Rugged high-grade alloy rims with an attractive 'wipe clean' anodised finish. Inner lip grips tyre and enables narrow section or conventional H.P.'s to be fitted. Distinctive grooved braking surfaces increase wet-weather stopping capability. 36 hole. Available in the following sizes.

27 x 1 1/4 each £5.10
26 x 1 1/4
26 x 1 3/8 Westrick 700C

SCHOTHORST

Dutch highly polished chromed steel H.P. rims from the largest rim factory in Europe. Serrated sides. Available in the following sizes.

27 x 1 1/4 40, 36 or 32 hole each £2.65
26 x 1 1/4 36 hole. each £2.65
26 x 1 3/8 Endrick 40 or 36 hole. each £2.70
26 x 1 1/4 40, 36 or 32 hole. each £2.80



IN THE GRASP OF A GREEK GREMLIN

BY NICHOLAS CRANE

The piercing chirrup of billions of cicadas was all but drowned by the discordant strains of bouzouki music echoing from the battered mouth of a wooden loudspeaker screwed to the doorpost of the taverna. Inside, the shadowy outlines of broad backs and flat hats could just be glimpsed, bent over dominoes and glasses of retsina.

Outside, it was hot. Very hot. White walls bounding the dusty square bounced heat onto anyone who dared wander into the furnace. A eucalyptus tree offered token shade; a temporary respite from the noon-day sun of the Peloponnese in high summer.

Beneath the tree was a foreigner, who was writing in a small book. In front of him, on all-fours was another foreigner groping intently in the dirt and quietly cursing. A bicycle stood propped up against the back of the bench. On the ground lay another unidentified, dismembered velocipede. The town is Gythion; a cluster of pale stone dwellings clinging to a scrubby hillside above the blue waters of the Mediterranean, in the deep south of Greece. The foreigners were English, one of them, me.

Every cycle tour has its high and low points, and its unforgettable crises. We were in the middle of our most notable crisis to date, for, 120 miles from the nearest "lightweight" specialist, the freewheel on my bike had stopped working. We had taken it to bits to find out why. With the rear wheel clear of the frame I'd unscrewed the locking ring and lifted the freewheel body clear of its block. And it was at this point that all those oily little ball-bearings spewed into the dust, hence the meticulous search. We had no spares, and it took an hour to round up the truant balls.

With the freewheel block revealed, the scale of the problem became immediately apparent. The ends of the pawls, those tiny metal flaps which are meant to engage in the notches in the freewheel, were smashed off, and the delicate hairsprings mangled. We talked about hitchhiking to Sparta to buy a new freewheel, we talked of taking a bus, of going to sleep and even of selling the bike to the first taker. In the end we decided to try and mend it.

By unwinding a strand from a wire brake cable, we ended up with a piece of spring steel

of roughly the same diameter as the damaged pawl springs, and it wasn't too hard to cut and bend it into shape, finally inserting the home-made springs into the anchor holes in the free-wheel block.

Mending the pawls was a different story. First we tried re-shaping them with a file, but the hardened steel blunted the file and sharpened tempers. An hour of futile filing, fury and exasperation culminated in a "down-tools"; I stalked off in disgust towards the harbour and my friend went back to diary-writing - no doubt musing on this latest turn of events in what had already been an adventure of a lifetime. For this was a first cycle-tour for both of us.

On thrown-together touring bikes, assembled from second-hand bits and pieces, and luggage made from ex-WD canvas haversacks we'd set out from East Anglia with the aim of cycling to Greece. Ignorant of the existence of country lanes we'd followed trunk roads down through Holland, Belgium, France, Germany, struggled over the Black Forest, scaled the Alps and battled against headwinds down Italy's Adriatic coast to Brindisi, landing in Igoumenitsa, Greece, just 18 days after leaving England. Neither of us could remember much of the ride, apart from heavy lorries, hunger and a colourful variety of aches and pains. We had learned the hard way.

In Greece our daily mileages plummeted and we began to appreciate the true value of a bicycle for exploring a strange country. Much of the time we spent meandering along mountain tracks, sleeping under the stars and passing the time of day in village bars. So frequent were our mechanical breakdowns that we'd also come to appreciate the benefits of starting a tour with a properly prepared bike. Broken freewheels, buckled wheels, collapsed carriers and snapped cables were a few of the maladies we had already dealt with.

Walking back to the town square I decided to try wiring the freewheel sprockets directly to the rear wheel spokes, thus turning the bike into a "fixed wheel". This would at least make us mobile, though I'd no doubt the rear wheel would eventually be torn apart under the strain. Fortunately this desperate solution was pre-empted by the sudden appearance of an inquisitive Greek lad. Using sign language he said he could take us to someone who knew about bicycles.

A short walk brought us to a weather-beaten wooden door, which the lad swung open. Inside was the most comprehensive collection of miscellaneous junk ever assembled in the western hemisphere, including, we noticed with escalating heart palpitations, a

rusty bike frame. The boy talked quickly to an old man in dungarees, who occasionally glanced over at us.

We pointed at the rusty bike frame, and the old man nodded enthusiastically, turning to scribble a figure onto the back of an envelope. But we didn't want to buy his frame; what we wanted was a very special part of it, which had long since gone. We tried miming the action of a freewheel, my friend using his hands to indicate the flapping of the pawls and springs, myself pedalling and clicking alternately. We were really getting into this pantomime and were soon incorporating gear changes in the act. A small and puzzled crowd had gathered and for their benefit we extended this matinee performance to include the workings of a Sturmey-Archer AW three-speed hub gear, which had the audience in hysterics. We were leaping around in a frenzy of clicking and revolving limbs when the local policeman arrived.

Arrest seemed the obvious conclusion to this astonishing display of English lunacy, but curiosity prevailed and the policeman summoned a serious-faced youth from the crowd to interpret. Explanations were followed by an instruction to the old man, whose face instantly flooded with enlightenment. Fishing behind a heap of ropes he produced a small box, which was half-full of freewheel pawls. There must have been over a hundred of them! We chose a few, with some for spares, and asked the price. There was no price; they were a gift.

It was much cooler in the square now and interested locals had gathered to see the bike mended. The new pawls fitted perfectly, and with the ball bearings delicately balanced in place and the pawls and springs held in by a length of cotton, the freewheel body was ceremoniously lowered over the block, the cotton pulled out and the locking ring tightened.

Our gratitude to the Greeks of Gythion was immeasurable. Already drunk with the euphoria of salvation we were taken into the taverna and plied with glass after glass of ouzo, a beverage not known to improve bike-handling abilities. Plates of kalamarika (squid) slid across the table and we traded travel tales with our hosts till the wind died and stars woke.

So it was evening when we wobbled out of town towards the next mountain pass. A pass which we hoped would lead us to the Mani peninsula and Vathia, the fortress village where the road ended. Our next aim was to take the bikes to Cape Matapan, the most southern point of mainland Greece.



**karrimor
International Ltd.**

Karrimor have been producing cycle bags for 30 years, so their expertise in design and manufacture is well founded. At Karrimor the emphasis is on rigorous testing and quality control. The result is a first class product.

Karrimor is again leading the field with the 1981 introduction of the KS-100e range. Developed and made exclusively for Karrimor, KS-100e fabric combines the texture of cotton duck with the strength, lightness and proofing of the well-known 7 oz nylon. It is coated with a new elastomer-based compound which is chemically cross-linked in such a way that the multiple layers provide an excellent waterproof coating. In bright red with brown trim and straps with 'Reflexite' safety panels.

KS100e

BARDALE

A handlebar bag with a huge 15 litre capacity. Features are a zipped top flap opening on 3 sides and a large front external zipped pocket. Must be used in conjunction with the separate barbag carrier. Elastic shock-cords, supplied with the carrier, clip onto D. rings on the base of the bag and anchor on the front wheel hub or carrier. Complete with an adjustable shoulder strap for carrying "off the bike". £18.80

FRONT PANNIERS

A popular compact design with, on each side, a main zipped compartment and an external document pocket with side access. An elastic inset on the joining strip holds gloves or a cap. £16.70

UNIVERSAL PANNIERS

A useful set that can be carried on a front or rear pannier carrier. Two halves joined by 'Velcro' and press stud strip. An adjustable shoulder strap is included. Each half has one main compartment with a zip-around flap and an external zipped pocket. Wedge design. 35 litre capacity/Pair. £26.55

IBERIAN PANNIERS

Large panniers with 45 litre/pair capacity. Main compartments have an extension which completely closes with a draw-cord for increased capacity and improved weather resistance. There is a roomy zipped side pocket. A carrying handle is attached to the top of the flap and the two halves are connected with a strap as an added safety precaution. The asymmetric design ensures good heel clearance. £37.95



NYLON

The most popular range of cycle bags available in the U.K. In distinctive green, with gold trim and "Reflexite" safety panels, these are seen on bicycles everywhere from London commuters to globe trotting tourists.

BARDALE

Identical design to the KS100e model. £17.25

BARDET

A small handlebar bag that conveniently holds a camera, maps, sandwiches etc., for a day ride. Complete with strap for use as a shoulder bag. Single main compartment has a draw cord and Velcro fastening strap. On the outside at the rear is a side opening map/document pocket. The bag fits directly on to the handlebars with the integral straps, or on to the Barbag carrier (not supplied). Two D rings at the base of the bag are anchor points for the shock cord supplied with the carrier. £11.50

STANDARD REAR PANNIERS

Thirty eight litres/pair capacity. Wedge shaped to clear heels. Shock cord carrier attachment. Connecting strap forms handle for carrying when off the bike. £26.25

UNIVERSAL PANNIERS

Design as KS100e model. £23.95

IBERIAN PANNIERS

Design as KS100e model. £34.95

FRONT PANNIERS

Design as KS100e model. £14.50

SADDLE BAGS

In two sizes. Parallelogram shaped with a large main compartment and a zipped pocket on the flap. Two smaller zipped side pockets.

No. 1, twenty five litre capacity. £20.75
No. 2, twenty litre capacity. £19.75

STUFFSAC

A simple cylinder with full length zip. Designed to carry extra gear or clothing. Attached along top of pannier carrier with integral straps. £7.50

COTTON CANVAS

In black cotton canvas with gold trim and "Reflexite" safety panels.

REAR PANNIERS

Design as nylon standard panniers. £25.75

SADDLE BAGS

In three sizes. Attach to loops on saddle.

No. 1, £18.80
No. 2, £17.70
No. 3, £12.35

ACCESSORIES

BARBAG CARRIER

Fits a wide variety of handlebar stems. Rustfree black nylon coating. Supplied with two elastic cords for attaching the Bardale or Bardet to the front wheel hub to eliminate bouncing. £7.75

REAR PANNIER CARRIER

Expertly designed to stay rigid under very heavy load and pedal thrust. Four point fastening to mudguard eye bolts and seat stays. Black nylon coated steel. £6.20

FRONT PANNIER CARRIER

Made to the same high standard as the rear carrier. Attaches to the mudguard eye bolts and to the brake bolt between the brake mechanism and the crown. £5.45

STANDARD UPLIFT

Lifts saddle bag clear of mudguard. Quick release fitting to saddle eyes. Nylon coated steel. £2.00

TOURIST UPLIFT

Similar standard, but extends underneath the bag to facilitate carrying heavy loads. £2.50

MAP CASE

For map reading "on the go". Transparent PVC protects from wet. Velcro straps attached to the front bag or bars. £3.10

QUICK RELEASE ELASTIC HOOKS Each £0.35

8" NYLON SHOCK CORDS Pair £0.57

8" NYLON STRAPS Each £0.32

What to take and how to take it

by Peter Knottley

BARDALE

Use at all times for carrying camera, films, valuables, wallet, travel documents, lock, keys etc.

A Day Ride

Use small saddlebag. Extra clothing according to climate and time of year which, in any case, will only be another garment or two in addition to those worn. Fruit and chocolate and additional food for picnic if not stopping for a prepared meal. Drink (in aluminium or plastic bottle in cage fitted to cycle frame). Camera and any other personal requisites.

A Weekend Tour

Use large saddlebag. The same as for a day ride, plus casual clothes for evening wear in light-weight cotton or polyester fabrics. Folded clothing occupies less space than rolled. Spare socks and footwear. Pyjamas. Toilet kit. Accommodation at hotel or similar arranged.

A Seven-Day Tour

Use large saddlebag and front panniers or rear panniers and front panniers. As for a weekend tour, plus a complete change of cycling wear (except shoes) and two sets of underwear and two pairs of socks for cycling and one dry pair. Dried shirt and one dry pair. Casual wear for evenings or Duxton suit as preferred.

A Two-Week Tour

Very little more is needed than for a seven-day tour, and a large saddlebag and front panniers should suffice for normal needs. If laundry facilities are not, or unlikely, to be available en route, extra changes of clothing must be carried, preferably in front panniers instead of saddlebag.

Youth Hantling

The use of a sheet sleeping bag with pocket for pillow is obligatory. There should be hand cream at hotels but there is much to be said for carrying one's personal bag. usual weight is about 8 oz. Almost all hotels have a kitchen for the use of members of the party. In general (in the more remote hotels), prepared meals are sometimes obtainable. Provision should therefore be made in the packs for some space for food carried either from home or store on the way.

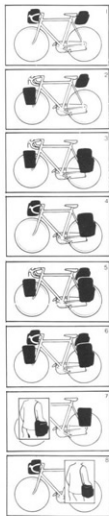
Cycle Camping

It is when cycle-camping that the greatest skill in packing and loading the bike and in general self-sufficiency is required.

Choose a combination of bags which will give you the required stability, but the convenience in use which personally suits you at all times of the tour, right saving, shopping, rough riding, ease of access to equipment when on site etc.

Illustrated advice (top to bottom)

1. Front and rear bags. 2. Front and rear bags. 3. Front and rear bags. 4. Bardale. 5. Front and rear bags. 6. Front and rear bags. 7. Front and rear bags. 8. Bardale. 9. Front and rear bags. 10. Bardale. 11. Front and rear bags. 12. Bardale. 13. Front and rear bags. 14. Bardale. 15. Front and rear bags. 16. Bardale. 17. Front and rear bags. 18. Bardale. 19. Front and rear bags. 20. Bardale. 21. Front and rear bags. 22. Bardale. 23. Front and rear bags. 24. Bardale. 25. Front and rear bags. 26. Bardale. 27. Front and rear bags. 28. Bardale. 29. Front and rear bags. 30. Bardale. 31. Front and rear bags. 32. Bardale. 33. Front and rear bags. 34. Bardale. 35. Front and rear bags. 36. Bardale. 37. Front and rear bags. 38. Bardale. 39. Front and rear bags. 40. Bardale. 41. Front and rear bags. 42. Bardale. 43. Front and rear bags. 44. Bardale. 45. Front and rear bags. 46. Bardale. 47. Front and rear bags. 48. Bardale. 49. Front and rear bags. 50. Bardale. 51. Front and rear bags. 52. Bardale. 53. Front and rear bags. 54. Bardale. 55. Front and rear bags. 56. Bardale. 57. Front and rear bags. 58. Bardale. 59. Front and rear bags. 60. Bardale. 61. Front and rear bags. 62. Bardale. 63. Front and rear bags. 64. Bardale. 65. Front and rear bags. 66. Bardale. 67. Front and rear bags. 68. Bardale. 69. Front and rear bags. 70. Bardale. 71. Front and rear bags. 72. Bardale. 73. Front and rear bags. 74. Bardale. 75. Front and rear bags. 76. Bardale. 77. Front and rear bags. 78. Bardale. 79. Front and rear bags. 80. Bardale. 81. Front and rear bags. 82. Bardale. 83. Front and rear bags. 84. Bardale. 85. Front and rear bags. 86. Bardale. 87. Front and rear bags. 88. Bardale. 89. Front and rear bags. 90. Bardale. 91. Front and rear bags. 92. Bardale. 93. Front and rear bags. 94. Bardale. 95. Front and rear bags. 96. Bardale. 97. Front and rear bags. 98. Bardale. 99. Front and rear bags. 100. Bardale.



CARRIERS

CLAUD BUTLER

Our own well tried range of carriers and bag supports. Made of steel and nylon covered for long rust-free life.

Rear Pannier Carrier

Triangular design with rings for pannier anchorage. Attaches to mudguard eyes and brake centre bolt. £4.10

"Cape Wrath" Rear Pannier Carrier

Similar design but with twin attachments to seatstays for extra rigidity. With clips. £6.90

Version for 19" - 22 1/2" frames. £6.90

Version for 23" - 25 1/2" frames. £6.35

Also available less clips (for use with braze-on carrier bosses). £6.35

Rear Pannier Carrier with uplift

Higher back which can support saddlebag from above saddle height. £4.55

Raleigh Rear Pannier Carrier

Longer arms to fit certain Raleigh models. £4.10

Front Pannier Carrier

Attaches to front wheel spindle and brake centre bolt. (Not Q.R. hubs.) £4.10

Bag Support

Attaches to seatbolt (not allen-key fitting) and clears saddlebag from brake and mudguard. £2.35



Claud Butler rear pannier carrier.



ESGE L200F rear carrier

PLETSCHER

Lightweight alloy carriers from Switzerland.

Model C

With large spring parcel clamp. Fits to mudguard eyes and seatstays. For 26" or 27". £4.15

Model CS

With Centre pull brake protector and twin clamp. For 26" or 27" wheels. £4.00

For 20" wheels.

£4.00

Lamp Bracket

Bolts to rear of Pletscher carrier. £0.50

Reflector

Plastic safety unit with rear and side reflectors that fits over Pletscher carriers. £1.45

ESGE

L200F Rear Carrier

Light alloy luggage carrier with rubber straps. Attach to seatstays and mudguard eyes. £7.25

MIRA

Saddlebag Support

A new Japanese stainless steel unit that clears rear bag from mudguard and brake. Fits saddle loops. £2.70

Saddlebag Loops

Stainless steel. For saddles without integral loops, fit saddle. £1.66



MUDGUARDS

ESGE

'CHROMOPLASTIC'

Unique lightweight mudguards with brilliant silver 'wipeclean' finish. Will not bend or rust and are virtually unbreakable. Complete with stays and bolts. per pair £8.75

ZEFAL 'Double Action' TRACK PUMP

A track pump saves effort in general, and is necessary when inflating racing tubulars to very high pressures (Silca take 120-140psi). Keep one at home or in the car when driving to races. The Zefal is sturdy and reliable and its double cylinder system achieves high pressures in only a few strokes. Fitted with an accurate pressure gauge, the pump folds into its own compact cardboard box and can be used with Schrader (roadster cycles and cars) or Presta (H.P.'s and tubulars) type valves. £25.30

ZEFAL 'Pre-Select' PUMP

A revolutionary cycle pump that not only fits onto the frame without pegs or clips but also has a built-in pressure gauge. Simply dial the required tyre pressure on the gauge and start pumping. The unit 'cuts out' at the correct level. Adjustable from 20-120psi. In lightweight silver plastic with black handgrip. Locking lever on valve-hole. Four sizes to fit most frame sizes. Size 6 (20"-21") Size 7 (21"-22 1/2") Size 8 (23"-24") Size 9 (24 1/2"-25 1/2") £12.55

SANYO 'DYNAPOWER'

A unique lighting set that overcomes the usual disadvantages of a dynamo system. The neat alloy unit mounts out of sight behind the bottom bracket and between the chainstays. The large diameter roller bears on the tread of the rear tyre and therefore does not affect the balance or steering of the bike. Low drag and starting torque produces a full 3W at 6V. Complete with front light, wires and full instructions. £12.65

SANYO FLASHING BEACON

Wear this amber flashing unit at night. Once-per-second high intensity bursts of light warn motorists far earlier than a conventional rear light. Built in clip attaches to rear pocket or waistband but the unit may be considered illegal if used attached to cycle. Uses four 'penlite' batteries which give six hours of continuous use. £9.95

SANYO ELECTRONIC DIGITAL SPEEDOMETER

A high technology product from this well known Japanese electronics company. Compact unit mounts on handlebars and clearly shows Elapsed Time, Speed or Elapsed Distance. An additional feature allows the rider to alternately 'scan' all three functions every four seconds. Front wheel mounted contactless sensor means accurate, constantly updated information without drag. Uses 4 dry cell batteries. £39.45



zefal

PUMPS



Zefal Preselct gauge

BLUEMELS AFA

Inexpensive light alloy pump with polished finish and attractive coloured grip rings. Complete with Presta connector. £2.40

18" (or 17" for smaller frames.) £1.95

CAMPAGNOLO 1030

Chrome plated steel push-on adaptor that fits the above Bluemels pump. Rubber covered arms fit frame. Replaceable washer will stand any pressure. £3.90

CAMPAGNOLO 3346

Lightweight 'chromoplastic' adaptor for pumps with square boss fitting (eg. Silca). £2.55

LIGHTS



Sanyo Dynapower

Sanyo Flashing Beacon



MISCELLANEOUS

PETERS SPRINT CARRIERS

Ingenuous alloy carriers with open slots for easy wheel removal. Suitable for quick release hubs. Per pair £1.05

BOTTLE CAGE

Light alloy, black or silver, with clips. £2.30

WHEELCOVERS

Elasticated plastic wheelcovers to protect the tubulars on your racing wheels when not in use.

Plain orange and blue. £5.50

Printed Holdsworth/Campagnolo. £5.10

ALLEZ WATCH CLIP

Adjustable chrome steel watch clip for time-trialling. Fits handlebars and firmly grips most stopwatches. £1.50

TOOLS

Many cyclists think nothing of owning a machine worth hundreds of pounds, yet use ancient, worn and chipped tools to service it. This false economy can only lead to frustration, wasted time and worse, needless damage to expensive components. A basic set of tools will cost a few pounds. With care it will last a lifetime and make assembly and servicing a pleasure.



A complete range of specialist tools engineered to high standards and compatible with all Campagnolo components. These are a few -

T-Spanner
Multi-purpose 6mm allen key/8mm box spanner. £2.90

'L' Allen Key
5mm fits chainring bolts, seatbolts. £0.86

Chainring Bolt Peg Spanner
Use with above. £0.50

Bottom Bracket Bolt Spanner
15mm. £2.70

Cotterless Crank Extractor
Use with above to remove crank from axle. £3.70

712 Spanner
Bottom bracket lock ring/Headset adjustment. £5.35

712/1 Spanner
Bottom bracket adjustable cup/Headset adjustment. £5.70

713 Spanner
Bottom bracket fixed cup/Pedal. £6.60

'STAMINADE' DRINK

Powder that mixes with water to make a refreshing citrus flavoured drink. Helps replace body salts lost through sweat. Ideal in drinking bottle for racing. 200g jar. £1.80

PLETSCHER MAP HOLDER

Strong steel spring holds map in open position on stem for map reading on the move. Fits (non-allen key) expander bolt on stem. £1.72

TERRY HANDLEBAR LAMP BRACKET

Strong chrome steel bracket that supports most popular battery lamps on the handlebars. Tightens with large butterfly nut. £1.00

A Workshop in a Suitcase

2 Campagnolo tool kits are also available, packed in distinctive wooden cases. As used by Cycle Shops, Frambuilders and Team Mechanics all over the world.

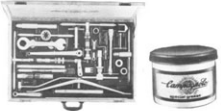
The Workshop Kit

Contains all the tools necessary to answer every problem of bike maintenance.

Bottom Bracket - alignment, tapping, fitting.
Headset - milling, facing, fitting.
Fork Ends - alignment.
Components - assembly, service. £937.75

The Reduced Kit

Race mechanics headset and bottom bracket service set. £729.40



CYCLO Rivoli Chain Link Extractor. £1.42

WEINMANN Brake spanners, pair. 8/10mm and 9/10mm. £4.05

Brake clamp tool. £2.35

S.R. Cotterless crank extractor. £2.80

5mm allen key. £0.20

Peg spanner. Use with above to remove chainrings. £0.35

G.B. Handlebar assembly tool. £1.15

REGINA Freewheel remover. Use with long spanner or vice. £1.60



MIRA Wheel truing jig. (illustrated). £15.50

Wheel dishing tool. £4.50

Tyre levers, light alloy. Set of 3. £0.95

Cycle stand. Holds cycle by left crank. £4.10

ALLEZ Cycle repair stand. Adjustable height. £34.60

Essential in workshops for maintenance.



FORK END TAPS. 3 x 0.5mm. (rear end adjusters). £3.40
5 x 0.8mm. (mudguard eyes). £3.40
10 x 0.1mm. (gear hanger). £3.40

HOLDSWORTHY LUBRICATION KIT (illustrated)
The ideal cycle transmission lubrication system for all racing and touring cycles. Contains:

Cleaning fluid 500cc
Chain oil 250cc
Gear oil 100cc
Cleaning brush

Packed in a plastic box which can be used as a 'bath' for chain, gears etc. £4.95

CAMPAGNOLO GREASE

Special white grease. Ideal for all components. 100g pot. £1.43
500g pot. £5.70

What goes into a HOLDSWORTHY bicycle

Holdsworth - a name that represents fifty years of unequalled experience in the building of the world's finest touring and racing bicycles. Today in our modern purpose built factory we bring together under one roof the traditional highly developed engineering skills and, most of all, the sense of pride which makes a Holdsworth or Claud Butler the best for any cyclist.

The design of a Holdsworth frame is a result of the collective knowledge of our whole staff, some of whom have over half a century's experience in cycles and cycling, but we are always receptive to the latest developments. The very first racing cycle in the revolutionary Reynolds 531 Oval "Speedstream" tubing was designed and built at Holdsworth - by active racers, who know at first hand the demands of competition in 1981. You can be sure that your Holdsworth, whether Holdsworth or Claud Butler, for racing or touring, will be an ideal marriage of old fashioned quality and new research.

No robots here - our craftsmen use the finest materials such as Reynolds tubing and Prugnat lugs to produce a Holdsworth frame. Every tube is carefully inspected, mitted and polished before assembly and the lugs are painstakingly filed and shaped to give those classic "clean" lines. Every joint is individually low temperature brazed and checked at every stage for perfect alignment. Then they are filed and polished again before passing to our paint shop where distinctive glowing colours and transfers are applied. At least four coats of paint are hand sprayed on every frame, each coat being oven baked to produce a tough, brilliant hard wearing finish.



On cycles for racing, touring or commuting, we choose components from the world's finest manufacturers: Campagnolo, Wolber, Super Champion, Fiamme, Regina, and match them to achieve perfect balance at every stage. The result is a machine that looks as good as it handles and, just as importantly, continues to offer high performance for many years and many thousands of miles.



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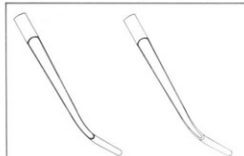
REYNOLDS- the name on the frame

We freely acknowledge that we are not the only builders of top quality bicycles in the world - there are a few others! So when the experts meet, there could be quite a number of different frame makers' names in evidence. But there is one name that will also appear on nearly all those frames - that of TI Reynolds, because for many years the Reynolds' transfer has been regarded as the "hallmark" of the frame builder.

The story goes back more than eighty years, to the days when attempts to build lightweight cycle frames usually ended with the frames badly crumpled at the points of maximum stress - near the lugs. Alfred Reynolds, a keen young engineer in Birmingham, pondered long over this problem and came up with the solution - a solution which still gives cyclists strong yet light frames. He invented a method of thickening up the walls of the frame tubes at the ends, where the stresses are greatest, whilst keeping the middle thin-walled for lightness. This involves drawing the frame tubes down onto a shaped mandrel to give the increased thickness at the ends whilst maintaining the outside diameter, and then passing it between special rollers, which 'spring' the walls sufficiently to release the mandrel.

This process, which he patented, he called "butting", and the tubes were known as "Reynolds Butted Tubes". A company was formed to draw the high quality seamless steel tubes used for these frame tubes, and to carry out the butting process on them. Originally called "The Patent Butted Tube Company Limited", this later became "Reynolds Tube Company Limited", and more recently, "TI Reynolds Limited".

A similar process was developed for fork blades, where previously tapering the tube had caused the walls to thicken at the tapered end, making it less resilient. By putting a long, single butt in the tube wall before tapering, the fork blade finished up strong at the crown and resilient at the rake. So was born the Reynolds taper gauge fork.



Cutaway diagram of Reynolds taper gauge fork blade

Cutaway diagram of ordinary plain gauge fork blade



The next developments were metallurgical. The original Reynolds Butted tubes were made from 'A' quality seamless steel tubes, a high quality carbon steel. Continuous research introduced 'AA' quality, but this was rapidly superseded by an alloy steel, Reynolds' 'HM' or 'High Manganese'. This was hailed by cyclists as a great advance, permitting thinner gauges to be used. But even this was soon surpassed by a new alloy, called Reynolds 531, and it rapidly became the best-known cycle frame material in the World.

Reynolds 531 is a manganese-molybdenum alloy steel tube. The alloy possesses a high tensile strength - up to 50 tons per square inch in the as-drawn condition. It also has a property which gives it a great advantage over competitive tubes - it retains a much higher proportion of its strength after correct brazing. This enables stronger frames

to be built for a given weight, or lighter ones for the same strength, as required.

A development, Reynolds 531SL (for Special Lightweight) utilises the same alloy, but is drawn to lighter gauges than standard Reynolds 531. Surely the ultimate in cycle frame tube material, Reynolds 753 is again a manganese-molybdenum alloy, but manufactured to a tensile strength of 75 tons per square inch. This enables Reynolds to produce paper-thin frame tubes for the very highest echelons of competitive cycling - tubes as thin as 0.015" in the middle. These tubes demand special building techniques, such as the use of silver solder, to avoid overheating the very thin walls and thus destroying their strength.

Two more Reynolds' developments are rapidly

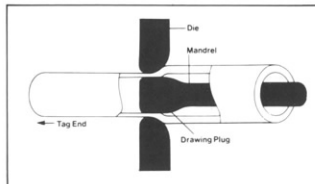


How tubing is made

Tubing for run-of-the-mill roadsters is made by progressively rolling a strip of steel into a tubular form and using an electric current to weld the edges together. This 'ERW tube', as it is known, is perfectly satisfactory for this purpose and other not too heavily stressed applications.

Where a very light structure is called for, such as a racing cycle frame, a cold-drawn seamless tube

is essential. This starts out as a solid steel billet which is pierced and then hot-rolled to form a rough tube called a 'hollow'. The 'hollow' is then cold-drawn a number of times. This involves drawing or pulling it through a die and over a shaped plug, as shown in the sketch, reducing the diameter and thickness and increasing the length with each pass. This process enables very thin-walled tubes to be made to close tolerances, and is the method used for the Reynolds' family of cycle frame tubes.



CLAUD BUTLER Bicycles

CRESTA & CLAUDETTE

Competitively priced but maintaining our high standards of engineering and finish, this "His 'n' Hers" matching pair would complement any cycling couple. High quality alloy components include Weinmann brakes, S.R. cotterless chainset, handlebars and stem. Cresta is available in 5 or 10 speed. Claudette in 5 only. Claudette is fitted with special 'anatomic' saddle and can be ordered with straight 'allrounder' handlebars. Both with Michelin 'Speed' high pressure tyres, full mudguards and alloy pumps. Finished in metallic Violet Blue. Cresta in sizes 19½", 21", 22", 23", 24", 25". Claudette in 20" and 22".

Cresta
5 speed £149.50
10 speed £159.50
Claudette
£156.95



MAJESTIC & MAJESTIQUE

A very popular matching pair of touring bicycles. Built with Reynolds 531 main tubes and forks with 72° angles for a superbly comfortable ride. Ladies version has "mixte" style frame with a special padded "anatomic" saddle. Both have Sun Tour 10 speed wide ratio gears and a rear carrier, alloy pump and quick release wheels. Finished in metallic Gold, with Silver ESCE full mudguards. Gents Majestic available in sizes 21½", 22½", 23½", 24½", 25½". Majestique in 20" and 22".

£194.95

SOVEREIGN & SOVEREIGN LADY

Craftsman built and comfortable enough to ride all day, responsive enough not to waste any energy. Equipped for long distance touring with Campagnolo "Rally" 10 speed wide ratio gears and Brooks B17 saddles, the attractive Sovereign cycles are based on hand-crafted Reynolds 531 frames and finished in metallic Bronze. Fitted with rear pannier carriers, quick release high pressure wheels, pumps and sturdy Weinmann centre-pull brakes. Sovereign in sizes 21½", 22½", 23½", 24½", 25½" and the Lady in 20" and 22".

£249.00

COUREUR

A bike that really flies! An exciting racing specification on a budget, based on a responsive 73° close clearance frame with Reynolds 531 forks and finished in bright red or yellow enamel. Twelve gears, narrow section high pressure quick release wheels, Weinmann shallow side pull brakes, alloy cotterless chainset. All these light components build into a bike weighing only 23½ pounds. Complete with suede saddle, bottle cage and toe clips. Sizes 21", 22½", 24".

£184.95



ITALIA

As the name suggests, a racing model in the classic Italian style. A super frame built with Reynolds butted main tubes and forks with 73° angles and close clearances. Quality components include Campagnolo 12 speed gears, S.R. alloy cotterless chainset, Regina "Oro" freewheel and chain, suede saddle and Weinmann side-pull brakes. Narrow section high pressure Super Champion Gentlemen rims on alloy quick release small flange hubs. Finished in Metallic Silver Grey and in sizes 21", 22", 23", 24", 25".

£249.00

COLSTAR

The ideal allrounder for racing or training. With classy accessories such as Campagnolo "Record" pedals, hubs and 10 speed gears. Cinelli saddle and Fiamme handlebars and stem with Universal 77 racing side-pull brakes. Fiamme sprint rims with Wolber International tubulars. Based on a Reynolds butted 531 frame with Campagnolo drop-outs and 73° angles, 40" wheel base. Sizes available 19½", 21", 22", 23", 24", 25". Finished in a range of popular colours or to order. £395.00

DON'T FORGET . . .

When selecting a Holdsworth bicycle, your dealer's knowledge and experience will help you make the right choice of size and model to suit your personal requirements.

CLAUD BUTLER Framesets

CRESTA

A lively economical frameset designed for the younger enthusiast building a first 'real' bike. Hand brazed and filed, with Reynolds 531 forkblades for a smooth positive ride. 73° parallel angles. Brazed on top tube brake cable guides, fork lamp boss and gear cable stop. Complete with alloy seatpin and T.D.C. headset, finished in metallic Violet Blue or Red. Sizes available 19½", 21", 22", 23", 24", 25".

£69.50

ITALIA

Ready to race, with 73° angles and Reynolds 531 butted main tubes and forks, this frame will also accept mudguards with 700C size wheels. Fitted with top tube cable guides, bottle cage bosses and gear stops for under-bracket cables. Complete with Campagnolo road ends, Omega headset and alloy micro-adjusting seatpin. Finished in metallic Silver Grey. Sizes 21", 22", 23", 24", 25".

£94.50

COLSTAR

Excellent handbuilt quality for the all-round clubman. Reynolds 531 butted tubing throughout. 73° parallel angles, 40" wheelbase, clearances for mudguards with 700C size wheels. Bottle cage bosses, cable guides and gear stops/tunnels. With Allez headset and S.R. micro-adjusting seatpin. Colour to choice. Sizes 19½", 21", 22", 23", 24", 25".

£125.00

CASSINO

Built for touring, with Reynolds 531 tubing and forks, 72° angles and 41" wheelbase. Brazed on cable guides, fork lamp boss and gear cable stop. With alloy seatpin and T.D.C. headset, finished in metallic Gold. Sizes, 21½", 22½", 23½", 24½", 25½".

£84.50

HOLDSWORTH Bicycles

MYSTIQUE

Distinctive black enamel sets off the quality alloy components on this budget priced model. The frame has 73° angles and Reynolds fork blades for a responsive "ride" and brazed-on features include fork lamp bracket boss, top tube cable guides and gear cable stops. Available with 5 or 10 speeds. Specification includes Huret gears, S.R. alloy cotterless chain set and reliable Weinmann alloy sidepull brakes with quick release levers. Trouble free riding is assured with Michelin "Speed" high pressure tyres. Complete with a padded saddle and full mudguards. In sizes 19½", 21", 22", 23", 24", 25".

5 speed £149.50
10 speed £159.50

ELAN

The latest addition to the Holdsworth stable and already a winner with cyclists who demand a thoroughbred lightweight cycle good enough to race on - but without breaking the bank. Based on an entirely new frame built with Reynolds 531 butted main tubes and forks with close clearances, 73° angles and 40" wheel base, and with features found on very expensive models, such as underbracket gear cables, Campagnolo gears, Regina "gold" freewheel and chain and an S.R. alloy cotterless 40/50 chainset for an unbeatable 12 speed transmission. Light alloy components include Weinmann sidepull brakes, handlebar stem, micro adjusting seat pin, bottle cage and quick release hubs. Complete with narrow section high pressure tyres. Sizes 21", 22", 23", 24", 25". Finished in Ice Blue Metallic.

£249.00

MISTRAL

A classic model for the tourist, Craftsman built frame in Reynolds 531 butted tubing throughout with Prugnat lugs, Campagnolo forged dropouts, 72° angles and 41" wheelbase. Specification includes: S.R. alloy cotterless chainset, Campagnolo "Rally" 10 speed gears, Brooks B17 leather saddle, Weinmann centre-pull brakes, Worthly "Green Label" high pressure tyres and rear carrier. Complete with alloy pump, toe clips and ESSE "chromoplastic" full mudguards. Sizes 19½", 21½", 22½", 23½", 24½", 25½". In a range of popular finishes or to your own choice to order.

£295.00

SPECIAL

A superbly fast, responsive model built by cyclists for cyclists. Light enough for racing, strong and stable for club riding. Frame crafted by traditional hand methods with butted Reynolds 531 tubing throughout, Campagnolo dropouts and 73° angles. Top flight components include Campagnolo "Record" 10 speed gears, pedals and hubs. Universal 77 quick release sidepull brakes. S.R. alloy cotterless chainset. Cinelli leather covered saddle. Fiamme sprint rims with Wolber "International" tubular tyres. Sizes 19½", 21", 22", 23", 24", 25" in a range of colours or to order.

£395.00

PROFESSIONAL

This truly professional 12 speed is based on an upright frame in butted Reynolds 531 tubing and is suitable for all kinds of road racing. With 74° angles, 39" wheelbase and all the brazed-on fittings you expect on such a top model. The cycle is equipped throughout with the Campagnolo 'Record' components group with Fiamme sprints, Wolber 'Neo-Pro' racing tubulars, Cinelli saddle and Regina "Oro" freewheel and chain. Sizes 21", 22", 22½", 23", 23½", 24", 25". Colour to choice with chrome dropouts. Track version also available to order.

£525.00



Holdsworth 'ELAN'

PROFESSIONAL SUPER

Based as above on the 'Professional' frame but equipped with the titanium based Campagnolo 'Super Record' components group.

£595.00

PROFESSIONAL SL

Individually craftsman built to order with a host of details which make this the road bike 'par excellence'. Based on the Pro. SL frame in Reynolds 531 Special Lightweight tubing and fully equipped with the titanium Campagnolo 'Super Record' group. Complete with Regina 'Oro' freewheel and chain and Clement no.12 Criterion racing tubulars, Cinelli padded saddle and Benotto handlebar tape. Size and colour including chrome dropouts to your choice.

£695.00

CLASSIC (illustrated inside front cover)

The machine for the top time triallist and a classic in every sense of the word. Campagnolo 'Super Record' group with single chain ring, Clement no.3 silk tubulars, Cinelli saddle and Regina block and chain, built onto the 'Classic' frame. Size and colour to choice.

£695.00

HOLDSWORTH Framesets

ELAN

A lively frameset in Reynolds 531 butted main tubes and forks, Prugnat lugs and Campagnolo ends. Handbuilt with 73° angles and a 40" wheelbase. Finished in metallic Ice Blue and complete with Ofmega headset and alloy micro-adjusting seatpin. Clearance for tubulars/700C H.P.'s with mudguards. Rear ends spaced for 6 speed hub. Bottom bracket height 10½". Brazed on brake cable guides on top tube, stops for under bracket gear cables and bottle cage bosses. Suitable for racing and club riding. Sizes available, 21", 22", 23", 24", 25".

£94.50

MISTRAL

A specialist touring frame built throughout in Reynolds 531 butted tubing with Prugnat lugs and Campagnolo forged road ends. 72° parallel angles and 41" wheelbase. Clearance for High Pressure tyres and mudguards. Complete with Allez headset and S.R. micro-adjusting seatpin. Brazed on brake cable guides, gear cable stops, tunnels and bottle cage bosses. Finished in a range of popular colours or to choice. Sizes available, 19½", 21½", 22½", 23½", 24½", 25½".

£125.00

SPECIAL

A really superb 73° parallel road frame for the all-round enthusiast, with a 40" wheelbase and built throughout in Reynolds 531 butted tubing. Brazed on fittings include top tube cable guides, gear tunnels, stops and bottle cage bosses. With an Allez headset and S.R. micro-adjusting seatpin. Campagnolo forged ends. Clearances for sprints and mudguards. Sizes 19½", 21", 22", 23", 24", 25".

£125.00

PROFESSIONAL

A pure racing frame with 74° angles and a 39" wheelbase. Handbrazed Reynolds 531 butted tubing throughout with Prugnat lugs and Campagnolo 'Super Record' road ends. Brazed on bottle cage bosses, top tube brake cable guides, gear cable stops and tunnels. Clearance for Campagnolo 'Piccolo' brakes NOT mudguards. Chromed dropouts, colour to choice. Complete with Campagnolo Record headset and seatpin. Sizes 21", 22", 22½", 23", 23½", 24", 25".

£159.00

PROFESSIONAL SL

Reynolds 531 Special Lightweight tubing. Prugnat cut-out lugs. Cinelli micro-cast fork crown and underbracket cable guides. Brake drillings recessed for allen-key fittings. Braze-on fittings to choice but standard are top tube cable guides, bottle cage bosses, Campagnolo lever bosses and cable stops. Campagnolo 'Super Record' chromed dropouts. 74° parallel angles and 39" wheelbase. Size and colour to choice. Complete with Campagnolo 'Super Record' headset and seatpin.

£240.00

CLASSIC

An ultra light responsive time trial frameset, with fastback design seatstays and cutout bottom bracket shell. Reynolds 531 SL tubing. Prugnat cut-out lugs. Campagnolo 'Super Record' drilled and chromed dropouts. Cinelli microcast fork crown. Recessed brake drillings. 75° parallel angles and 38" wheelbase. Brazed on top tube cable guides, right hand lever boss and gear stop. Complete with Campagnolo 'Super Record' headset and seatpin. Size and colour to choice.

£240.00





Winner of four World Championships 1974, 1975, 1976, 1979

Success is born of innovative technology. Success is the Alan aluminium alloy frame from Italy.

Built using unique frame building techniques originated in the aircraft industry, the result is the first all aluminium alloy frame strong enough to race on and with unparalleled rigidity and light weight. The process is as remarkable as it is simple. The tubes are made from rustproof anodised aluminium alloy, which are as light as steel but much stronger. A common demonstration is to put such a tube across a kerbstone and jump on it, the Alan tubes being so strong they remain completely unaffected. The aluminium alloy lugs are cast, then precisely machined and polished. Finally the tube ends are tapped and screwed into the lugs, the joint being bonded with industrial epoxy resins for complete solidity.

The Competition Frameset

The standard Alan frame. Specification includes bottle cage and gear lever bosses, top tube cable guides, rear ends spaced for 6 speeds with gear hanger and wheel adjusters. Brake clearances are 50mm. (Compatible with Campagnolo "Piccolo"). Allen-key fitting seat lug. Under-bracket cable guides. Fitted with Campagnolo "Record" parallel with usual variations on very large and small sizes. Sizes as chart. **£169.95**

The Super Frameset

Similar to the "Competition" but features an alloy steering column, a streamlined seat cluster and cut

Aluminium Alloy Framesets

out lugs. Complete with Campagnolo "Super Record" headset and seatpin. Colours: Red, Blue or Silver. Sizes as chart. **£213.00**

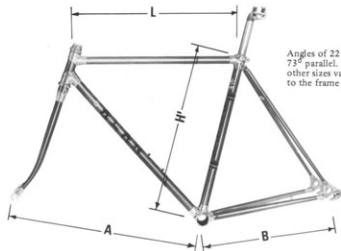
The Pista Frameset

Track version of the "Super". Ultra close clearances, no brake drillings. Generally stiffer and "tighter" for track racing. With Campagnolo "Super Record" headset and seatpin. **£213.00**

ALAN dimensions chart (in inches)

Ref. No.	English frame size H ¹	Top tube L	Front centres A	Rear centres B
1/48	19.6	19.7	22.8	16.2
2/49	20.0	20.1	22.9	16.2
3/50	20.4	20.5	22.9	16.2
4/51	20.8	20.9	23.0	16.2
5/52	21.2	20.9	23.0	16.2
7/53	21.6	21.3	23.1	16.2
10/54	22.0	21.3	23.2	16.2
11/55	22.4	21.7	23.2	16.2
13/56	22.8	22.1	23.3	16.2
14/57	23.2	22.5	23.3	16.2
15/58	23.6	22.5	23.3	16.2
16/59	24.0	22.9	23.5	16.2
17/60	24.4	23.3	23.7	16.2
18/61	24.8	23.7	23.8	16.2
19/62	25.2	23.7	23.8	16.2

order by reference number

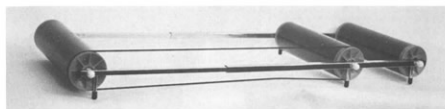


Angles of 22.4" frame are 73° parallel. Angles of other sizes vary according to the frame dimensions.

ROLLERS

No keen cyclist should be without a set of 'Alles' training rollers. Regular use, particularly in the 'off' season, develops suppleness and skill and together with a properly balanced training schedule will help build fitness and speed. Especially useful in the winter months when ice and snow can make outdoors cycling impossible. Adjustable instantly

to your bike's wheelbase and quickly folded for transport or storage. Large diameter plastic rollers on ball races give a smooth ride. Spare drive belts and rollers available. **£38.32**



'POULIDOR' ROOF RACK

A versatile system exclusive to Holdsworths. Lightweight and quickly attached to the car roof. Takes up to 4 bicycles conveniently and securely. Use it to take the bike on holiday, to drive to a race or if you live in the centre of town, to travel quickly out into more pleasant cycling country.

Two nylon covered box section steel roof bars grip the car roof gutters with nylon butterfly nuts and are available in two lengths.

1.1 Standard bar fits maximum gutter to gutter of 50"/127cm.

1.3 Long bar fits maximum gutter to gutter of 57"/144cm.

Up to 4 cycle carrier units may be clamped to the bars, again with quick release nuts. The standard unit will hold any size cycle, upside down, between the saddle and the handlebars. On and off in

seconds, without any wheels to remove. In addition the DeLux unit has an integral lock on the handlebar clamp, for security on the car. There is also a separate cable lock for use away from the vehicle.

Complete Standard 2 cycle roof rack 1.1 bars set **£29.95**

Complete Standard 2 cycle roof rack 1.3 bars set **£31.95**

Complete DeLux 2 cycle roof rack 1.1 bars set **£39.95**

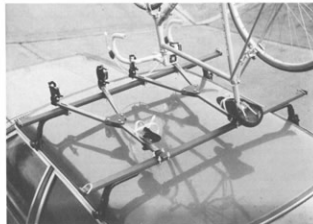
Complete DeLux 2 cycle roof rack 1.3 bars set **£41.95**

Roof bar, standard length each **£4.50**

Roof bar, long length each **£5.50**

Cycle carrier unit, standard each **£10.50**

Cycle carrier unit, DeLux each **£15.50**





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GEAR CHART 27" WHEELS

CHAINRING SIZE

	36	38	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
12	71.0	85.5	90.0	92.2	94.5	96.7	99.0	101.2	103.5	105.8	108.0	110.2	112.5	114.7	117.0	119.2	121.5	123.7	126.0	128.1
13	74.8	78.9	83.1	85.1	87.2	89.3	91.4	93.4	95.5	97.6	99.7	101.8	103.9	105.9	108.0	110.0	112.1	114.2	116.3	118.3
14	69.5	73.3	77.1	79.1	81.0	82.9	84.9	86.8	88.7	90.6	92.6	94.5	96.4	98.3	100.3	102.2	104.1	106.0	108.0	109.9
15	64.8	68.4	72.0	73.8	75.6	77.4	79.2	81.0	82.8	84.6	86.4	88.2	90.0	91.8	93.6	95.4	97.2	99.0	100.8	102.6
16	60.8	64.2	67.5	69.1	70.9	72.5	74.3	75.9	77.6	79.3	81.0	82.7	84.4	86.0	87.8	89.4	91.1	92.8	94.5	96.1
17	57.2	60.4	63.6	65.1	66.7	68.3	69.9	71.5	73.1	74.6	76.2	77.8	79.4	81.0	82.6	84.2	85.7	87.3	88.9	90.5
18	54.0	57.0	60.0	61.5	63.0	64.5	66.0	67.5	69.0	70.5	72.0	73.5	75.0	76.5	78.0	79.5	81.0	82.5	84.0	85.5
19	51.2	54.0	56.8	58.3	59.7	61.1	62.5	64.0	65.4	66.8	68.2	69.6	71.1	72.4	73.9	75.3	76.7	78.2	79.5	81.0
20	48.6	51.3	54.0	55.3	56.7	58.0	59.4	60.7	62.1	63.4	64.8	66.2	67.5	68.8	70.2	71.5	72.9	74.2	75.6	76.9
21	46.3	48.9	51.4	52.7	54.0	55.3	56.6	57.8	59.2	60.4	61.7	63.0	64.3	65.5	66.9	68.2	69.4	70.7	72.0	73.3
22	44.2	46.6	49.1	50.3	51.5	52.7	54.0	55.2	56.5	57.6	58.9	60.1	61.4	62.6	63.8	65.0	66.2	67.5	68.7	69.9
23	42.3	44.6	47.0	48.1	49.3	50.4	51.6	52.8	54.0	55.2	56.3	57.5	58.7	59.8	61.0	62.2	63.4	64.5	65.7	66.9
24	40.5	42.7	45.0	46.1	47.3	48.3	49.5	50.6	51.8	52.9	54.0	55.1	56.3	57.3	58.5	59.6	60.7	61.8	63.0	64.1
25	38.9	41.1	43.2	44.3	45.4	46.4	47.5	48.6	49.7	50.8	51.8	52.9	54.0	55.1	56.2	57.2	58.3	59.4	60.4	61.6
26	37.4	39.5	41.5	42.6	43.6	44.6	45.7	46.7	47.8	48.8	49.9	50.9	51.9	53.0	54.0	55.0	56.1	57.2	58.1	59.2
27	36.0	38.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0
28	34.8	36.6	38.6	39.5	40.5	41.4	42.4	43.4	44.4	45.3	46.3	47.2	48.2	49.2	50.1	51.1	52.0	53.0	54.0	55.0
29	33.5	35.4	37.2	38.1	39.1	40.0	41.0	41.9	42.8	43.7	44.7	45.6	46.5	47.5	48.4	49.4	50.3	51.2	52.1	53.1
30	32.4	34.2	36.0	36.9	37.8	38.7	39.6	40.5	41.4	42.2	43.2	44.1	45.0	45.9	46.8	47.7	48.6	49.5	50.4	51.3
31	31.3	33.1	34.8	35.7	36.6	37.4	38.4	39.2	40.1	40.9	41.8	42.7	43.6	44.4	45.3	46.2	47.0	47.9	48.8	49.7

SPROCKET SIZE

GEAR CHART 27" WHEELS

CHAINRING SIZE

SPROCKET SIZE

	36	38	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
12	81.0	85.5	90.0	92.2	94.5	96.7	99.0	101.2	103.5	105.8	108.0	110.2	112.5	114.7	117.0	119.2	121.5	123.7	126.0	128.1
13	74.8	78.9	83.1	85.1	87.2	89.3	91.4	93.4	95.5	97.6	99.7	101.8	103.9	105.9	108.0	110.0	112.1	114.2	116.3	118.3
14	69.5	73.3	77.1	79.1	81.0	82.9	84.9	86.8	88.7	90.6	92.6	94.5	96.4	98.3	100.3	102.2	104.1	106.0	108.0	109.9
15	64.8	68.4	72.0	73.8	75.6	77.4	79.2	81.0	82.8	84.6	86.4	88.2	90.0	91.8	93.6	95.4	97.2	99.0	100.8	102.6
16	60.8	64.2	67.5	69.1	70.9	72.5	74.3	75.9	77.6	79.3	81.0	82.7	84.4	86.0	87.8	89.4	91.1	92.8	94.5	96.1
17	57.2	60.4	63.6	65.1	66.7	68.3	69.9	71.5	73.1	74.6	76.2	77.8	79.4	81.0	82.6	84.2	85.7	87.3	88.9	90.5
18	54.0	57.0	60.0	61.5	63.0	64.5	66.0	67.5	69.0	70.5	72.0	73.5	75.0	76.5	78.0	79.5	81.0	82.5	84.0	85.5
19	51.2	54.0	56.8	58.3	59.7	61.1	62.5	64.0	65.4	66.8	68.2	69.6	71.1	72.4	73.9	75.3	76.7	78.2	79.5	81.0
20	48.6	51.3	54.0	55.3	56.7	58.0	59.4	60.7	62.1	63.4	64.8	66.2	67.5	68.8	70.2	71.5	72.9	74.2	75.6	76.9
21	46.3	48.9	51.4	52.7	54.0	55.3	56.6	57.8	59.2	60.4	61.7	63.0	64.3	65.5	66.9	68.2	69.4	70.7	72.0	73.3
22	44.2	46.6	49.1	50.3	51.5	52.7	54.0	55.2	56.5	57.6	58.9	60.1	61.4	62.6	63.8	65.0	66.2	67.5	68.7	69.9
23	42.3	44.6	47.0	48.1	49.3	50.4	51.6	52.8	54.0	55.2	56.3	57.5	58.7	59.8	61.0	62.2	63.4	64.5	65.7	66.9
24	40.5	42.7	45.0	46.1	47.3	48.3	49.5	50.6	51.8	52.9	54.0	55.1	56.3	57.3	58.5	59.6	60.7	61.8	63.0	64.1
25	38.9	41.1	43.2	44.3	45.4	46.4	47.5	48.6	49.7	50.8	51.8	52.9	54.0	55.1	56.2	57.2	58.3	59.4	60.4	61.6
26	37.4	39.5	41.5	42.6	43.6	44.6	45.7	46.7	47.8	48.8	49.9	50.9	51.9	53.0	54.0	55.0	56.1	57.2	58.1	59.2
27	36.0	38.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0
28	34.8	36.6	38.6	39.5	40.5	41.4	42.4	43.4	44.4	45.3	46.3	47.2	48.2	49.2	50.1	51.1	52.0	53.0	54.0	55.0
29	33.5	35.4	37.2	38.1	39.1	40.0	41.0	41.9	42.8	43.7	44.7	45.6	46.5	47.5	48.4	49.4	50.3	51.2	52.1	53.1
30	32.4	34.2	36.0	36.9	37.8	38.7	39.6	40.5	41.4	42.2	43.2	44.1	45.0	45.9	46.8	47.7	48.6	49.5	50.4	51.3
31	31.3	33.1	34.8	35.7	36.6	37.4	38.4	39.2	40.1	40.9	41.8	42.7	43.6	44.4	45.3	46.2	47.0	47.9	48.8	49.7