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It is with the greatest pride that Campagnolo presents its new range of products for 1996.

It has always been our design philosophy to match revolutionary concepts with a thorough and systematic improvement in details.

We believe that only in this way is it possible to obtain the advantages from major innovations, without compromising reliability, which often happens with short-lived experimental products.

We can therefore confirm that, in terms of effectiveness, simplicity and comfort, our 1996 range meets the requirements of all cyclist, no matter how demanding they might be.

The sport of cycling, at any level, must be first and foremost a pleasure.

The range of products illustrated in this catalogue has been conceived, designed and produced in order to offer the highest performance, ease of operation, lightness and the famous, enduring quality of Campagnolo.



GROUPS





# CHANGE FOR THE FUTURE

## CAMPAGNOLO GROUPS

Our 1996 range has been developed with a view to offering equipment whose performance is ever more at the leading edge, performance designed with the professional in mind and aimed at an ever-increasing number of enthusiasts

LIGHTNESS, COMFORT and FUNCTIONALITY are features emblematic of a range of groupsets technologically-aimed at the year 2000.

## LIGHTNESS AND ERGONOMICS

After detailed research, new materials such as TITANIUM and CARBON-FIBRE have been introduced in the production of numerous components, without compromising their reliability or functionality.



This has led to significant weight savings, such as the 43 grammes saved in the ERGOPOWER controls and RECORD rear mechanism alone.

On the ERGOPOWER controls, certain parts of the pivots are made of TITANIUM or even ALUMINIUM.

Throughout the range of ERGOPOWER controls we have also improved the ergonomics, through the creation of a new shape for the brake lever body and lever hoods, which are sleeker and rounder and which provide a better grip and fit for the hand and a better comfort.

On the RECORD rear mechanism the mounting screws and jockey wheel cage are all in TITANIUM.

This has enabled us to further improve the performance of the transmission.

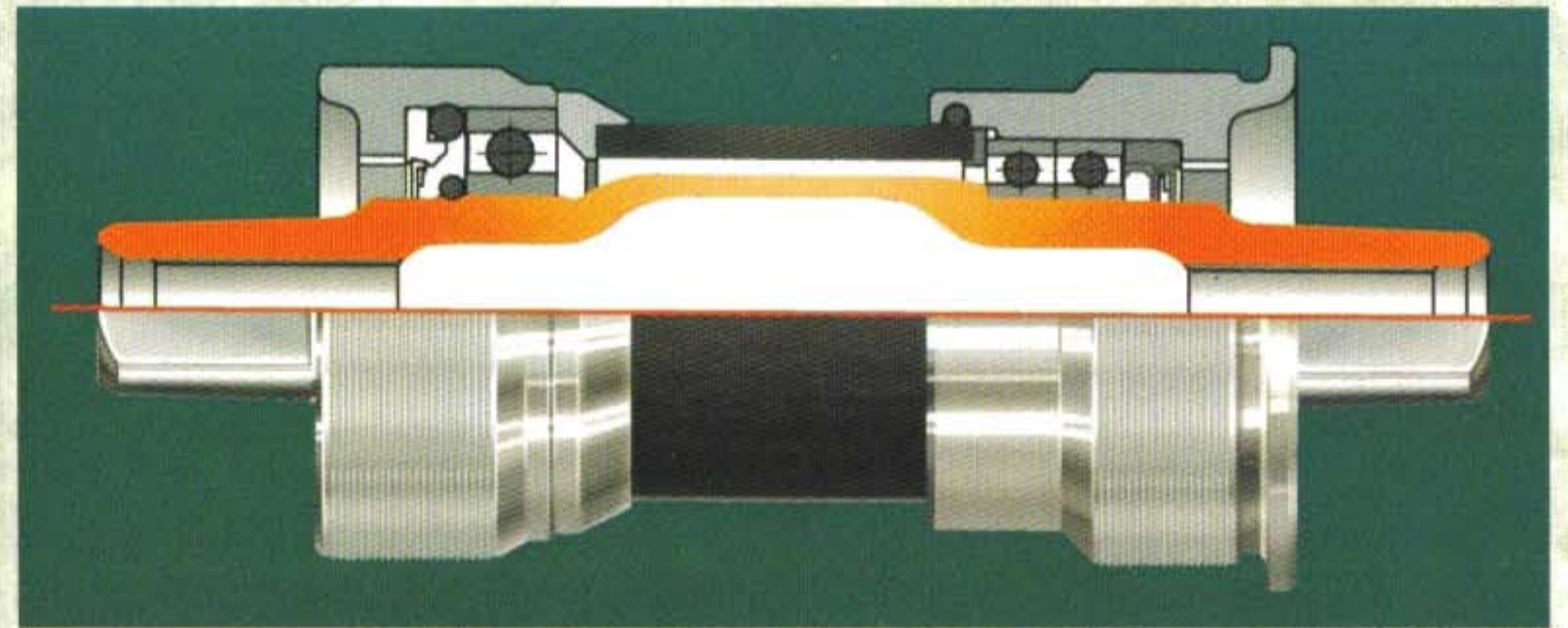
In practice, through the Teflon finish applied to both the sur-



face of the screws themselves, and the new nickel-treated stainless steel bushes through which they run, friction has been dramatically reduced in all the joints.

## NEWS TECHNOLOGIES

In designing and producing these new components we have used advanced technologies normally applied only in "hi-tech" industries such as aerospace.



For the first time ever, thanks to the adoption of these new technologies, we have developed a bottom bracket with a hollow axle with a shape which, hitherto, has been impossible to achieve even with the most advanced, traditional methods.

This new axle design, in alloyed, treated steel, has led to a notable reduction in weight, in the order of 38 grammes, whilst at the same time increasing its rigidity.

Even greater weight reduction has been achieved through the creation of the bottom bracket cartridge sleeve from high strength CARBON-FIBRE tubing, subsequently machined and faced.

Great attention has also been paid to maximising smoothness. Through a new bearing design, friction has been virtually eliminated and smoothness has been doubled.

## TITANIUM HUBS AND SPROCKETS

TITANIUM also features as the principal element in the new RECORD TITANIUM rear hub and freewheel block.

The sprockets boast the same EXA-DRIVE profile realised for the traditional steel sprockets, with the same level of gear-changing performance.

The freewheel titanium block alone accounts for a weight reduction of 140 grammes compared to a steel block.

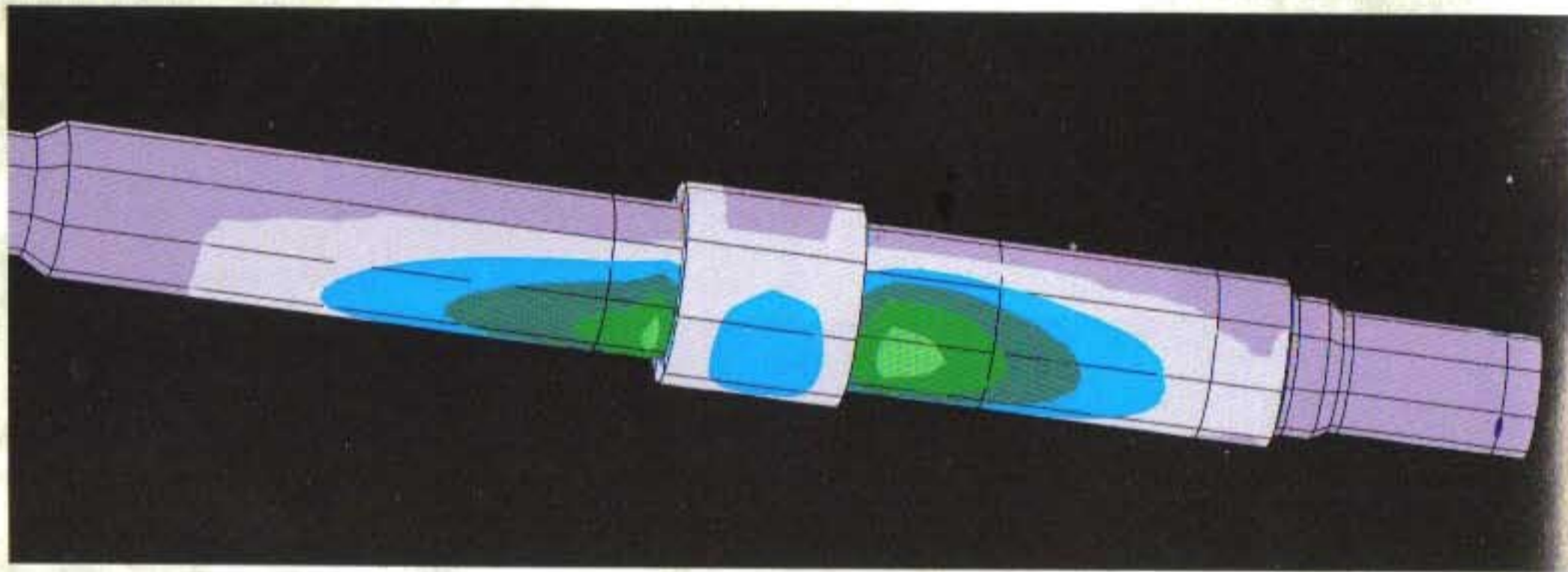
The rear hub has undergone a complete re-think in order to achieve axle dimensions appropriate to the use of TITANIUM.

By a thorough computer analysis the areas of the axle subject to most stress have been identified, thus enabling us to distribute accurately the metal content in those zones and hence guarantee the performance and reliability of this component.

Particular attention has also been paid to the freewheel body which is now in two parts: the inner body is entirely made of TITANIUM, while the outer 'freewheeling' sprocket body is in ALUMINIUM.







The whole hub/freewheel block ensemble accounts for a weight reduction of 238 grammes. An additional feature of the hub are the protective bearing seals which make the hub impervious to the ingress of water and dirt.

#### BRAKING SYSTEMS

COMFORT and PERFORMANCE have been the principal themes behind the development of the braking ensembles throughout the entire 1996 range.

By virtue of the adoption of new, appropriately-loaded return springs and the minimisation of friction, the force required to achieve effective braking has been reduced by 20-30%, depending on the group model.

Notwithstanding this, the braking force has also been improved by up to 25%, as, for example, in the brakes of the AVANTI groupset. In fact, new brake blocks, made of special compounds, have been developed to improve braking in the wet, where top performance is critical.

#### FINE FINISHES

With the desire to offer an evermore elegant and prestigious image to our entire range of groupsets, and with our usual discriminating eye and aesthetic sense, the choice of an appropriate finish has been reached.

For the first time ever, Campagnolo offers enthusiasts a polished, anodised finish across the whole range.

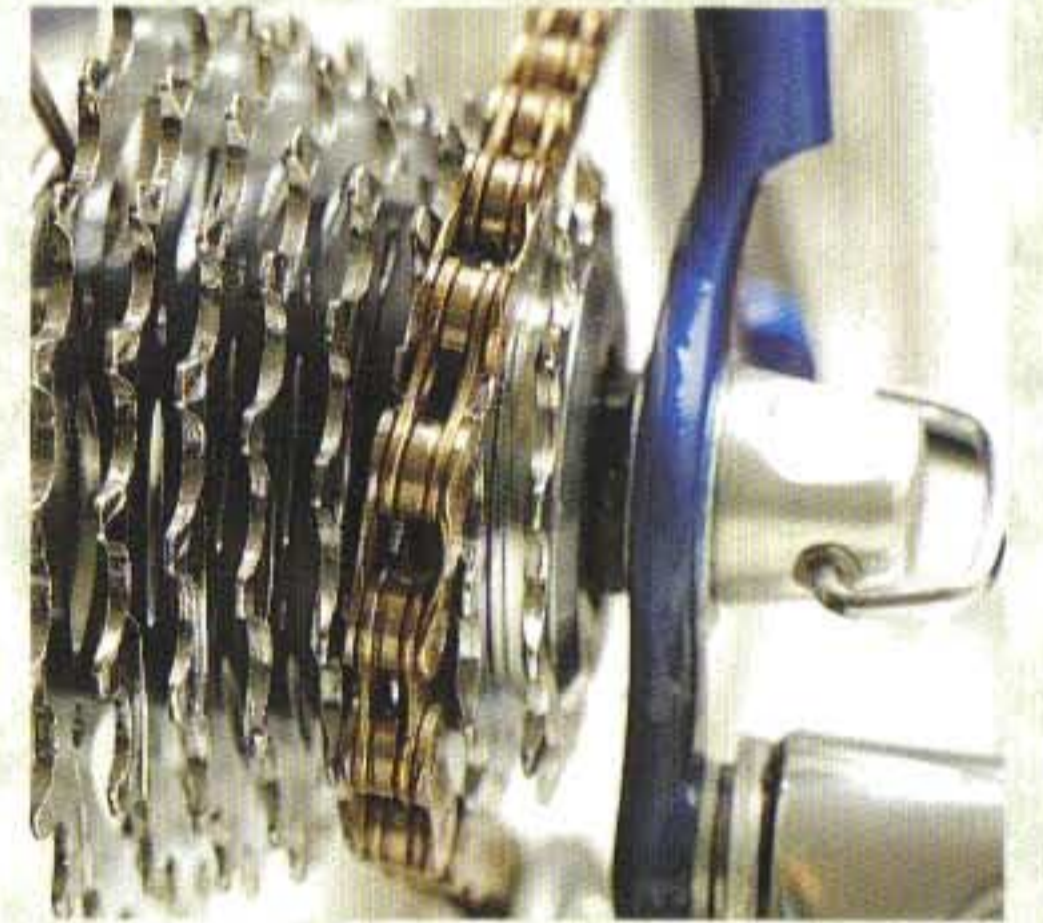


This is our traditional finish, previously only for groupsets at the top end of the range.

#### AN EVER HIGHER PERFORMANCE TRANSMISSION

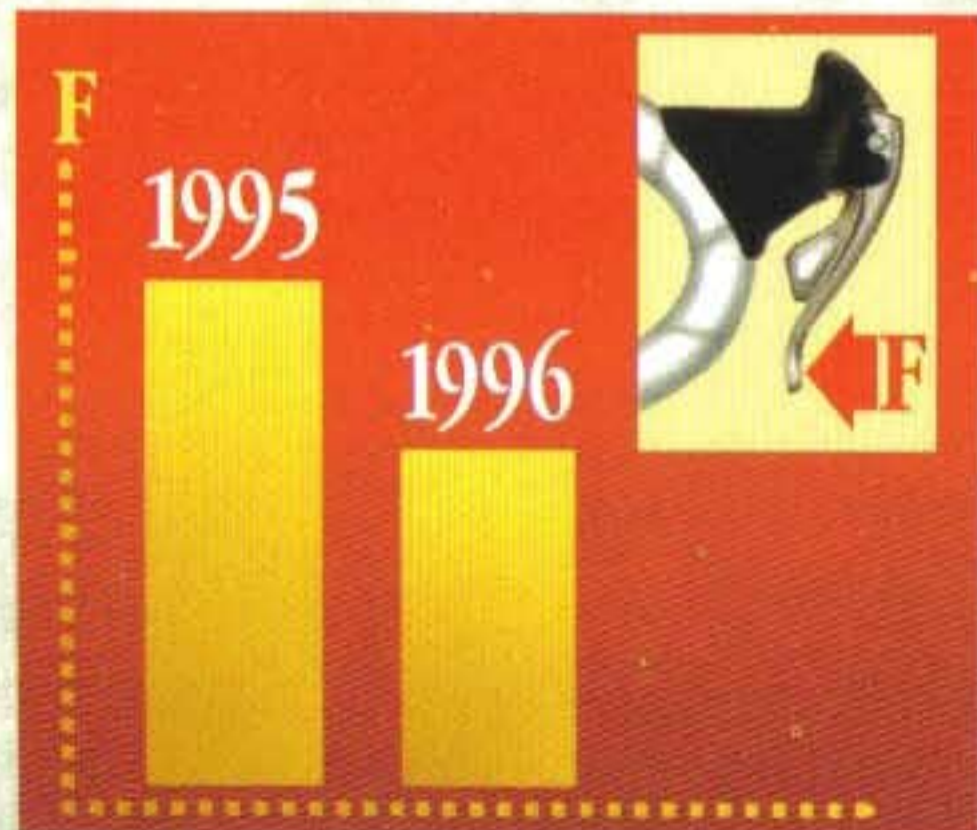
Through a whole range of improvements introduced in the ERGO-POWER controls, the rear mechanism and front derailleur, the force required to operate the controls has been reduced by up to 50%, according to the model.

By using a new, square-section, conical spring design both on the derailleur and the rear mechanism not only have we reduced the force required to operate them, but the force itself is more linear and constant. With traditional springs, the force required increases as one moves onto larger chainwheels or sprockets.



Complementary improvements have been introduced to the ERGO-POWER controls themselves, with internal mechanisms operating on ball-bearings or bushes.

EXA-DRIVE sprockets, chainwheels and new chains complete the transmission, providing a level of gear changing and derailing, even under conditions of max. chain tension, never before reached. Even during all-out efforts, as when attacking steep hills, it is now possible to achieve rapid and precise gear changes regardless of the situation and even in emergencies.





# RECORD





### RECORD TITANIUM ERGOPOWER AND REAR DERAILLEUR

Substituting those parts traditionally made of steel and replacing them with others made of titanium, or even aluminium, has enabled us to obtain not only a notable reduction in weight but also an improvement in performance as well.

For example, on the mounting screws and the jockey wheel cage on the RECORD titanium rear mechanism we have added a Teflon finish in order to minimise friction during gear changes.

The overall friction in the rear derailleur assembly has been further reduced by the use of the same titanium screws in combi-



nation with special nickel-plated stainless steel bushes, which are also treated with a specifically developed Teflon finish.

### RECORD BOTTOM BRACKET

The new RECORD cartridge bottom bracket perfectly illustrates Campagnolo's determination to develop new technologies aimed at reaching the most advanced levels of performance.

Through the adoption of methods hitherto used only in the aerospace industry, it has been possible to create the world's first internally weight reduced bottom bracket spindle, with a shape that would have been unobtainable through traditional machining methods and technologies.

Further weight reduction has been achieved by machining the cartridge sleeve out of a highly-resistant tube of woven carbon-fibre.

These results have been obtained with no loss in the characteristic rigidity of the bottom bracket itself.

Finally, the smoothness of the bracket has been



almost doubled via the introduction of specially-designed ball-bearings.

### RECORD FRONT DERAILLEUR

The application of the EXA-DRIVE system to the chainwheels of the chainset means that derailing is now possible even in conditions of high chain tension.



The new Record front derailleur allows precise shifting across chainwheels even at maximum chain tension, as when switching down from the large chainwheel to the small one, on a climb.

By virtue of an easily accessible adjustment system for tuning the return spring, it is

possible to enhance this feature, or render the change itself even lighter, according to the user's preference.

### RECORD TITANIUM REAR HUB AND RECORD TITANIUM FREEWHEEL

Impressive weight reduction is now possible thanks to the introduction of the RECORD TITANIUM rear hub.

This hub boasts a purpose-designed titanium axle with no loss of the essential mechanical characteristics which guarantee its reliability and durability.

The internal body of the cassette freewheel is also in titanium, while the outer splined body is in light aluminium alloy.

New freewheel blocks in titanium have been designed for exclusive use with these hubs, an ensemble which guarantees high performance in gear changing.

Sprockets are always with traditional EXA-DRIVE design.

This combination of hub and freewheel provides a weight reduction in the order of 238 grammes.



The RECORD group is synonymous with performance and reliability.

This is the group that partners great champions in their peak performances, as when winning the most prestigious races such as the Giro d'Italia and the Tour de France.

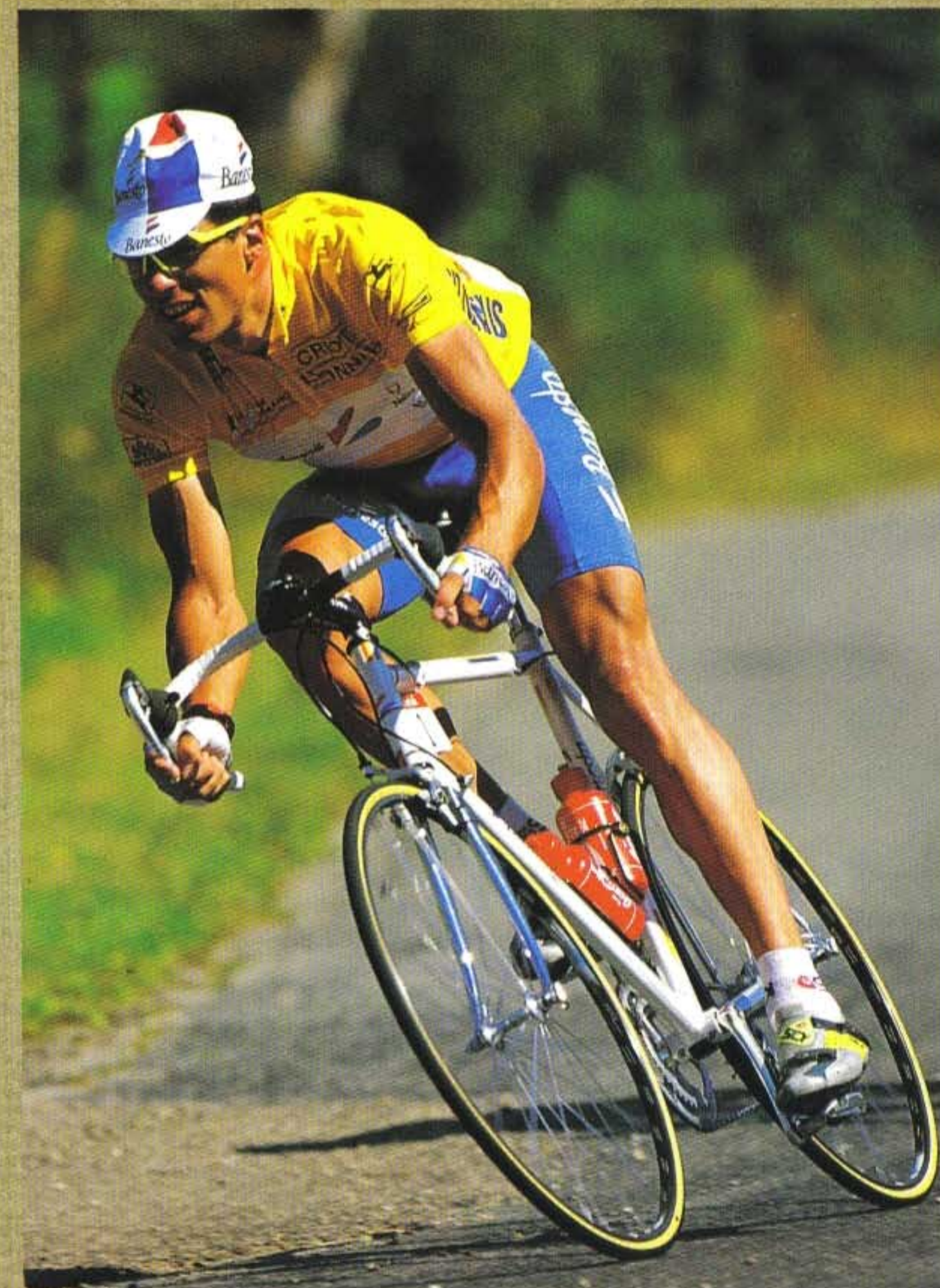
In terms of technological innovation in design, production and functionality and reaching a level of performance never before achieved the RECORD group is the best there is for enthusiasts.

Special attention was paid in the planning stage in order to achieve even lighter components, without compromising reliability, using innovative materials such as CARBON-FIBRE and TITANIUM.

And for the first time ever, leading-edge technologies, never before adopted in the production of bicycle components, have been developed for the production of vital components such as the bottom bracket.

RECORD. The future of cycling.

# RECORD





# CHORUS





## CHORUS ERGOPOWER

CHORUS ERGOPOWER integrated levers feature the same concepts as those already employed in the RECORD group aimed at achieving an even 'smoother' control with components lighter than ever before.

Inside the brand-new carbon-fibre housing, the introduction of the "BB-SYSTEM" mechanism has rendered both the gear change and chainwheel derailing much 'softer'.



The BB-System, which involves the use of ball-bearings, enables perfect articulation of lever-controlled joints, ensuring great precision and sensitivity of the gear change.

Throughout the range, ERGOPOWER integrated levers are suitable for use with double or triple chainwheels.

## CHORUS REAR AND FRONT DERAILLEUR.

In all groupsets, with ERGOPOWER controls, the force required to operate the rear mechanism and the derailleur has been reduced by 50% from the 95 version. In addition to the innovative improvements effected on the levers themselves, other important modifications have been carried out to the rear mechanism and the derailleur.

Both components have been fitted with specially designed springs which provide a progressive, linear return. In particular, the square-section spring in the rear mechanism is conical in shape.

In terms of lever response, this new design guarantees a constant operating force, even when changing across the largest sprockets of the freewheel. What's more, this has been achieved without compromising the speed or precision of the rear mechanism or the derailleur.

Additional benefit is obtained from the fact that the joints of the various spindles operate on treated bushes.

## CHORUS CRANKSET

The adoption of the EXA-DRIVE system for all chainwheels

throughout the entire range enables derailing to take place under all conditions.



The chainwheels have a specially-machined tooth profile which, in conjunction with the lifting pins, ensures a smooth.

This feature guarantees positive change from the inner chainwheel to the outer.

In various parts of the outer chainwheel, special profiling facilitates the passage of the chain down on to the small ring, even when the chain is under maximum tension, as when a steep climb is tackled.

## CHORUS REAR HUB

In our continual search for evermore dependable products, extensive work has gone into finding all possible ways of eliminating the ingress of water.

The hubs, especially the rear hub - which is subject to greater stresses - have been equipped with a new means of protecting the bearings, particularly those behind the freewheel body, which are always difficult to access.

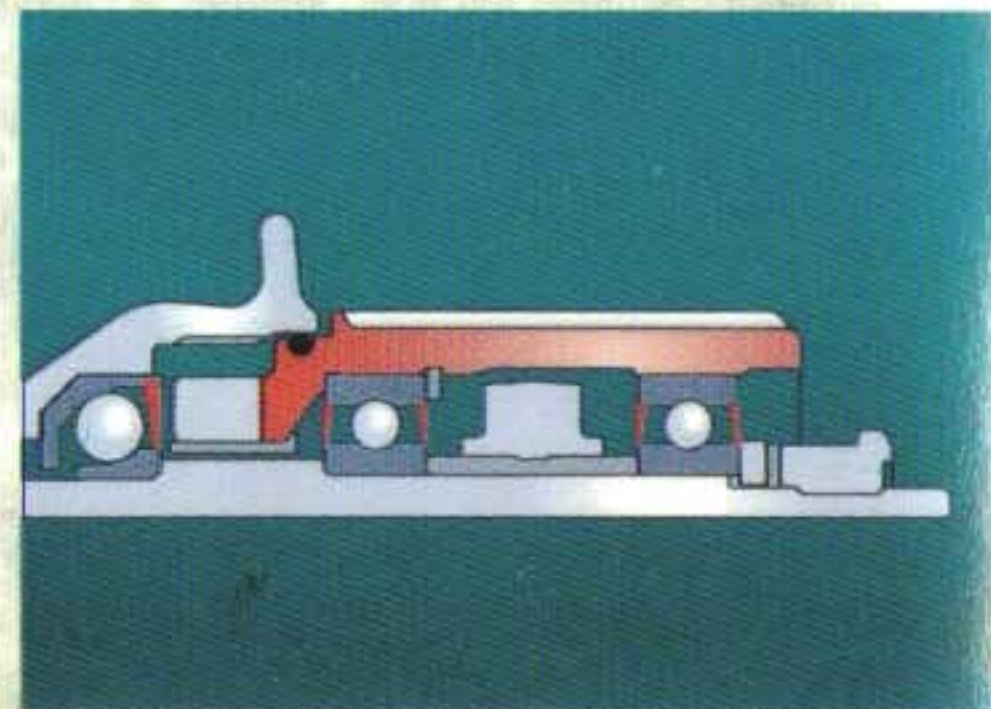
A seal fitted between the freewheel body and the hub itself is the first line of defence against dirt penetration.

A cap with a vulcanised rubber seal, fitted to the hub shell, keeps the bearings perfectly watertight and protected.

This feature also maintains the grease always inside the bearings of the hub.

Finally, the freewheel bearings are equipped with waterproof caps and can be lubricated through a lubricating hole on the outside of the freewheel body.

Chorus hubs, with new quick-release levers and aluminium nuts, are compatible with both steel and wider aluminium dropouts.



CHORUS is, by now, very well-known in the world of elite amateur racing and by those who compete at a high level.

It offers the same functionality and attributes as those already developed for the RECORD group: EXA-DRIVE sprockets and chainwheels, DUAL-PIVOT brakes, ERGOPOWER levers with ball-bearing-equipped mechanisms and carbon fibre housings.

CHORUS, whilst not quite as sophisticated, possesses the same attributes of functionality and dependability as the Record group, and is totally compatible with all the groups of the entire range.

This particular feature is essential in meeting the needs of the user, whatever they might be.

For the CHORUS group too, we have made a major effort to create components that are even lighter and easier to use through innovative improvements such as those introduced in the braking ensemble and in the operation of the transmission.

# CHORUS





# ATHENA





## ATHENA BRAKE

Just like the higher-range groups, ATHENA has been equipped with DUAL-PIVOT brakes.

With calipers made of hot-forged aluminium alloy, the ATHENA brakes work on the double fulcrum principle.

Each arm of the calipers, operating on ball-bearing joints, works a cam that provides a reduction in the force required by the rider when operating the lever.

In addition, the new ATHENA brakes, like all the others in the CAMPAGNOLO range, feature return springs that enable the brakes to be adjusted, leading to a smoother and more comfortable action.

This feature provides well-controlled and adjustable braking.

The new brake-blocks, deliberately designed to allow effective braking regardless of conditions, in the wet or dry, are mounted on new, orbitally-adjustable housings.

This enables the brake block to be 'set up' perfectly to any rim profile, including aerodynamic ones.

## ATHENA ERGOPOWER

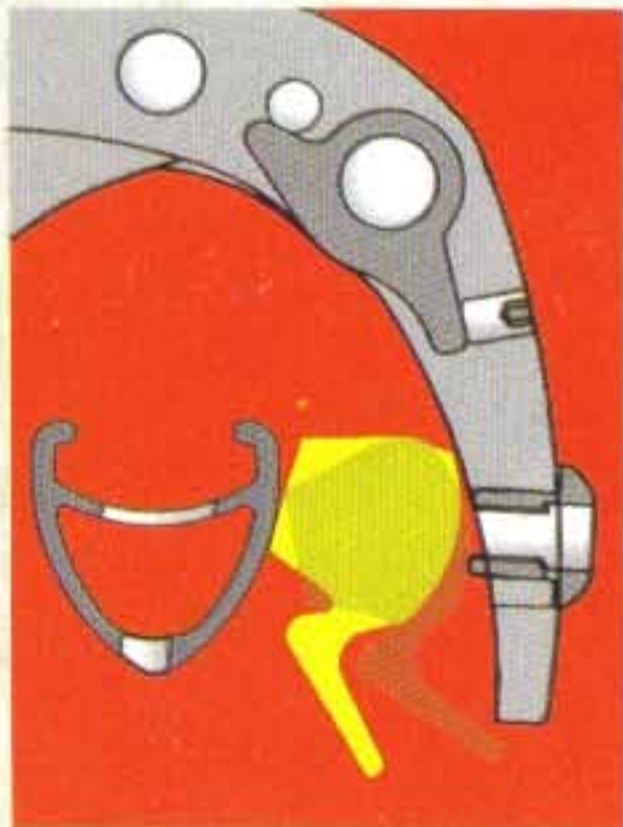
ATHENA ERGOPOWER controls also have the body of the levers made out of carbon-fibre.

With its new, improved ergonomic shape, the body features self-lubricating, treated bushes which render its lever operation even smoother.

The lever hood has been modified in such a way as to marry up perfectly to the new shape of the carbon-fibre body.

All the levers are in light alloy and are highly-polished and anodised, ensuring their enduring resistance to oxidation.

Last but not least, the left-hand ERGOPOWER lever is designed



to work with both double and triple chainwheel setups.

## RACING TRIPLE COMPONENTS

Additional proof of the versatility of the ATHENA group is found in its ability to be used with RACING TRIPLE components.

These optional components are entirely interfaceable with all the

other features of the ATHENA group (such as ERGOPOWER controls, EXA-DRIVE etc.) with no adjustment required.

The RACING TRIPLE chainset uses the same bottom bracket as the standard double chain-



set. The ERGOPOWER levers are pre-set to work with triple chainwheels.

## ATHENA PEDAL

The use of composite materials has been extended to the new ATHENA pedals.

These pedals are the fruit of extensive research into a more ergonomic design.

The pedal body itself, made of synthetic material, has an asymmetrical design which respects the pedalling action of the rider.

The new ATHENA pedals boast an adjustable cleat-locking spring, the setting of which can be viewed through a small window on the underside of the body.



In the world of competition groupsets, ATHENA stands out as a perfect alternative to CAMPAGNOLO's top-of-the-range groups.

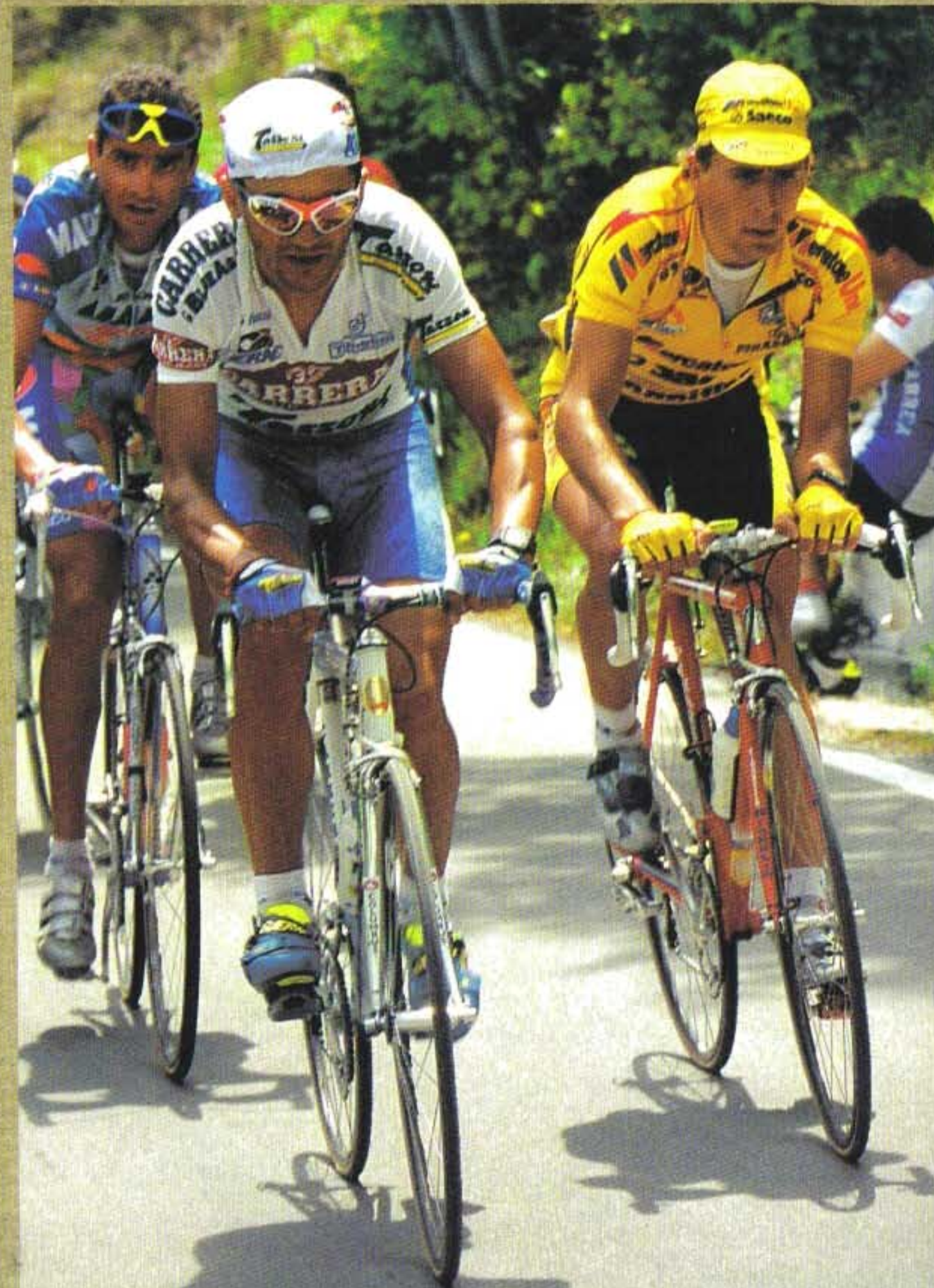
Thanks to the use of new production processes, the ATHENA groupset brings a top-quality product, with high-level innovations, within reach of everyone.

Just as with the RECORD and CHORUS groupsets, ATHENA, with its ability to be used in a triple chainwheel version, is highly versatile.

This versatility has been achieved through the design of specific new components such as the chainset, the rear mechanism and the derailleur. Like all CAMPAGNOLO groupsets, ATHENA has been produced

with great care, right down to the last detail, and bears the classic anodised finish typical of top-range products.

# ATHENA





# VELOCE





### VELOCE ERGOPOWER

Hot forged aluminium parts and a polished, anodised finish are also standard for the VELOCE ERGOPOWER controls.

As with all our high-end groups, the levers controlling the rear mechanism and the front derailleur are made of aluminium, which, apart from making the lever even lighter, also confers a touch of class.

Through the many improvements introduced in the controls, the rear mechanism and the front derailleur, the VELOCE ERGOPOWER levers have become even smoother in their operation.

This increased 'softness' of operation gives greater comfort to the rider whilst ensuring precise and constant performance.

Comfort has been further increased by the new brake lever bodies and lever hoods which have a more tapered shape towards the underside.

### NEW BRAKE SHOES

An important element in the search for an optimal braking system is the attention paid to the brake blocks themselves.

The brake blocks must possess certain characteristics which enable efficient braking, even in the wet. Another important characteristic is the ability to maintain their performance even after riding thousands of miles. For CAMPAGNOLO's new brake blocks, which are fitted to the new range, new compounds have been used which increase braking performance both in the dry and in the wet, and which keep performing at the same level over a long period of time.

Furthermore, these new blocks are fitted with a 'wear indicator' that shows when the blocks have reached the end of their useful life and must be replaced.

### EXA-DRIVE SPROCKETS

With the introduction of new chains specially designed for use with CAMPAGNOLO transmissions, the EXA-DRIVE sprockets now offer even greater performance with even less transmission noise.

The tooth profile of the sprockets, combined with the new design of the chain links, provides constant, direct meshing of the chain on the sprockets when changing from one gear to another.



This feature enhances gear changing performance at any rate of chain tension, without having to release the pressure on the pedals and consequently losing speed.

One can, for example, change gear sharply and suddenly, even on a climb or when accelerating, in a rapid, precise way while at the same time maintaining pedalling speed.

The wide range of available sprockets enables the selection of gear ratios that are entirely suitable for any kind of use: high-level competition, amateur racing and touring.

### VELOCE HEADSET

All headsets in the 1996 range feature roller bearings and adjustable cones and cups.

This system facilitates precise adjustments and guarantees perfect smoothness of the headset and therefore greater steering control of the bicycle.

All the headsets have cups and locknuts in anodised aluminium, with bearing races in high quality treated steel while the cones are in heat-treated steel, using an induction process so as not to weaken them.

Water protection on bearings is a feature of all models and is obtained through the fitting of lip-shaped or convex seals. By these means, corrosion resistance is increased and hence the life of the headset itself.

Furthermore, on the RECORD headset, the bearings can be lubricated through an easily accessible drilling without having to dismantle any component whatsoever.

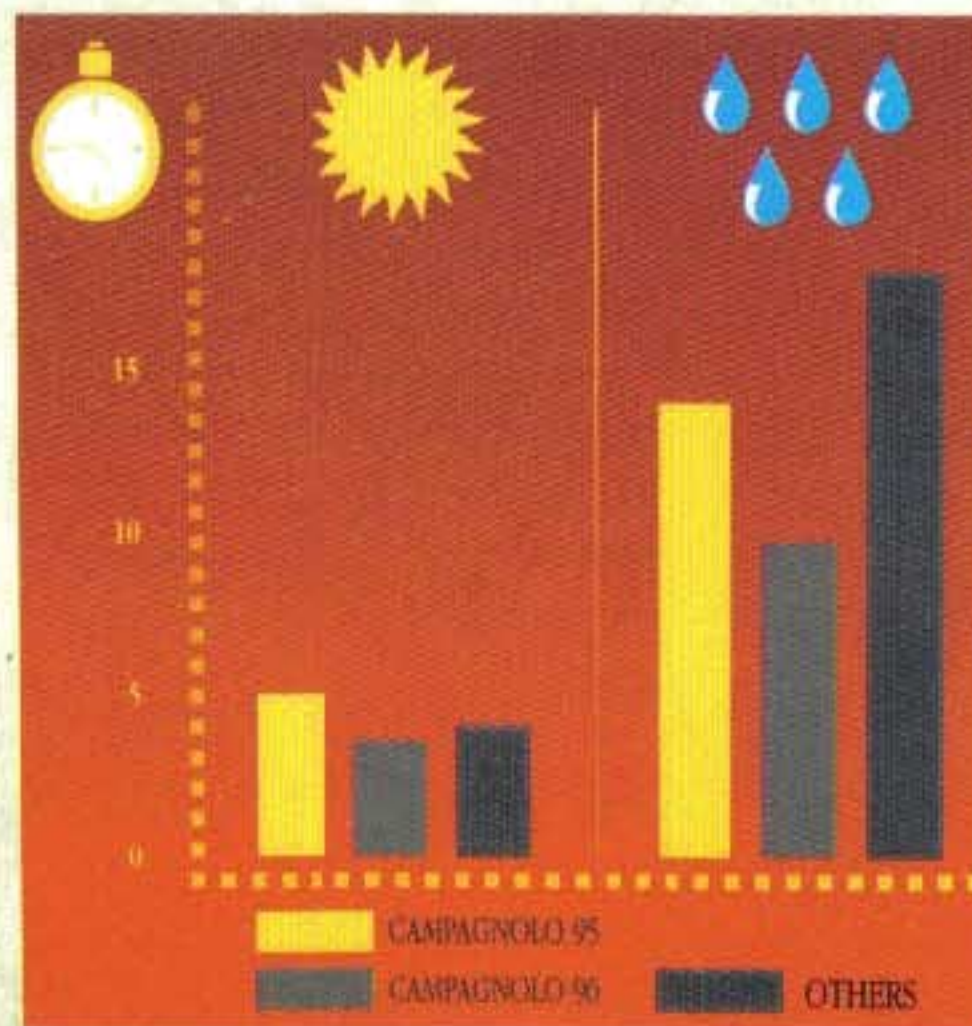
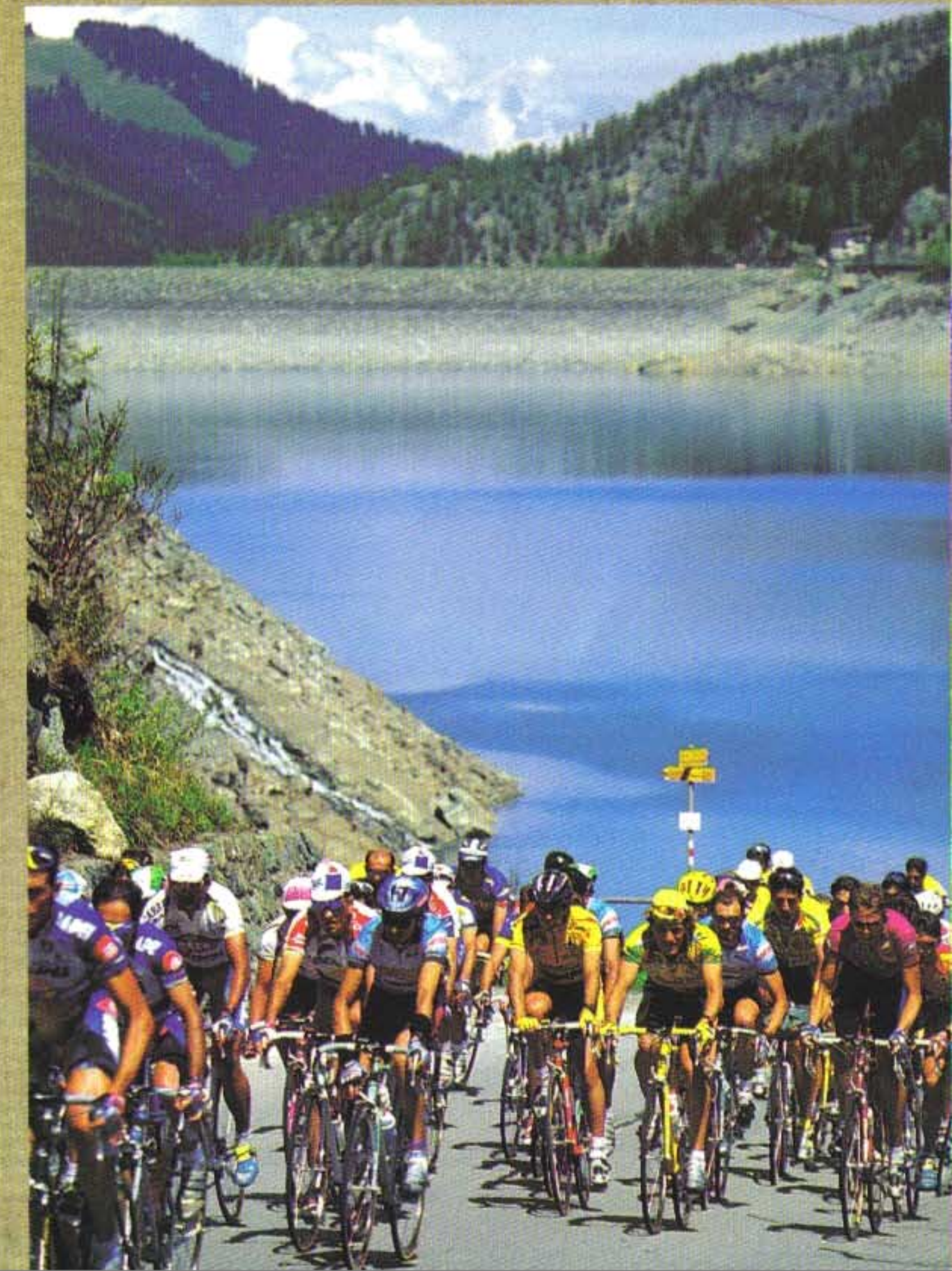


A highly-polished, anodised finish on all its components, MONOPLANER brakes in hot-forged aluminium and new ERGOPOWER controls are just some of the new features of the VELOCE groupset. The new ERGOPOWER controls, with both levers in aluminium, are now even smoother in their operation.

Braking performance, too, has been further enhanced by the use of brake blocks specially designed to provide effective braking, even in the wet.

The VELOCE group, equally at home on both mass-produced and top-flight racing bikes, can be used with triple chainwheels thanks to the integration of components specifically designed for this new class of bicycle. Even though it belongs to a lower price range, VELOCE offers the same high degree of functionality and reliability typical of our high-end groups.

# VELOCE





# MIRAGE





## MIRAGE BRAKE

The MONOPLANER braking system has also been adopted for the MIRAGE group. This well-established and proven system is based on the interfaced articulation of the caliper arms.

MIRAGE MONOPLANER brakes ensure perfect, balanced braking, without vibration (which always exerts a negative influence).

This system, moreover, allows both arms to work in the same plane, with an equal distribution of the braking force to both sides of the rim.

The introduction of new brake blocks and new return springs equips the MIRAGE braking ensemble with greater smoothness and lightness of operation, as well as indubitable high-quality performance under any conditions.



## SMOOTHER, 'SOFT-TOUCH' BRAKING ENSEMBLES

Any saving of energy obtained through increasing the mechanical efficiency of the equipment means that the rider can achieve better performances with less effort.

Faster, more precise gear changing with enhanced smoothness and lightness of operation of the controls are features which allow the rider to concentrate his energies and distribute them in the best possible way.

It is also for this reason that all the brakes (rear and front) of the entire range have been equipped with new springs that have notably reduced the force required to operate the levers.

This has also been achieved through the implementation of

various other improvements, such as the introduction of sliding sleeves on the joints, designed to eliminate all friction.

## MIRAGE HUBS

The versatility of CAMPAGNOLO groups has been extended by

the increased range of interface possible with the numerous new frame designs available on the market today.

For example, bottom brackets with longer axles are available for frames with seat tubes of 32 - 35 mm diameter, with no impairment whatsoever in the operation of the front derailleur.

Another example of this outstanding versatility is given by the



new series of quick release mechanisms.

These have been designed in such a way as to be used with any kind of dropout, be it in aluminium or steel, of varying widths.

The same wheel can be fitted to numerous different frames without having to adjust the quick release.

## MIRAGE TRIPLE CRANKSET

The ever-greater popularity of randonnees has encouraged an increasing number of enthusiasts to participate in extremely demanding rides. At times, the climbing involved in these rides is considerable and difficult. The wider use of 24-speed bikes has helped many of these riders to make the best possible use of their energies and abilities during these 'marathons'.

A triple chainwheel set gives a greater range of useable gears and allows, therefore, a 'personalised' pedalling cadence.

The MIRAGE group, like all CAMPAGNOLO's road groups, is available in a 24-speed version with rear mechanism, derailleur and chainset to match.



Full-blown competition, fast touring, amateur racing: the MIRAGE group can satisfy the widest possible range of demands from those who expect the utmost from their equipment.

Although the MIRAGE is a lower-price groupset, it still provides the same level of performance typical of 16 and 24-speed CAMPAGNOLO groups.

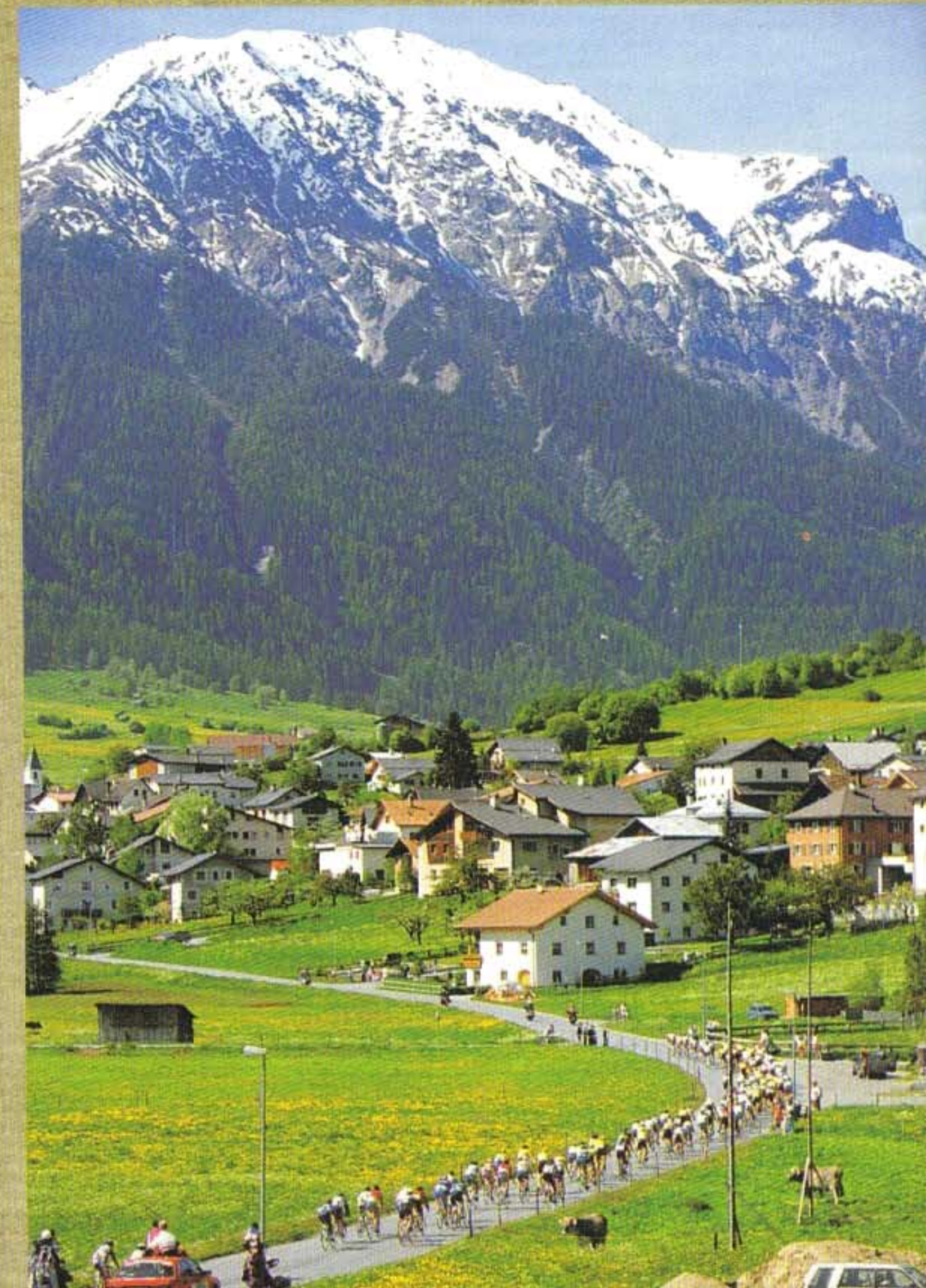
The possibility of employing a triple chainwheel set makes the MIRAGE an extremely flexible groupset.

# MIRAGE

A new braking ensemble, featuring the MONOPLANER system and operated by ERGOPOWER levers, leaves the rider in perfect control of his bike.

It should be remembered that, as with all the higher-end groups, MIRAGE is perfectly compatible and interchangeable with components from the other groupsets.

On MIRAGE, too, the finish is the traditional polished and anodised one.





# AVANTI





## AVANTI ERGOPOWER

The brand-new ERGOPOWER controls of the AVANTI group are the result of a complete re-design that renders them even smoother and easier to operate.

By intervening in various ways, for example on the joints, in order to eliminate friction, the force required to operate the controls has been reduced by 44% for the lever that controls the rear mechanism and by 40% for the one that controls the front derailleur.



Furthermore, the new return springs in the rear mechanism and the derailleur provide a constant, linear operational force, even across the largest sprockets of the freewheel, and the large chainwheel.

The AVANTI ERGOPOWER controls, therefore, permit a safer and more comfortable

control of the bike.

## EXA-DRIVE CRANKSET

All CAMPAGNOLO road groups are designed for expert enthusiasts who are evermore demanding of the equipment on their bikes.

They are also intended for those entering the world of cycling for the first time, and those who are less adept in the use of the transmission. The adoption of the EXA-DRIVE system across the whole range of groups means not only the maximum speed and precision



in gear changing and derailing. It also enables the less-expert rider to exploit to the full the advantages offered by the innovative technologies originally designed for the top-of-the-range groups. In particular, the new

EXA-DRIVE chainwheels introduced in the AVANTI group as well, allow fast, precise changing even by those who are not expert champions!

## AVANTI PEDALS

Comfort and safety are aspects on which the designers at CAMPAGNOLO have concentrated their attention in order to produce a range of products which constantly reach new levels of performance. The new pedals designed for the MIRAGE and AVANTI group-sets feature a platform which maximises foot-pedal contact and transmits all the rider's force, without causing annoying aches and pains



in the feet. The release mechanism has been calibrated in such a way as to make the releasing of the foot as easy and as rapid as possible in any situation, without the risk of inadvertently 'clicking out' of the pedal, even during strenuous climbing. The use of composite materials for its construction has made it a light, high-performance pedal.

## AVANTI FRONT DERAILLEUR

The adoption of the EXA-DRIVE system for the chainwheels has led to the creation of a whole new range of derailleurs of exceptional performance which ensure maximum speed and precision in gear changing and derailing. The shape of the derailleur blades has been designed to facilitate the movement of the chain up on to the large chainwheel, even under maximum chain tension, without running the risk of seeing the chain override the chainwheel and fall on to the crank. This has been achieved by the careful design of the front edges of the derailleur blades. A similar control of the chain is guaranteed by the internal profile of the inner blade, which prevents the chain dropping on to the bottom bracket when changing down on to the small chainwheel. This performance has been obtained through concurrent and integrated design and engineering, of the chain, chainwheels and derailleur.



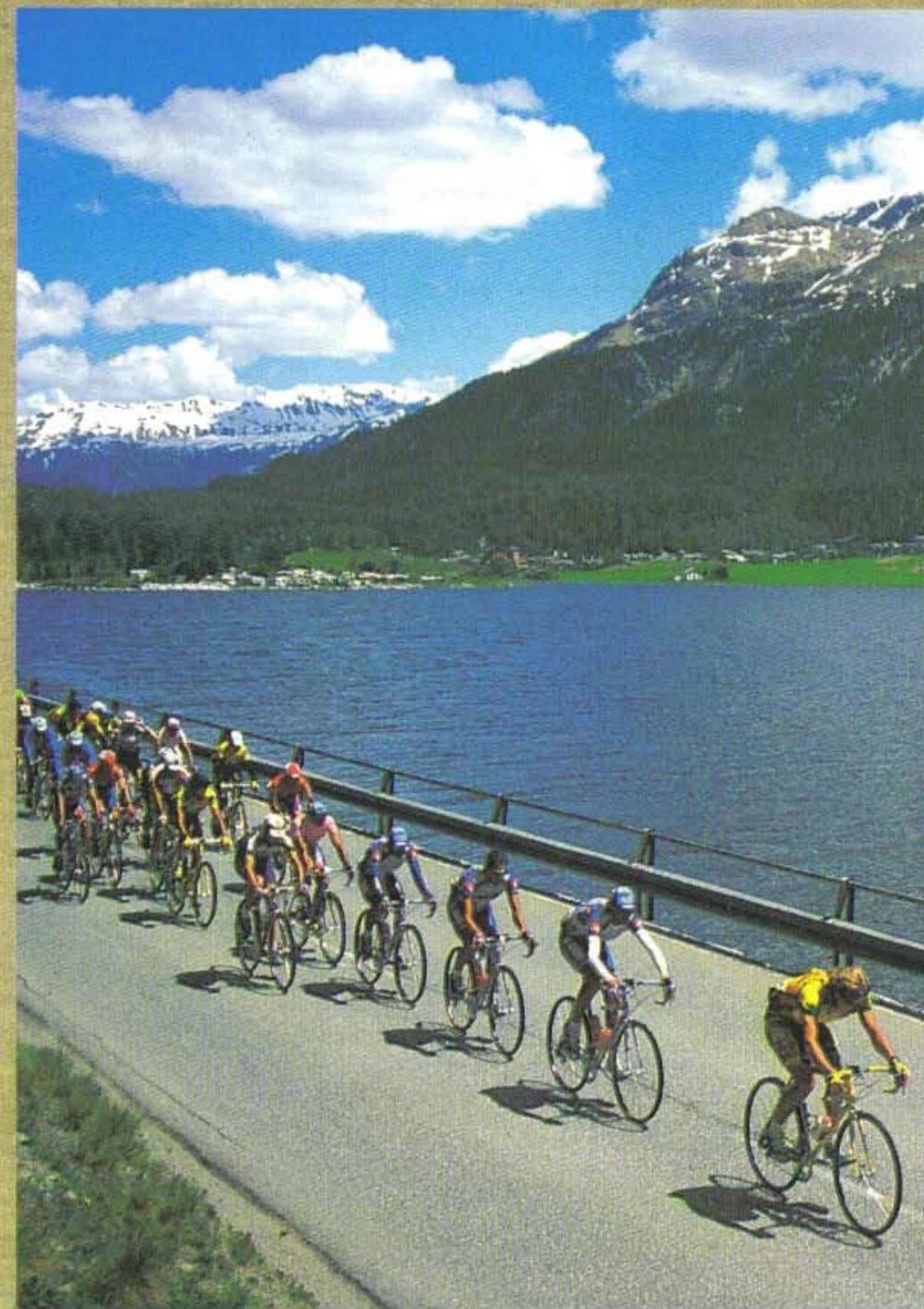
CAMPAGNOLO's reliability, functionality and quality for everyone: this is the policy which has guided us in the creation of the new AVANTI group.

Designed especially for those who are entering the world of the racing bike for the first time, the AVANTI group is also suitable for expert riders looking for the latest technological innovations.

Primarily designed to be mounted on volume-produced racing bikes, the AVANTI group (which is also available in a triple chainwheel version), thanks to its high versatility, is the ideal companion for long touring rides or even for highly-competitive amateur races.

As with all our groups, the AVANTI group is perfectly protected from corrosion by its polished, anodised finish.

# AVANTI





# SPEED TH



## BAR-END SPEED TH CONTROLS

All TRIATHLON bikes are fitted with special handlebars which allow the rider to obtain lower air resistance.

This type of handlebar "oblige" the cyclist to keep the hands almost constantly on the terminal part of the handlebar.

The use of new SPEED TH front and rear derailleur controls of the bar-end type allows the rider to change gear without ever removing the hands from the handlebar. This permits a regular speed to be obtained without the reduction, even for a moment, of the coef-



ficient of air penetration of the rider/machine combination.

The SPEED TH rear derailleur is the indexed 8-speed type, absolutely compatible with all the EXA-DRIVE drives of the groups of the entire range, and has a cable tension adjustment screw directly on the lever. The derailleur control is of the adjustable friction type.

## SPEED TH CRANKSET

The use of front and rear wheels with a 26" diameter is increasingly widespread on bikes specifically destined for the TRIATHLON.

This reduction in wheel diameter has a direct effect on the gear ratios used. Depending on whether 28" or 26" wheels are used, the same ratio will have a different length (lower in the case of the 26" wheel).

For this reason, it is necessary to modify the ratios to make them greater on bikes of this type. To meet this requirement, a new SPEED TH crankset has been created with larger 54, 55 or 56 tooth chainrings.

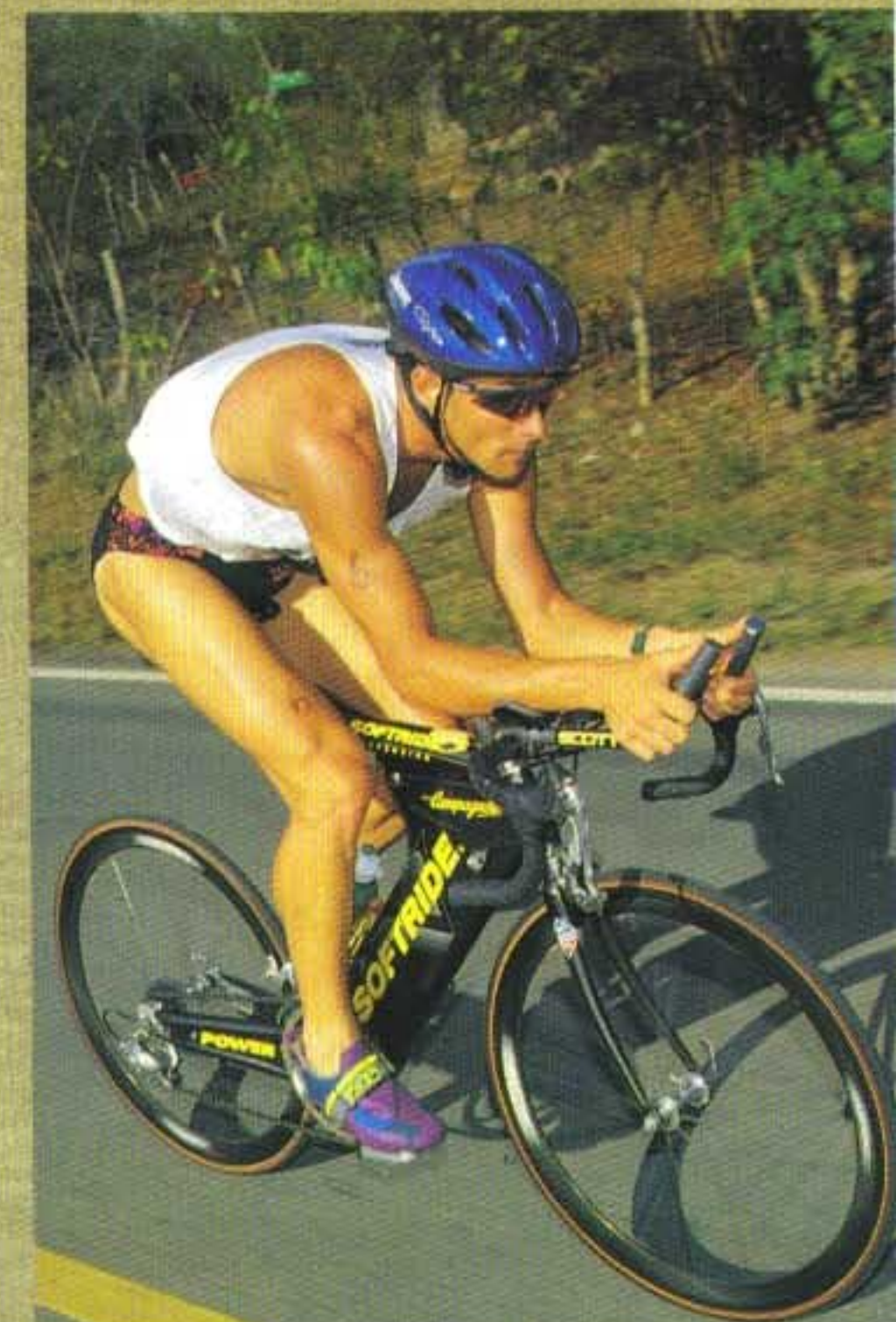
This crankset is compatible with all the cartridge bottom brackets with a symmetrical 111 mm axle.



The introduction over the last few years of a new concept of revolutionary wheels has provided a further demonstration of CAMPAGNOLO's desire to be present in non-traditional competitive sectors such as the TRIATHLON.

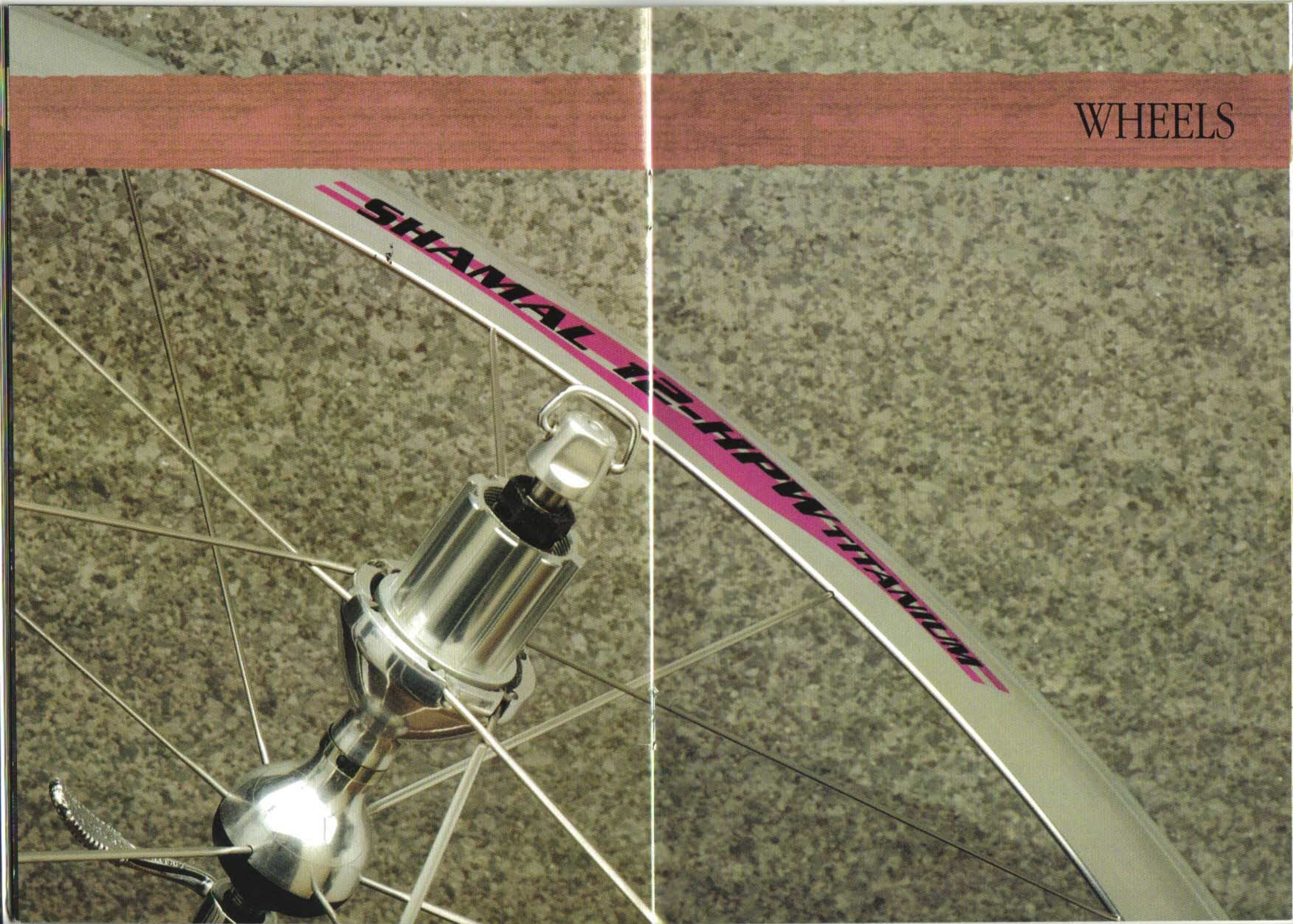
The type of bike used in this speciality with special handlebars and the increasing use of 26" diameter wheels required the design of specific components.

A further confirmation of CAMPAGNOLO's interest in this increasingly popular speciality is shown by the numerous successes achieved by great TRIATHLON champions such as GREG WELCH during the latest IRON-MAN in Hawaii, the real world championship for this discipline and the most sought-after goal for all athletes.





WHEELS





# FLYING TOWARDS THE FUTURE



With the same spirit that drove us to create groupsets designed for all users, we have developed an innovative range of wheels with the same high levels of performance.

CAMPAGNOLO spoked wheels, with their extreme AERODYNAMICITY, RIGIDITY and LIGHTNESS, are today's expression of the future of cycling.

## AERODYNAMICS, RIGIDITY AND LIGHTNESS

Wind resistance is one of the principal elements that a cyclist must overcome. Anything which improves the AERODYNAMICITY of the bicycle means either a higher speed for the same effort, or a saving in energy at the same speed.

AERODYNAMICITY assumes an even greater importance when revolving parts, such as the wheels, are involved.

For this reason we have paid particular attention to this aspect on all wheels in the new range.

There are three elements that determine the AERODYNAMICITY of a wheel: the SHAPE of the rim, the SPOKING and the HUB.

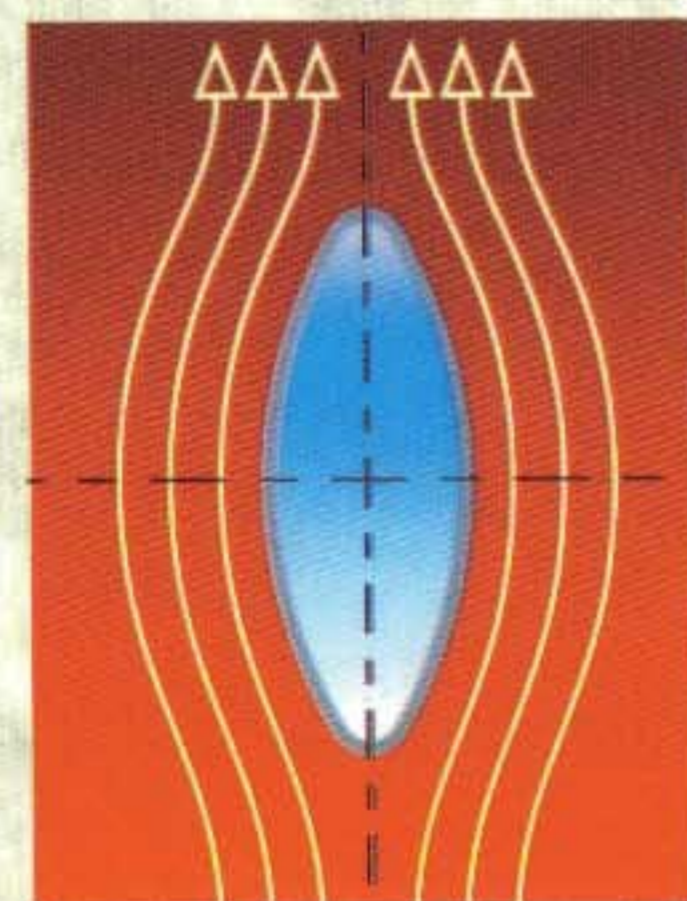
Using the results of research on curves, carried out by the N.A.C.A. (National Advisory Council for Aeronautics), for every class of wheel we have designed specific rim profiles on the basis of the hubs and the number and tension of spokes used in their assembly.

The rim has been designed to accept even fewer spokes.

These spokes have an exclusive, elliptical profile which increases the air penetration of the wheel, and thereby reduces the formation of 'drag', which slows the bike.

This air penetration is further enhanced thanks to the new, purpose-designed H.P.W. (High Performance Wheel) hubs.

The new H.P.W. hubs are sure to revolutionise the concept of



the wheel, insofar as they enhance all the characteristics fundamental to the creation of the perfect wheel: AERODYNAMICITY, RIGIDITY and LIGHTNESS.

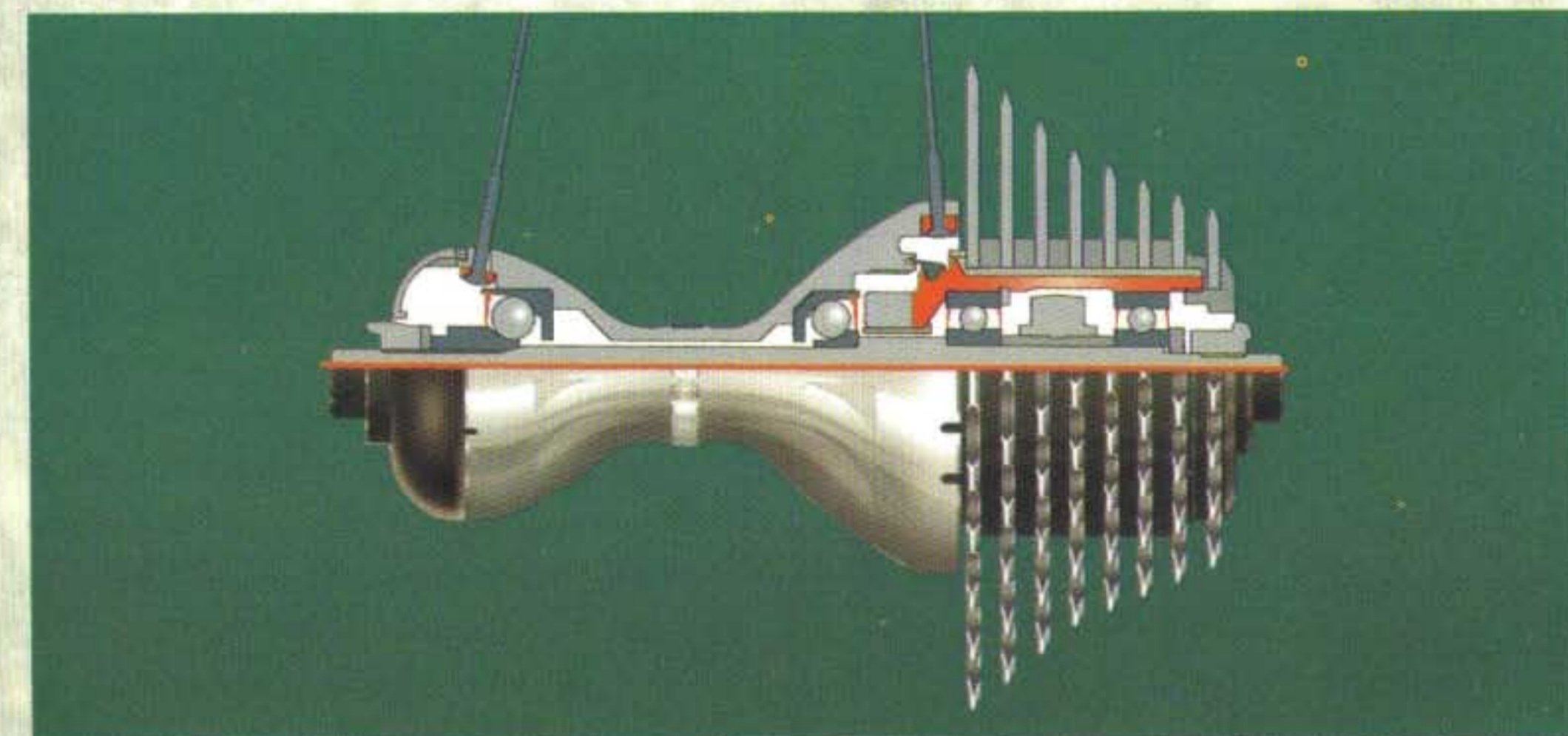
The AERODYNAMICITY of the hubs is increased through their flangeless design which allows the spoke heads to be located directly into the body of the hub.

This innovative design has, in turn, enabled the spokes themselves to be produced with straight heads, which results in:

- greater AERODYNAMICITY, through the use of fewer spokes: greater tension means fewer spokes.
- faster ASSEMBLY of the wheel: the spokes are easier to fit on the hub and, above all, speed-up the BEDDING-IN phase of the spokes to the hub.
- greater RIGIDITY thanks to the increased spoke tension: more than three times the normal spoke tension of a traditional 32-spoked wheel.
- greater DURABILITY of the hub itself: the spokes no longer make direct contact with the aluminium of the hub but instead sit on metal backing-plates.
- even greater RIGIDITY arising from the increased angling of the spokes.
- perfect and enduring SETTING of the wheel: the hub body no longer distorts under the pulling effect of the spokes, which now sit on the backing-plates.
- an additional and no less valuable benefit: spoke changing is simpler and quicker.

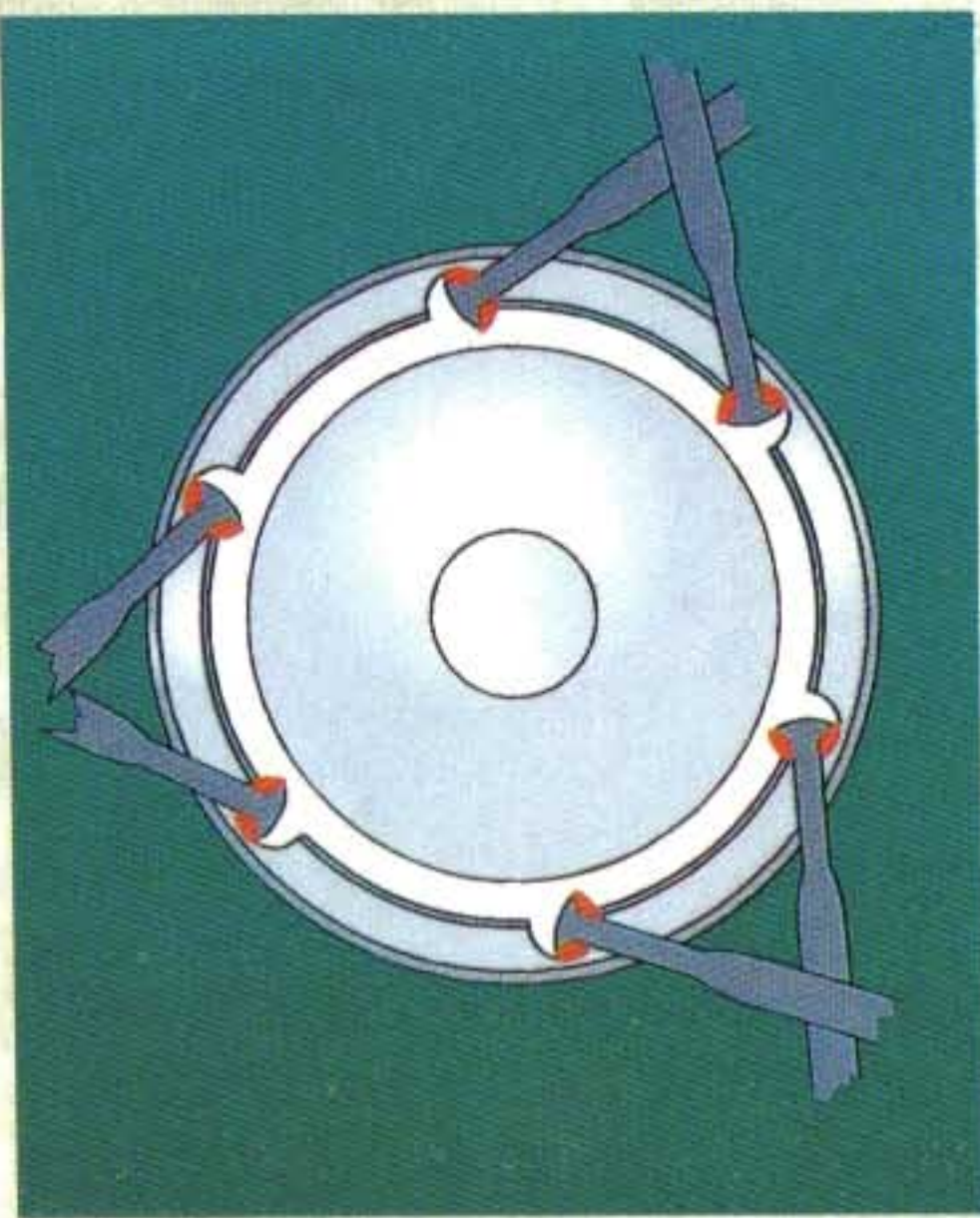
## NEW H.P.W. HUBS

The new design of the H.P.W. hubs permits a wider angling of the spokes which increases wheel rigidity by almost 25%.



This aspect is especially important for the rear wheel, which, because of the presence of the freewheel, suffers from an asymmetrical 'dishing'.





The new dishing, made possible by the H.P.W hubs, eliminates this problem.

These new H.P.W. hubs have also allowed us to increase spoke tension and reduce the number of spokes used, with a consequent enhancement of aerodynamicity, rigidity and reduction in weight.

This greater spoke tension is possible thanks to the new strai-



ght-headed spokes, which are subject to less strain, and their purpose-designed backing-plates which eliminate any risk of distortion or breaking of the hub.

H.P.W. hubs are also equipped with double shields which render the bearings completely sealed and impervious to the ingress of water or mud.

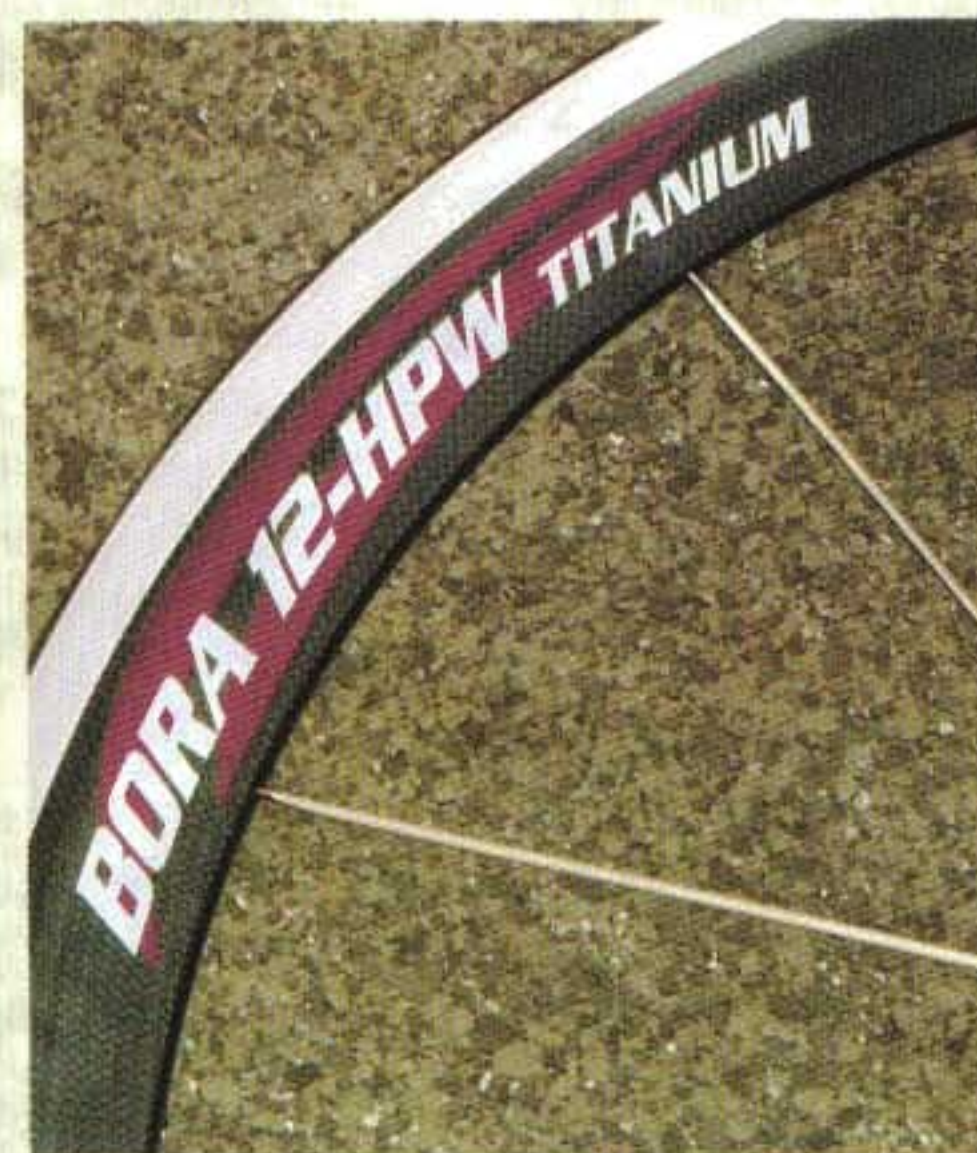
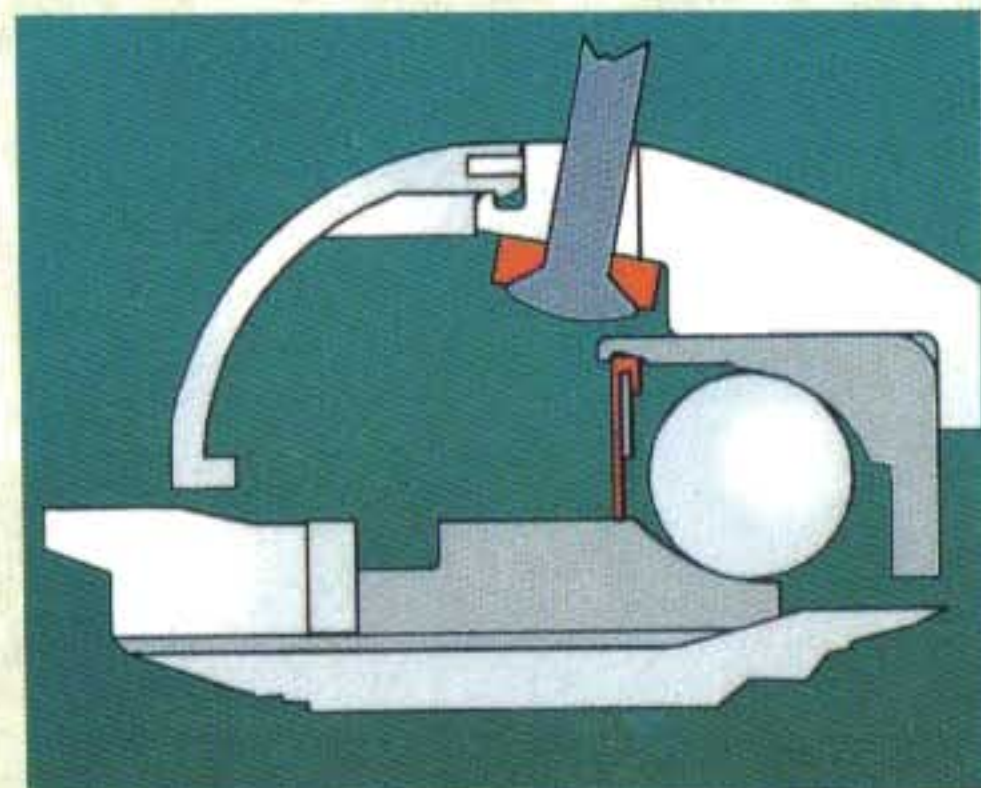
#### CARBON AND TITANIUM

Through the utilisation of materials such as CARBON-FIBRE and TITANIUM the already extreme lightness of the wheels has been improved even further.

The new H.P.W. hubs and the freewheel blocks in TITANIUM combine to reduce the weight of the whole wheel by as much as 238 grammes.

The hubs adopt the same axle and freewheel-body concept already used in our traditional hubs, and RECORD TITANIUM freewheel blocks (always with standard EXA-DRIVE design of the sprockets).

These special titanium components are standard on the BORA 12-HPW and the SHAMAL 12-HPW TITANIUM rear wheels.



#### BORA 12-HPW AND SHAMAL 12-HPW TITANIUM

A new profile has been created for the BORA wheel, which is built in CARBON FIBRE, which confers rigidity and lightness.

This new wheel has also been designed in such a way as to eliminate the great problems that braking on a carbon-fibre surface causes.

Hence the BORA rim features two aluminium braking tracks in its walls, which restore the classic braking performance, even in the wet, of an all-aluminium rim.

Driven by the desire to provide the best braking performance possible, a new wall treatment, H.P.B. CONTROL (High Performance Braking Control), has been applied to all rims.

The High Performance Braking Control system guarantees more efficient and comfortable braking in all conditions, in the dry and, above all, in the wet.

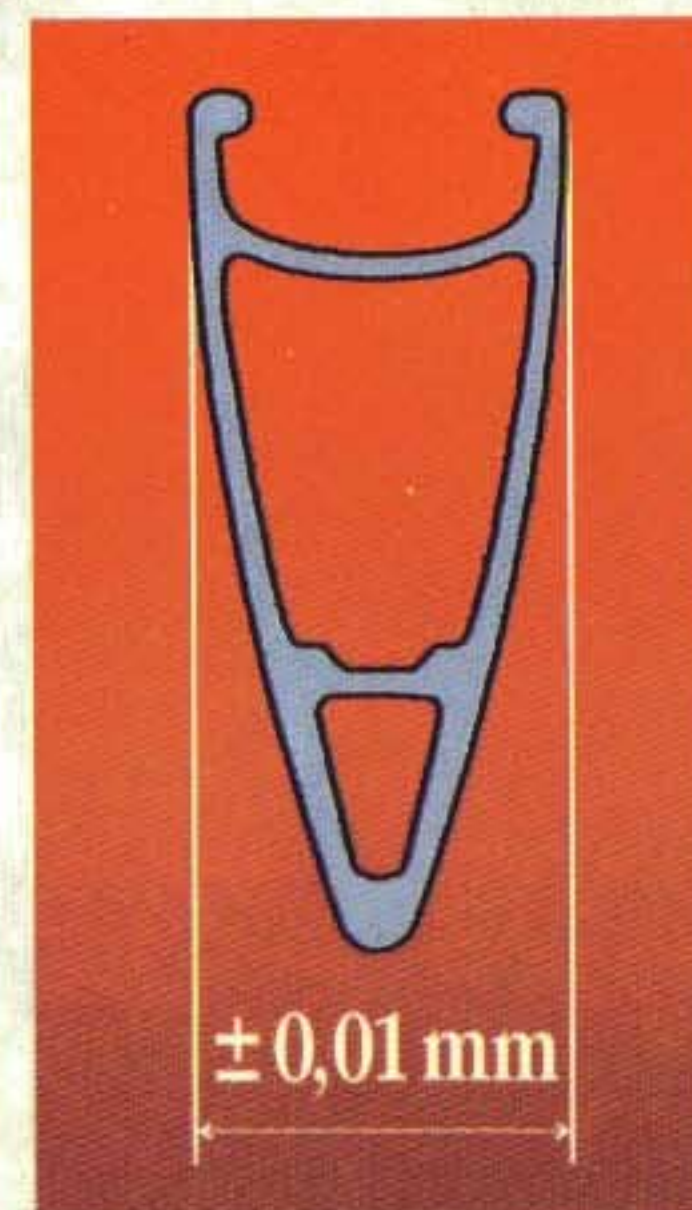
The High Performance Braking Control system is the result of a brand-new production process, purpose-designed for these new rims, which helps increase the friction coefficient of the brake blocks on the rim.



Braking performance on spoked wheels has been further improved by the application of the new rim-joint technology, H.P.S.

Control (High Precision Side) which guarantees rim width to within a tolerance of  $\pm 0.01$  mm.

This results in the elimination of the 'lip' so often found at the rim joint, which causes 'snatching' of the brakes that can make braking irritating and imprecise.





## **BORA 12-HPW TITANIUM**

The new BORA 12-HPW wheels, aimed at those who demand innovative and evermore technological products, are the ultimate expression of lightness.

Careful research and design have made it possible to limit the number of spokes required to just 12 for both front and rear wheels, thus improving even more the aerodynamicity of the wheel, whilst guaranteeing the classic feature of maximum lateral rigidity necessary to build a high performance wheel.

The BORA 12-HPW wheels feature as standard the new H.P.W. hubs, with freewheel body and EXA-DRIVE sprocket block in titanium, which further enhance the extreme lightness already obtained through the use of carbon-fibre for the rims.

Braking performance on carbon-fibre rims is always inferior to that on rims made of aluminium.

In order to obviate this problem, two alumi-

nium inserts have been fitted to the rim walls.

These 'braking tracks' enable the brake blocks to provide the classic braking performance achieved on a traditional rim.

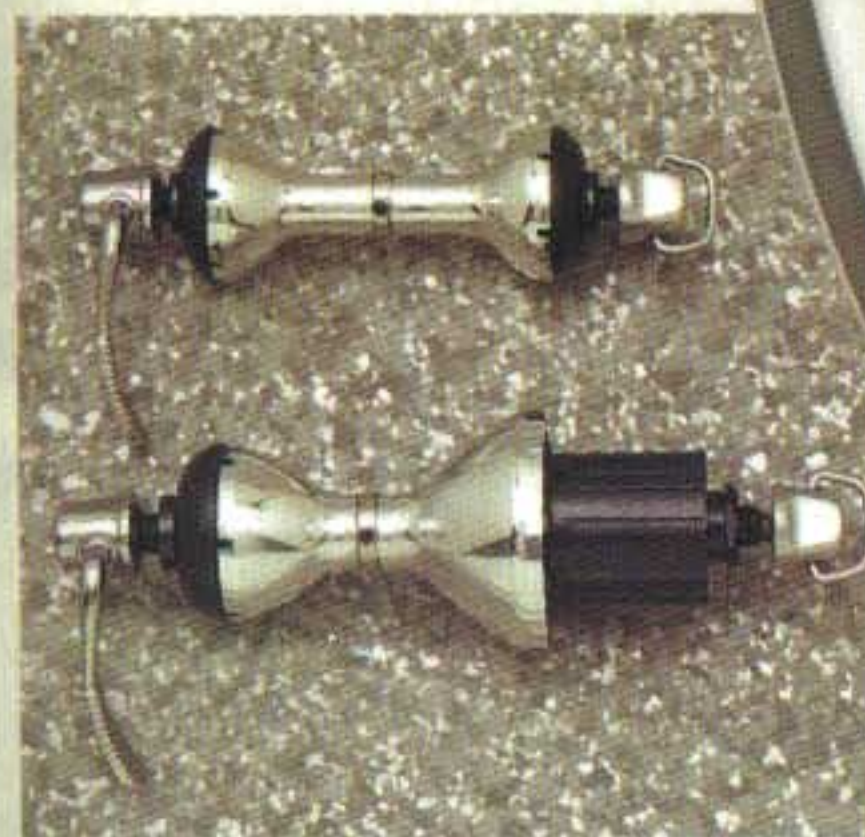
## **SHAMAL 12-HPW TITANIUM**

The SHAMAL wheel was the first wheel to benefit from the application of the curve research findings of the N.A.C.A., which have revolutionised this field.

Nevertheless, through a series of innovations, the SHAMAL wheel has undergone a further evolution which has raised its performance to even greater heights: it has greater RIGIDITY thanks to the higher spoke tension and increased angle of the spokes; it is more AERODYNAMIC because of its even sleeker profile, its fewer spokes and its new H.P.W. hubs; it is LIGHTER thanks to its reduced number of spokes and the utilisation of TITANIUM for its freewheel body and RECORD EXA-DRIVE TITANIUM freewheel sprocket block.

The ultra-new H.P.W. hubs not only increase aerodynamicity but also render the wheels even more rigid through a greater angling of the spokes (+23%) and their innovative fitting to the hub.

Using spokes with straight heads that bed



into stainless-steel backing plates, rather than directly into the hub itself, enables a spoke tension to be obtained which is 3 times greater than that of a traditional wheel.

This provides greater rigidity with even fewer spokes.





## VENTO 16-HPW

With the same technological and design characteristics employed in the creation of the BORA and SHAMAL wheels, the new VENTO wheels are aimed at those enthusiasts who demand the utmost from their bikes.

The VENTO wheels are available in a 26" or 28" version and are, therefore, suitable for purpose-built Triathlon bikes manufactured by major producers or specialist builders.

Furthermore, the H.P.B. treatment, common to all our aluminium wheels, guarantees optimum braking performance regardless of the conditions.

The new H.P.W. hubs, which are also used on the VENTO wheels, have enabled us to reduce the number of spokes required to just 16.

What's more, the VENTO wheels are even more rigid, thanks to the increased spoke tension and the greater angling of the spokes.

The innovative fitting of the new straight-headed spokes makes for rapid replacement and

virtually eliminates the 'bedding-in' phase of the spokes.

## ZONDA 16 R

Developed for an ever-increasing market, the ZONDA wheels are ideal for fitting as standard equipment.

Their particular characteristics make them suitable for any type of sporting bike.

They possess all the features of rigidity, aerodynamicity and lightness inherent in top-of-the-range wheels.

ZONDA wheels are built with 16-spokes on traditional hubs with an 8-speed cassette freewheel.

In order to maintain the wheel's high level of aerodynamicity, the spokes are elliptical in shape, with the spoke nipples 'hidden' inside the rim.

The comfort, safety and performance of Campagnolo wheels has been brought to even higher levels.

This is shown in the creation of a whole range of wheels with the H.P.B. treatment of the side walls, which increases braking performance, even in the wet.

The braking action itself is more controlla-

ble thanks to the extreme precision of the rim shape and joint, which guarantee micrometric tolerances.



# SCIROCCO 20 GIBLI

SCIROCCO is a wheel which boasts a brand-new, high-walled double chamber rim.

This high-performance wheel has been specially designed for mounting on mid-range, volume-produced bikes.

The SCIROCCO wheel, like all the other spoke wheels in our 1996 range, feature rims and elliptical spokes whose design is the result of the application of the curve research done by the N.A.C.A. (National Advisory Committee for Aeronautics) and which considerably reduces the drag factor of the complete wheel.

Built with 8-speed cassette freewheel hubs, SCIROCCO wheels are available in a 28-inch narrow clincher version.

The quality of each and every CAMPAGNOLO wheel, and hence its performance, is guaranteed by a stringent and scrupulous manual quality control system.

In practice, all the wheels are individually checked and adjusted, one by one, and are sub-

sequently identified by a label which guarantees the customer prompt attention, in the unlikely event of problems arising.

GIBLI wheels are intended for use by professionals and all those looking for record-breaking performance.

Used by professionals and amateurs riders in time-trials, on the road or on the track, GIBLI is a disc wheel born of a new patented production system which calls for the utilisation of KEVLAR in tension like a traditional spokes wheel.

By using this material we have been able to create a disc wheel of almost identical weight to a traditional spoked wheel but with a highest rigidity.

Unlike standard disc wheels, the GIBLI wheel has an optimal degree of vertical elasticity which makes it more comfortable to ride.

The road version is equipped with a 7-speed EXA-DRIVE cassette freewheel based on the same system that all traditional road cassette hubs.



Campagnolo



RIMS



**ATLANTA 96**

**K2 28268ft**



# THE CHOICE FOR THE FUTUR

## QUALITY, BRAKING PERFORMANCE AND PRECISION.

With the aim of offering an innovative, performance product we have completely revamped our range of rims, utilising new concepts we have developed to ensure product quality and high performance.

## MICROMETER PRECISION

When braking, in order to obtain a more linear and therefore more efficient response, without 'snatching', it is important that the brake blocks make contact with a rim that has perfectly parallel sides.

However, the area of the rim joint is always subject to a certain variation, creating a 'lip' which has a negative influence on braking performance.



This classic problem has been resolved through a highly innovative process used in the creation of a tubular-type compression joint: along the perimeter of the rim, including the joint, the rim width varies by no more than ± 0.01 millimetres (H.P.S. Control system).

The result is a braking effect which is 'snatch-free', constant and progressive, leaving the rider in absolute control.

Furthermore, thanks to this feature, 'trueing' of the wheel during assembly is quicker and more precise.

It should be borne in mind that this breakthrough has been



achieved without machining the rim walls, which could cause a dangerous weakening of the rim.

## EFFECTIVE BRAKING IN ALL CONDITIONS

Braking in the wet is a major problem, especially for those riders who compete.

The rim walls normally have a polished finish to which, in dry conditions, the brake blocks bind with a high coefficient of friction.

In the wet, however, a film of water forms, which the brake blocks must disperse before becoming effective.

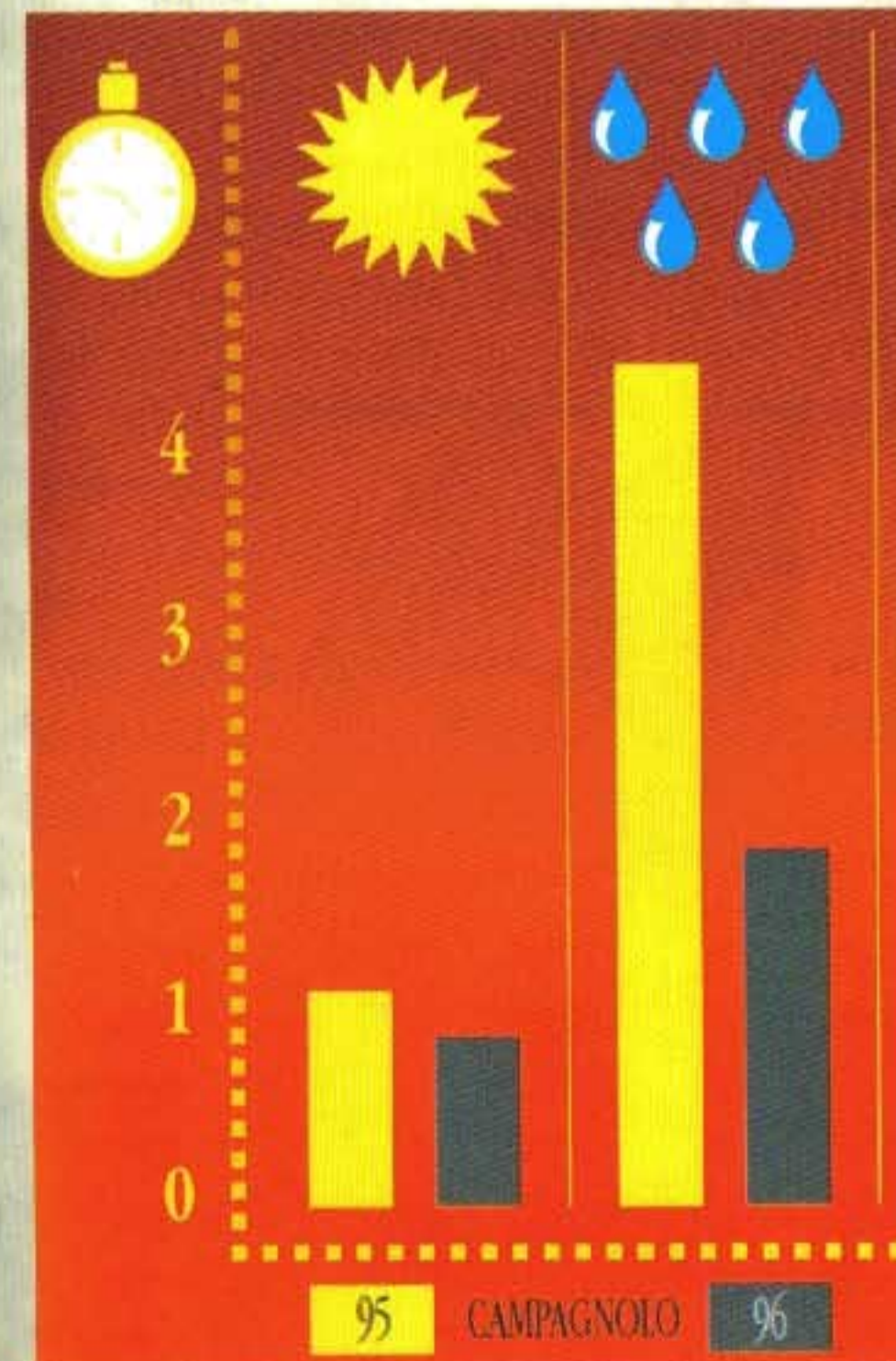
This 'dispersal' time is the principal factor in lengthening the



time (and therefore the distance) of braking.

In addition, the anodising of the rims, which is designed to protect the rim against oxidation, leads to a further reduction in the friction coefficient when the rims are wet.

In order to improve braking performance, we have developed new surface finishes for rim walls which increase the friction coefficient.



Our High Performance Braking treatment (H.P.B.) of the rim walls guarantees increased efficiency and improved braking control under normal conditions and especially in the wet.

The H.P.B. treatment is carried out exclusively on rims with anodised finishes such as Hardox, Satin, Titanium, Silver or Black, and is applied using a new technology specifically introduced for this type of product.

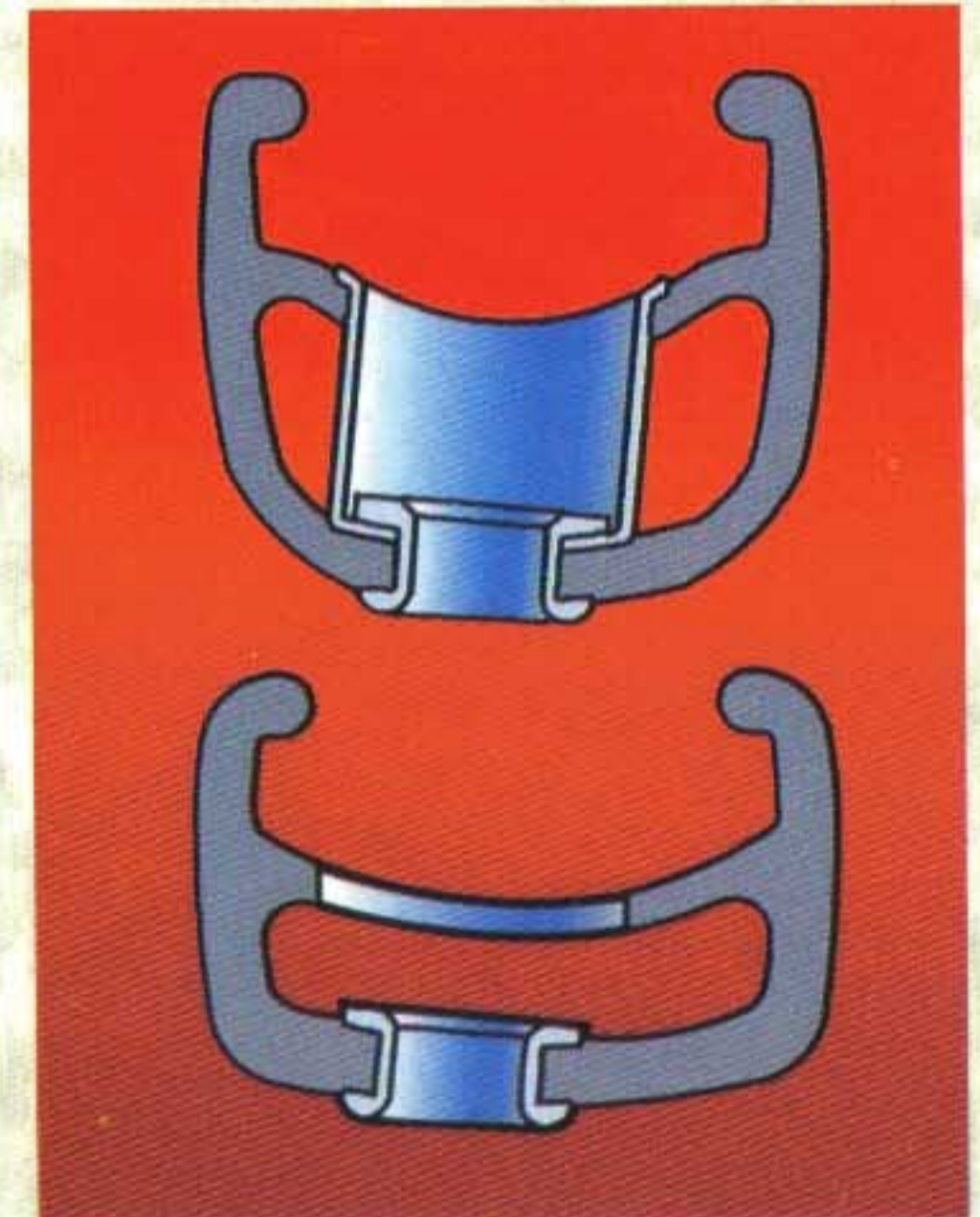
This new process provides an important increase in the friction coefficient without resorting to machining of the rim walls which can render the rim dangerously fragile.

The H.P.B. treatment provides additional protection for anodised rims against the wear and tear caused by the brake blocks.

## WAR ON WATER!

The eyelets used throughout the complete range of road and off-road rims are made of stainless steel.

Using stainless steel eyelets guarantees protection against corrosion.





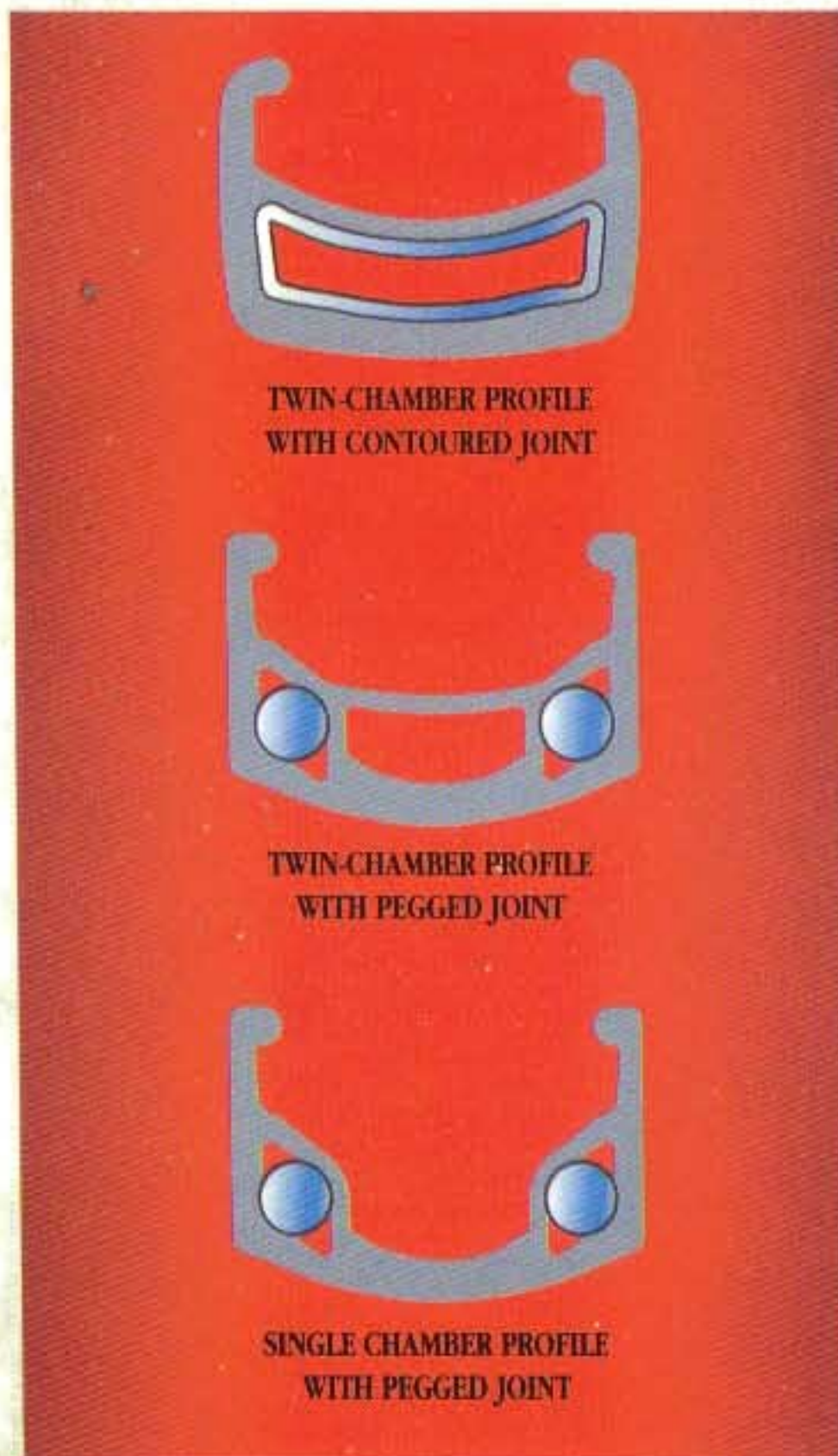
Another advantage is that stainless steel, with its low coefficient of friction, facilitates the tensioning of the spokes and truing of the wheel.

All the eyelets are inclined in line with the dishing angle of the spokes.

### THE RIGHT JOINT...

The 1996 range of rims has been created via the design of new rim profiles with double or single chambers and with contoured or pegged joints.

This strategy has enabled us to produce rims aimed at the mid-range bicycle market as well.



It should also be borne in mind that the whole range, including the ATLANTA 96 and the high-walled K2-28268ft rims, has been designed for automated assembly.

### ...WITH THE RIGHT SHAPE...

The research we have carried out in the design of high-wall rims has also been applied in the creation of rims for traditional wheels.

The level of performance reached by racing cyclist these days is such that even minor improvements in equipment have great importance.

In this regard, the drag factor of a bicycle (its aerodynamicity) is crucial.

This element is especially important when revolving parts, such as the wheels, are involved.

New, highly-streamlined profiles have been designed for both road and off-road rims.

These new rim designs will result in more rigid wheels with exceptional, long-lasting performance.



### ...AND WITH THE RIGHT FINISH

In order to meet everybody's requirements, we have several types of finish, including some new, aesthetically pleasing and advanced treatments such as SATIN or TITANIUM.

The HARDOX, or hard-anodised, finish with its characteristic dark colour not only protects the rim from corrosion for more time but also enhances all the typical mechanical properties of the basic material.

It increases its rigidity, elastic limit and resistance limit to breakage.

The TITANIUM finish, which is achieved through a surface anodic oxidation process, confers on the rim an aesthetic, hi-tech look which goes well with any colour scheme.

The SATIN finish, which is also obtained by a process of anodic oxidation, has a classy, opaque satin appearance which exalts the effect of 'lightness' that arises from the use of the best aluminium alloys.

The SILVER finish is the classic transparent finish that keeps its polished aluminium look and protects it against oxidation by anodised treatment.

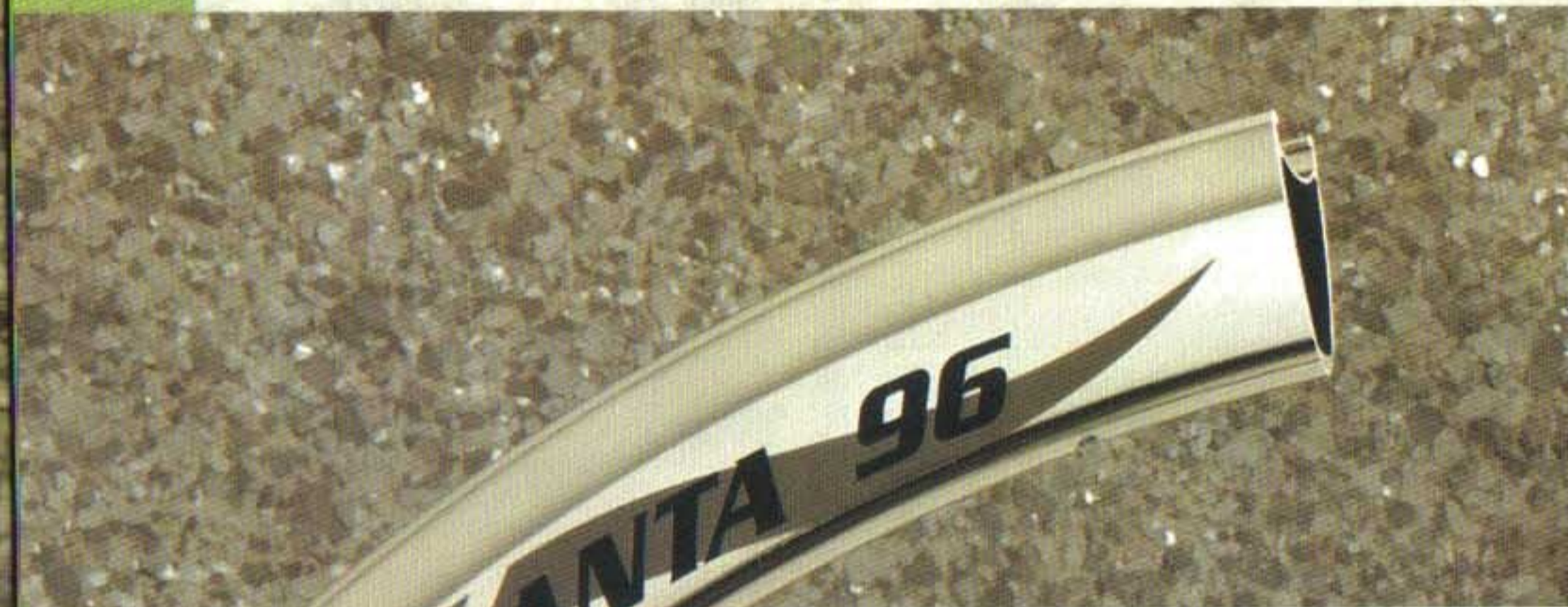
The dark appearance of the anodic-oxidised BLACK finish gives an aggressive and Hi-Tech, tough look suitable on bikes

for young riders.

POLISH has a 'mirror-finish' look which brings out all the qualities of the aluminium employed in its construction.







### ATLANTA 96

Use:	Roadp
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	28 - 32
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	470 grammes
Finish	Silver



### MOSKVA 80

Use:	Road
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	32 - 36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	435 grammes
Finish	Hardox Titanium Satin



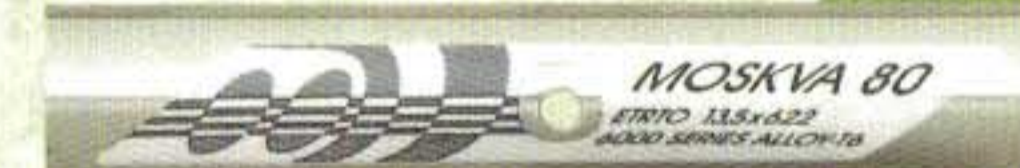
### MONTREAL 76

Use:	Road
Type	Clincher
Ø ETRTO	571/622 x 13 mm
Spokes	28 - 32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	385/415 grammes
Finish	Hardox Titanium Satin



### MÜNCHEN 72

Use:	Road
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	465 grammes
Finish	Hardox Titanium Satin







### MEXICO 68

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### MEXICO 68

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### MEXICO 68

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### TOKYO 64

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### TOKYO 64

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### TOKYO 64

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### ROMA 60

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### ROMA 60

ETRTO 13,5x622  
6000 SERIES ALLOY-T6



### ROMA 60

ETRTO 13,5x622  
6000 SERIES ALLOY-T6

### MEXICO 68

Use:	Road
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	32 - 36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	485 grammes
Finish	Silver Black Polish



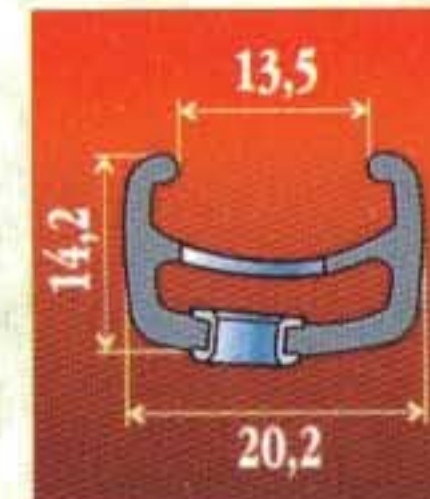
### TOKYO 64

Use:	Road
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	460 grammes
Finish	Silver Black Polish



### ROMA 60

Use:	Road
Type	Clincher
Ø ETRTO	622 x 13 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	515 grammes
Finish	Silver Black Polish



### MELBOURNE 56

Use:	Road
Type	Clincher
Ø ETRTO	622 x 16 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	530 grammes
Finish	Satin Black Polish



### HELSINKI 52

Use:	Road
Type	Clincher
Ø ETRTO	622 x 17 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	525 grammes
Finish	Satin Black Polish



### LONDON 48

Use:	Road
Type	Clincher
Ø ETRTO	622 x 17 mm
Spokes	36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	500 grammes
Finish	Satin Black Polish



### MELBOURNE 56

ETRTO 16,5x622  
6000 SERIES ALLOY-T6



### MELBOURNE 56

ETRTO 16,5x622  
6000 SERIES ALLOY-T6



### MELBOURNE 56

ETRTO 16,5x622  
6000 SERIES ALLOY-T6



### HELSINKI 52

ETRTO 17,5x622  
6000 SERIES ALLOY-T6



### HELSINKI 52

ETRTO 17,5x622  
6000 SERIES ALLOY-T6



### HELSINKI 52

ETRTO 17,5x622  
6000 SERIES ALLOY-T6



### LONDON 48

ETRTO 17,5x622  
6000 SERIES ALLOY-T6



### LONDON 48

ETRTO 17,5x622  
6000 SERIES ALLOY-T6



### LONDON 48

ETRTO 17,5x622  
6000 SERIES ALLOY-T6





### BARCELONA 92

Use:	Road
Type	Tubular
Ø ETRTO	632 x 22 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	7000 - T6
Valve Ø	6.5 mm
Weight	410 grammes
Finish	Hardox



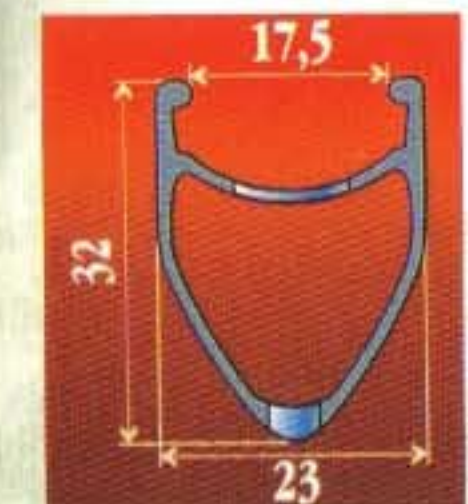
### SEOUL 88

Use:	Road
Type	Tubular
Ø ETRTO	632 x 20 mm
Spokes	28 - 32 - 36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	395 grammes
Finish	Hardox Satin



### LOS ANGELES 84

Use:	Road
Type	Tubular
Ø ETRTO	632 x 20 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	5000 - T6
Valve Ø	6.5 mm
Weight	395 grammes
Finish	Hardox Titanium Satin



### K2-28268 ft

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	28 - 32 - 36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	455 grammes
Finish	Silver





**KILIMANGIARO 19340 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**KILIMANGIARO 19340 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**KILIMANGIARO 19340 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ACONCAGUA 22834 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ACONCAGUA 22834 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ACONCAGUA 22834 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**EVEREST 29028 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**EVEREST 29028 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**EVEREST 29028 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6

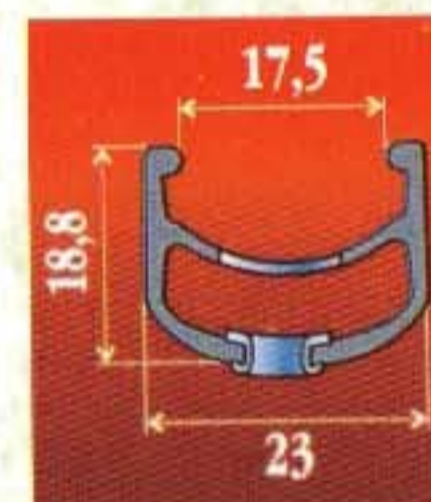
**KILIMANGIARO 19340 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	460 grammes
Finish	Mardox Titanium Satin



**ACONCAGUA 22834 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	32 - 36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	490 grammes
Finish	Satin Black Polish



**EVEREST 29028 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 - 8.5 mm
Weight	560 grammes
Finish	Satin Black Polish

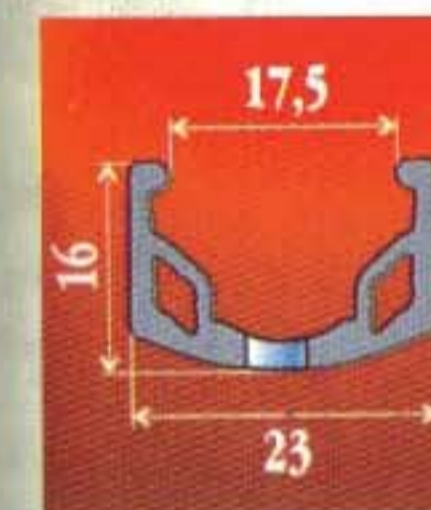


**VINSON 16844 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 - 8.5 mm
Weight	510 grammes
Finish	Satin Black Polish

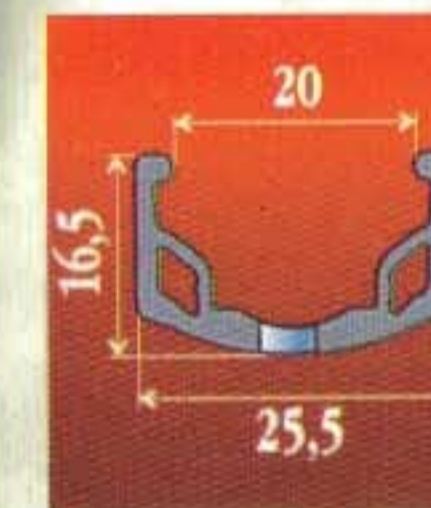
**ELBRUS 18510 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 17 mm
Spokes	36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 - 8.5 mm
Weight	490 grammes
Finish	Satin Black Polish



**Mc KINLEY 20320 #**

Use:	Off-Road
Type	Tyre
Ø ETRTO	559 x 20 mm
Spokes	36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 - 8.5 mm
Weight	505 grammes
Finish	Black Polish



**VINSON 16844 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**VINSON 16844 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**VINSON 16844 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ELBRUS 18510 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ELBRUS 18510 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**ELBRUS 18510 #**  
ETRTO 175x59P  
6000 SERIES ALLOY-T6



**Mc KINLEY 20320 #**  
ETRTO 20x59P  
6000 SERIES ALLOY-T6



**Mc KINLEY 20320 #**  
ETRTO 20x59P  
6000 SERIES ALLOY-T6



TECHNICAL SPECIFICATIONS

	RECORD	CHORUS	ATHENA	VELOCE	MIRAGE	AVANTI
<b>REAR DERAILLEUR</b>	max sprocket total capacity	26 26	26 26	26 26	26 26	26 26
<b>FRONT DERAILLEUR</b>	brake on clip-on ø 28,6 clip-on ø 32 clip-on ø 35 max. chainring total capacity	• • • • • • •	• • • • • • •	• • • • • • •	• • • • • • •	• • • • • • •
<b>CRANKSET</b>	cranks length mm chainrings	170-172,5-175-180 39x52 - 39x53 42x52 - 42x53	170-172,5-175 39x52 - 39x53 42x52 - 42x53	170-172,5-175 39x52 - 42x52 42x53	170-172,5-175 39x53 42x52	170 39x52 42x52
<b>TRIPLE REAR DERAILL.</b>	max. sprocket total capacity	28	28	28	28	28
<b>TRIPLE FRONT DERAILL.</b>	brake on clip-on ø 28,6 clip-on ø 32 clip-on ø 35 max. chainring total capacity	• • • • • • •	• • • • • • •	• • • • • • •	• • • • • • •	• • • • • • •
<b>BOTTOM BRACKET</b>	BC - L.102 IT - L.111 BC - L.111 IT - L.115,5 BC - L.115,5	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
<b>ERGONOMY</b>	BRAKE LEVERS SHIFTER LEVERS FRONT HUB REAR HUB	traditional height hubs O.L.D. hubs (steel) hubs (titanium)	• • • • • •	• • • • • •	• • • • • •	• • • • • •
<b>SPROCKETS</b>	steel titanium	11/21 12/19 12/21 12/23 12/25 13/21 13/23 13/26 14/26	12/21 12/23 12/25 13/26	12/21 12/23 12/25 13/26	12/21 12/23 12/25 13/26	13/26 13/28 14/26
<b>CHAIN</b>	1/2x3/32"	silver	black	black	black	black
<b>HEADSET</b>	BC 1x24pt	•	•	•	•	•
<b>PEDALS</b>	quick-release	•	•	•	•	•
<b>SEAT POST</b>	Ø	27 - 27,2 25 - 25,8 27 - 27,2	25 - 25,8 27 - 27,2	25 - 25,8 27 - 27,2	25 - 25,8 27 - 27,2	25 - 25,8 27 - 27,2

	BOBA 12-HPW TITANIUM	SHAMAL 12-HPW	VENTO 16-HPW	ZONDA 16 R	SCIROCCO 20	GHIBLI
front road 28"	tubular	tubular	clincher	clincher	clincher	tubular
rear road 28" titanium	tubular	tubular	clincher	clincher	clincher	tubular
front road 26"	tubular	tubular	clincher	clincher	clincher	tubular
front road 28"	tubular	clincher	clincher	clincher	clincher	tubular
rear road 26"	tubular	tubular	clincher	clincher	clincher	tubular
rear road 28"	tubular	tubular	clincher	clincher	clincher	tubular
rear road 26" titanium	tubular	clincher	clincher	clincher	clincher	tubular
rear road 28" titanium	tubular	tubular	clincher	clincher	clincher	tubular
front track 28"	tubular	tubular	tubular	tubular	tubular	tubular
rear track 28"	tubular	tubular	tubular	tubular	tubular	tubular
front road 26"	19	19	19	19	19	18
front road 28"	19	19	19	19	19	18
rear road 26"	19	19	19	19	19	18
rear road 28"	19	19	19	19	19	18
front track 28"	19	19	19	19	19	18
rear track 28"	19	19	19	19	19	18
O.L.D.	100	100	100	100	100	130
Weight	720	900	820	880	890	1125



**TOPAZ**

Use:	Touring
Type	Tyre
Ø ETRTO	622 x 16 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	515 grammes
Finish	Satin Black Polish

**AMBER**

Use:	Hybrid
Type	Tyre
Ø ETRTO	622 x 17 mm
Spokes	36
Eyelets	Stainless Steel
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	565 grammes
Finish	Satin Black Polish

**CRYSTAL**

Use:	Hybrid
Type	Tyre
Ø ETRTO	622 x 20 mm
Spokes	36
Eyelets	No
Alloy	6000 - T6
Valve Ø	6.5 mm
Weight	565 grammes
Finish	Black Polish



H.P.B. reserves the right to modify the technical specifications without any notice.



I.P.

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