The Raleigh professional racing team scored an unprecedented double in 1986, winning both of the British professional road racing titles. Paul Sherwen (front cover) won the circuit race championship, while Mark Bell triumphed in the 136-mile road race championship at Newport, Shropshire.
A new force ready to conquer the lightweight market

A new specialist manufacturer of lightweight cycles and frames is taking shape at Nottingham. TI Raleigh, Britain's biggest maker of bicycles, is merging its two main lightweight units to form a single company that is destined to become a major force on the British lightweight scene.

The first step was taken recently when the prestigious Specialist Development Unit, makers of "made-to-measure" frames for some of the world's leading riders, was moved from its Ilkeston base to the main Raleigh plant in Nottingham. Most of the unit's craftsmen and its leader, Gerald O'Donovan made the move to Nottingham to work alongside the existing Raleigh Lightweight Unit which is a self-contained "elite" group producing the top models in sports and leisure range.

Manager of the Lightweight Unit is David Bednall, a Raleigh man for 25 years, whose experience includes being Quality Control Manager of the Bicycle Division in the late Seventies before taking charge of the Carlton Cycles operation at Worksop and its re-creation as the Nottingham Lightweight Unit in 1981.

Bednall explained the thinking behind this latest stage in the latest stage of lightweight development at Raleigh:

"Bringing the Ilkeston and Nottingham units together geographically is a stepping stone to total integration. We intend to make the Lightweight Unit independent from the rest of Raleigh's manufacturing operation."

Over the next nine months the lightweight operation will be transformed into what Bednall predicts will be: "An independent profit-based business within Raleigh."

In 1987 the Raleigh Lightweight Unit will be standing on its own feet, a small-batch, high-quality manufacturer with a work force of about 65 geared to produce more than 25,000 units each year for Britain and Europe, with every frame built from Reynolds tubing.

"We will be a 'whole-range' supplier of bicycles to serious users, from Reynolds 501 models to bespoke frames," said Bednall who reckons it will be a comprehensive range that no other British manufacturer will be able to match.

While the Specialist Development Unit will be integrated within the new organisation, Bednall is determined to retain the qualities that made Ilkeston a byword in the demanding world of racing frame manufacture.

"Gerald O'Donovan is synonymous with the SPDU, he will be the contact with dealers and customers and will continue to promote the unit's aim of designing for the specific needs of the individual," said Bednall.

"The service offered by Ilkeston will still be available whether both in made-to-measure frames and after-sales service, which is something the Unit has always prided itself on."

The first outward sign of this new mood sweeping through Raleigh will be the launch of the 1987 range the New Year separate from the rest of the Raleigh launch for the first time. And it is likely that Raleigh framesets and models will be seen in specialist lightweight shops which may hitherto have been too small to have an account with Raleigh, but will soon be able to open a lightweight account.

Raleigh want to get into the smaller dealer and in return they pledge a higher level of service to specialist dealers than ever before.

For the first time in years Raleigh will be offering a comprehensive range of finished framesets from Reynolds 501 to Reynolds 531 plus the made-to-measure 531 and 753 service.

It is a formidable line-up and one that will reinforce Raleigh's reputation as a mass manufacturer which can also provide the specialist environment in which craftsmen can employ the finest engineering and technological back-up to produce a frames fit for world champions or the new breed of cyclist who wants the absolute best in its field and is prepared to pay for it.
Toplis Eng, of West Wickham — a well-stocked Raleigh dealer, with an attractive display of machines and accessories.
To ensure that you get the very best service from your cycle shop — Raleigh have appointed over 400 Raleigh Specialist Lightweight Dealers. All you need do is look for the sign and you can be sure that the very best service will be offered.

All Raleigh Specialist Lightweight Dealers carry a wide range of Raleigh Lightweight Products and are given priority deliveries on request for both spares and complete cycles.

All Raleigh Specialist Lightweight Dealers carry a wide range of top-quality spare parts.

All Raleigh Specialist Lightweight Dealers offer the best and most up-to-date technical advice.

All Raleigh Specialist Dealers carry a large selection of the best lightweight accessories and clothing.

All Raleigh Specialist Lightweight Dealers are supported by the unique Raleigh 15-year guarantee on frame and forks, along with the traditional Raleigh strength of quality and reliable product.

All Raleigh Specialist Lightweight Dealers are committed to offering their customers cycling expertise; they know cyclists and understand their special needs.

Remember the Raleigh Specialist Lightweight Dealer can offer you:

- Complete Raleigh Range
- Priority Deliveries
- Extensive stock of spares
- Technical Advice and Information
- Complete Lightweight accessories range
- The unique 15-year Raleigh Guarantee
Our review of the 1987 Raleigh Lightweight series highlights two new models – the Randonneur, a tourist's "dream machine" and the Triathlon, designed specifically to meet the needs of the Triathlon competitor.

The Randonneur – what a beauty

One look at the Randonneur – the top of Raleigh's touring range – and you have a desire to get out the Ordnance Survey maps, and ride this beauty of a bike to faraway places.

The Randonneur, costing approximately £500, attracted great attention at the recent Cologne Show, and should be a firm favourite with tourists for many years to come.

The frame is made from Reynolds 531 ST tubing, with a full complement of brazed-on fittings. Even bosses on the right-hand chainstay to carry two spare spokes.

The triple chainset is a Shimano Biopace Delux, with the chain rings of 28, 38 and 48, which when allied to the Sachs-Huret New Success gears and Huret ratchet gear levers provides a total of 18 gear variations – enough to cope with any gradient or conditions.

Shimano also supply the high performance cantilever brakes. With a full load on the bike and a steep descent ahead of you, it is reassuring to know that should you have to brake, there will be no problems.

The wheels have Mavic rims and Maillard sealed hubs, and are shod with the latest Michelin tyres.

Hands rest on suede-finish cushion bar tape, while at the other end of the body contact is made through a pre-softened Brooks Professional honey-coloured saddle.
BELOW: The Raleigh Triathlon, a full-blooded racing machine which even a novice competitor can ride with confidence.

It seems that every cycle manufacturer feels obliged to include a "Triathlon" model in their range. Raleigh have stayed out of this market until now, conscious that merely fitting two drinking bottles and applying Triathlon stickers hardly makes a bicycle more suited to this specialist form of competition than a standard machine would be.

So Raleigh have thought long and hard about their new model specially designed for the Triathlon competitor.

Many recruits to Triathlon come from athletics and swimming. For them cycling is the most technically difficult of the three disciplines to master, which is why Raleigh have gone for a frame design that will be responsive and performs well in competition but handles easily when ridden by a novice.

The frame and forks are built from Reynolds 531 double butted tubing, admirably suited to the job. The wheel base is slightly longer than on Raleigh's other racing models for a less "nervy" ride.

Much thought has gone into the components. Gears are Shimano 105, with the indexed change to rescue the anxious novice struggling to achieve the delicate touch required by orthodox derailleur.

The chainset is also from Shimano, the "Bicycle" with its slightly oval chainrings should boost the pedalling efficiency of those who do not have a smooth riding style.

New from Shimano is a pedal with a plastic insert to accommodate the Triathlon competitor's running shoe which does not sit well on a standard narrow racing pedal. The plastic insert can also be removed leaving a standard platform pedal.

Saddle comfort can be a problem for competitors who frequently come to the cycling section straight from the swim. Raleigh's solution was to commission from Royale of Italy a saddle in a new plastic material that is waterproof and provides a good grip, while the saddle nose is narrower than normal to reduce chafing in wet clothes.

A good deal of thought has gone into the Triathlon which weighs a very competitive 21 pounds and will sell for about £350.

**A new model for the Triathlete**

Shimano pedal with plastic insert to accommodate the Triathlon rider's athletics-type shoe.

A new Triathlon saddle designed for maximum comfort for competitors who have just emerged from the swim section.
A wide range of prices to suit every pocket

THE strategy behind the Raleigh lightweight series is to provide a balanced programme of high-performance, value-for-money bicycles at a range of prices. A variety of tastes - and budgets - are catered for, be it touring, racing, triathlon or leisure riding, which with the extensive off-the-peg and custom-built frameset programme, ensures all aspects of quality cycling are covered.

The cycle range starts with three models using Reynolds 501 butted main frame tubes for touring or commuting, the Zenith is extremely well equipped - alloy wheels, alloy centre-pull brakes, alloy carrier, impact-resistant guards, wide ratio gearing and comfortable anatomic saddle. Both ladies' and gent's versions are available.

The Record Sprint is a model which sells on its classic "Formula One" looks, coupled with a high-level specification - alloy quick-release wheels with narrow-profile tyres, cottersless alloy chainset, smart alloy pedals with clips and straps plus a host of other lightweight "goodies", normally found on much more expensive machines. All this on a frame which features gear lever bosses, cable guides and bottle mounts as standard.

The same "501" butted main tube frame is at the heart of the Crittenton 12, completely restyled in the Triathlon image for 1987. The deep metallic blue frame is designed to give responsive yet well-mannered handling - ideal for the newcomer to cycling, while the equipment is carefully chosen to give a well-balanced product.

Wheels are quick-release with hollow section alloy rims for strength and lightness. Brakes are the latest Weinmann 570 quick release with the cables tucked out of the way on the handlebar.

The cottersless alloy cranks are fitted with double detachable chainrings to ease gearing changes, although gearing ratio is deliberately chosen to be wider than normal race gearing, again suiting the less experienced cyclist. Pedals are alloy, platform type, with toe-clips and straps, and the saddle is mounted on an integral seat pin with
single bolt adjustment, and to complete the Triathlon image, twin bottles and cages are fitted as standard, the pump being sited under the top tube.

The range then moves into the "handbuilt" lightweight category, with all models showing even greater attention to line detail both in frame finishing, finer lugs, on all models, with investment-cast crowns, Allen-bolt fitting brakes on the racing cycles, stylish colour schemes and high-quality components. A full range of Reynolds tubing is used, 501, 501SL, 531C and 531SL, to produce models in four distinct categories: Race, Touring, Cyclo-Sportif and Triathlon.

**INTERMEDIATE MODELS**

With the introduction of the Zenith at the budget end of the touring range, and the Randonneur at the very top, the opportunity has been taken for 1987 to revise the specification of the intermediate models and up-date colours and graphics.

The Granada, already well-established in 1986, now features a 531 fork and an alloy rear carrier as standard for 1987. The deep metallic blue colour is retained, but now has a smart silver pearl head. Available in gent's and ladies' versions.

**SIGNIFICANT UPGRADE**

The new Royal is not only a significant upgrade of its popular predecessor but the new high level of specification means that it effectively supercedes the Classic. The frame design and tubing is shared with the Randonneur, and the full alloy specification includes tough quick-release wheels, 18-speed transmission via a Shimano light action Derailleur with pre-select facility, leather covered anatomic saddle, cantilever brakes, all rear carrier, broad platform pedals and the new Michelin Select touring tyres.

The Cyclo-sportif models, Ventura and Record Ace, offer the enthusiast and the leisure cyclist sporty, multi-purpose mount that is equally at home on a weekend training run. On looks alone, these models are an attractive proposition. In addition, both models feature 531 butted main tube frames, the gent's Ventura is equipped with Shimano 105 transmission while the Record Ace has a selection of 600EX components.

The Ventura is also available in a ladies' version, with wider ratio gearing, but still retaining the same sporty styling.

The connoisseur's town-bike is the Richmond flat-bar tourer with pre-select lightweight gears, full alloy equipment and at its heart a Reynolds 531 butted main tube frame. Commute in style!
First in the race category is the Sirocco. As with all race models not only does the geometry vary according to frame size, but so does the width and depth of the handlebar. Eminently raceable, the Sirocco features original Shimano 105 transmission - chainset and derailleur - with light alloy components from renowned suppliers - Maillard, Weinmann and Sakae. The frame is built with Renolds 501 butted Cromalloy main tubes and is strikingly finished in red and white.

The Competition retains its sophisticated good looks for 1987, but is now equipped with the innovative Shimano 105 full group set. The set comprises front and rear derailleur, brakes, hubs, freewheel, headset, chainset, pedals and toe clips. All these items offer specific improvements over their predecessors, but the pedals, gears and brakes are particularly noteworthy.

The brakes are the latest Shimano Linear Response type, with low spring tension, lined cables and a thrust bearing on the stirrups all contributing to smooth, progressive braking.

Gears can either be operated using the Shimano Index system guaranteeing accurate gear changing for all riders, or with a simple adjustment, work as a normal friction lever style. The pedals provide sufficient support for the foot with a cutaway design, which allows 34-degree road clearance.

The combination of this newest of technically advanced components, and a light, responsive frame in 501 SC, a frame tubing sadly underrated in its country of origin, but highly praised by discerning continental riders and frame designers, results in a stylish integrated design for the sportsman or club rider.

Top of the range is the Road Ace; the frame is built from a basic Reynolds 531C tube set, but with 531 "Professional" twin taper backstays and Campagnolo forged ends. Equipment includes a full Shimano 600 EX ensemble, upgraded for 1987 with SIS indexed derailleur system. Other components are of a similar high quality. Even with its £650 price tag, the Road Ace sells well, and confirms Raleigh's belief that people are prepared to pay for the very top quality.
ABOVE: Shimano 105 equipment is a feature of the Competition, which is fitted with the new 105 group set, including transmission, brakes, hubs, headset and pedals.

Race-worthy at a reasonable price, the Sirocco, which boasts Shimano 105 transmission.

Ideal for tight cornering, the Shimano 105 pedal.
Back in 1981 TI Raleigh recognised the growing demand for hand-built frames and bicycles for racing and leisure by opening a special Lightweight Unit, within the main Raleigh factory.

The aim was to produce "top-of-the-range" models in an area where quality rather than quantity was the main requirement. Experienced operators were taken from other departments and introduced to a new way of working. Piecework was out and the operator was expected to be flexible and use more of his own initiative than is possible in a mass production unit.

It was a bold move and one which has paid off. Today most of the original recruits are still working in the Lightweight Unit where they have recently been joined by craftsmen of the Ilkeston Specialist Development Unit who will be adding their skills to the Unit's Nottingham-based operation.

"The byword was quality from day one," explained Lightweight Manager David Bednall. "For instance, we don't have a separate quality control organisation. We operate what we call 'Self-Audit.' The onus is on the operators, every man is a quality inspector and every batch of frames can be traced back."

The Lightweight Unit builds only in Reynolds 501 and 531 tubing, with Reynolds 753 frames built by the Specialist Development Unit.

Each frame can be traced back to its builder and every complete bicycle to its assembler, for every assembler attaches a personalised card to the bicycle, bearing his signature and photograph.

Bednall regards the frame brazing operation as one of the key areas of production. "The quality has got to be good in terms of frame strength and appearance," he says. "We've got to get the brazing right to ensure the integrity of the frame and fork as a sound structure that will not fail."

Good brazing is also essential to the finished appearance of the frame. A good deal of work goes into cleaning excess materials and brass from the frame after brazing. This is an area where the craftsmen can use their skills to minimise the amount of cleaning required.

And at Raleigh, as Bednall points out: "The operators have a high degree of control in terms of setting the gas burners, the length of time the heat is applied and the rate at which the brass is fed into some of the joints."

"Our best safeguard of quality is that the attitude of the craftsmen in the Raleigh Lightweight Unit is one of never compromising and never allowing anything second-rate to go through," said Bednall. Because the Lightweight Unit occupies a comparatively small area the...
operators can see the product at every stage of manufacture, from the drawing of materials from the stores to wheeling the finished bicycle away from the assembly line, a total process which currently takes 17 days.

Although the Unit is independent of the rest of Raleigh they do allow their frames to go out into the main works for one operation. Raleigh has developed a £3 million facility for undercoating frames and the Unit's frames go there to receive an electro-ferretic coat which gives unrivalled protection against corrosion.

The rest of the paint finish is applied by traditional hand-spraying methods in the Lightweight Unit. "We believe in having the best of both worlds," comments Bednall.

Final assembly is another area where individual responsibility can be traced back, for assemblers receive a frame, with bottom bracket and chainset fitted. A single operator then builds it into a complete bicycle, which is fully checked before the front wheel and "bars are removed for the bicycle to be packed into a carton and despatched to the dealer."
When Joop Zoetemelk won the Tour de France in 1980, it was on a bicycle built and developed at Raleigh Ilkeston. "Sooner or later this had to happen," says Gerald O'Donovan. "We had won 31 stages of the Tour since our debut in 1976. Raleigh had been second and had won the team prize, both on time and points. When they finally clinched the first overall, they did it in style with a massive total of 12 stage wins as well."

It was the culmination of a plan for racing, which during its execution, up to that point, had resulted in two road and three track world professional championships, a whole heap of classic victories, and first overall in every Tour that mattered except the Giro, which Raleigh hadn't ridden, and that elusive Tour de France. That plan had not just encompassed the racing, but the organisation behind it and a key part of that organisation was the Specialist Bicycle Development Department, then at Ilkeston, now at Nottingham.

"Racing is predominantly a vehicle for product marketing, through its great publicity value," says Gerald O'Donovan. "We saw it as a first class vehicle for bicycle and materials development as well. The first task given to SBDD was to undertake this work in support of the team, the second being to translate this work into products for our customers, both by manufacture at Ilkeston and in influencing the trends of design within Raleigh."

"It is no coincidence that the Raleigh Sirocco, a modestly priced true sports bicycle bears more than a passing resemblance to the 'Real Thing', because it is. It is just made of more economically priced materials and parts."

"Nothing has altered with the move to Nottingham. If we miss the fun, excitement and perhaps pain of our long connection with Peter Post, the doyen of team managers, his equally great and gifted riders, and the comradeship, help and advice of his chief mechanic, Jan Le Grand, we have other consolations."

"We have George Shaw and our team in the UK, as well as the host of friends and customers at all levels of cycling to keep us on our toes and to keep up the pace of development. It may be history that we were the first with 753, the first with 24 inch wheel Lo-Pro's, that we tried the..."
then illegal disc wheel in 1975, but we see our history as lying in what we go on to achieve in the future," he adds.

"At the commercial level, we offer for home and export a range of made-to-measure framesets, made from 753 or 531 tubing, in every format from road racing to long-distance touring, from time trials to six-day, indeed for every purpose where that purpose means purpose-made for the rider and the ride."

"One of the things we do offer is to do this with the customer and to offer design advice on every aspect of the product. This can even mean suggesting to the customer that what he or she had in mind was unnecessarily expensive for the intended use. Not infrequently the answer is that the customer knows this already, but the joy of ownership outweighs pure practicality.

"The range we offer comprises 17 basic models of framesets in a very wide range of sizes and colours and with an equally wide range of options in features to suit final assembly. This range is supplemented by a new range of hand made 'off the peg' frames made in our Workshop, and specifically designed to provide a continuous range for every pocket and purpose."

There are three road frames — the Service de Course — numbered 8700, 8702 and 8704. They were developed directly from Raleigh's experience of top-flight road racing, and intended for the serious professional and amateur.

The lugs, bracket and fork crown are Cinelli, and the tubing — Reynolds 753R and 531C — the best at the price. The fork-ends are Campagnolo or Shimano. Built to individual requirements, the frames come in half-centimetre sizes from 49 to 64.5 centimetres, with top tubes and angles to suit the customer, and a comprehensive range of soldered on parts.

Clearances are normally for sprints with Piccolo Allen-key brakes, but others can be specified.

The 8700 model is made from Reynolds 753R, and the 8702 from 531C. The 8704 is also in 531C but has a chrome crown and 10-inches of chrome on the head and rear ends.

Time trialists drool over the 8706, 8708 and 8710 specials. The 8706 is in 753R tubing, built with Prugnat lugs, normally with vertical drop-outs, and with a Cinelli SC Aero fork crown. Sizes are from 49 to 64.5 centimetres.

Seat stays can be fast-back or on the side of the seat lug, although for heavier riders the latter is recommended.

The 8708 frame is in 531 Pro tubing, with all the features of the 8706, while the 8710 is the same as the 8708 but with the same chrome plating as the 8704 road frame.

There are three frames named Road Champions — the 8712, 8714 and 8716. So named because they have won so many championships. They are similar to the Service de Course models, but built with Prugnat lugs in one centimetre increments from 49 centimetres to 64 centimetres.

Again, the seat stays can be fast-back or on the side of the seat lug. The clearances are optional, and all braze-ons are optional, except for the front changer on the 8714 which is extra.

The 8712 is in 753R, the 8714 in 531C, as is the 8716 but with chrome plating.

Reynolds 531C is the choice for the two Service de Course Track frames — 8718 and 8720 — with the latter having the chrome plating as in the other models.

They can be built to suit all sprinters, six-days, indoors or outdoors, in sizes from 49 to 64 centimetres, with round fork blades and Cinelli lugs and brackets. Special gauges of tubing are available for specialist needs. The 8720 is the one with the chrome plating.

The low-profile range covers road and track. The 8722 and 8726 are for individual and team time trials on the road, in 753R and 531C tubing respectively. They are built to use nominal 24-inch front wheels and come with special lugs and bracket and normally with a Cinelli SCA fork crown.

The track low-profiles — 8724 and 8728 — are again in 753R and 531C respectively, using 24-inch front wheels and designed for individual and team pursuiting, as well as kilometre time trial riding.

There is no chrome offered on the last of the range — the 8732 Road Champion. It is a cyclo-cross version of the Road Champion with braze-ons to choice, and a size range of 51 centimetres to 64 centimetres.

Otherwise it is no different to the 8714 Road Champion frames.

All frames are delivered carton-packed, with all machining work carried out, and where appropriate, with adjuster screws and ferrules for ready assembly. Headsets are not fitted, but frames are machined for particular requirements.

Repairs are also carried out where practicable but the unit reserve the right not to carry out any repairs that they cannot guarantee. They will refinish and remachine any made-to-measure frameset, and their refinishing service includes refraking.

There are two colour ranges, the first is in the old Raleigh team colours of red, yellow and black, red, white, black, blue, yellow or black enamels; wine, oyster, polar blue, gunmetal and aqua blue pearlescents; green or burgundy iridescents; white, oyster or polar blue with head, seat lug and bracket shaded with any one or two from wine, aqua blue, gunmetal or yellow.

The second is in team colours of red, white, oyster, polar blue, gunmetal or black, blue, aqua blue pearlescents; green or burgundy iridescents.

Range One applies to the Service de Course road, and track, Time Trial Specials, and Low-Profiles in 753 tubing.

Range two covers the Road Champions, the low-profiles in 531C, the 531C Cross Champion and the new Randonneur touring frame.

The unit will carry out special colour schemes where practicable but will charge extra if this involves additional cost.

All frames are warranted against defects of material and workmanship, but if any repairs or refinishing is carried out by a third party then that automatically cancels the warranty. Repair work carried out by the unit continues the warranty.
RALEIGH
Specialist Lightweight Dealer