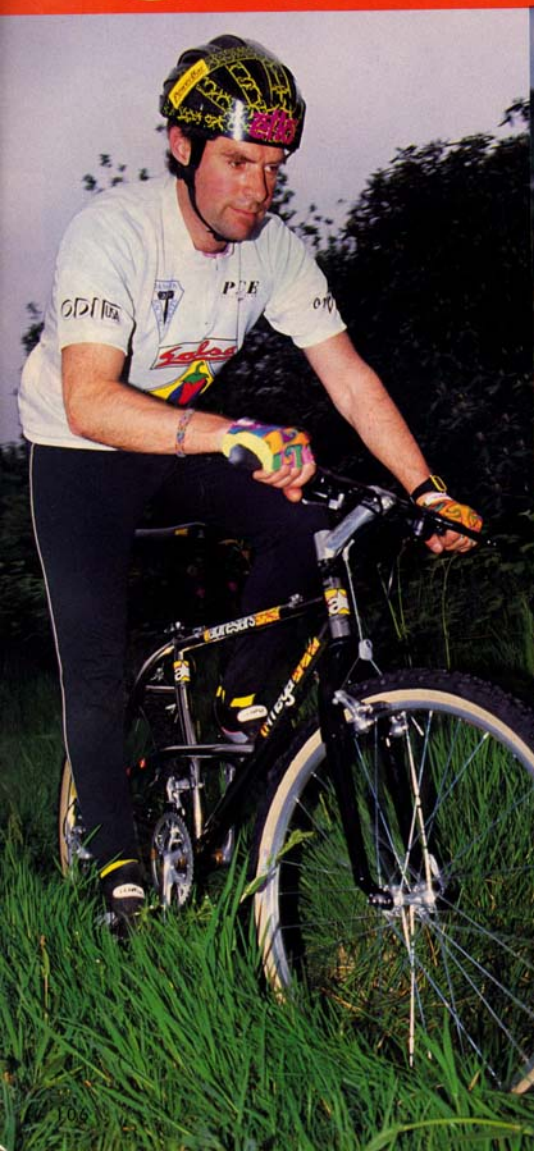
ULTIMATE SCOOTS!



Test Editor STEVE WORLAND takes an in-depth, insiders, look at four state of the art superbikes. If you have to drool, prepare to drool it now! Pictures by STEVE BEHR.

What constitutes a superbike? A couple of years ago, anything over £1000 would fall into the category. But things have changed. There's a whole new ball game happening in the superbike field and we can only guess at where it's all going to end.

We decided to look at four "State of the Art" bikes, one in each of the big four materials . . . steel, aluminium, carbon and titanium. There are several other interesting materials surfacing at the moment and countless new methods of working 'traditional' ones, but, for the purpose of customer accessibility, we've stuck to four companies who have made a bit of a name for themselves in the UK in the last couple of years. All four companies support the still growing race scene in the UK but there the similarity stops.

We're looking mainly at framesets here. It's becoming more and more the case that the rest of a super-bike is down to the customer. That said, there are several companies now, such as **Trek**, who specify trick componentry on top production bikes. The other bikes tested vary in their specs . . . **Pace** are looking towards marketing frames and components separately from later this year, due mainly to problems in delivery schedules of outside suppliers. **Fat Chance** will continue to be available as framesets, in limited numbers. **Alpinestars** will market Titanium framesets separately from other complete production machines.

ALPINESTARS TI MEGA

Inevitably, when state of the art bikes are being examined, Titanium will always get a look in. It's a material that usually conjures up cash tills ringing, wide eyes and groping hands. But, as my **Merlin** T-Shirt says, "It's only a bike!". It's there to be ridden, and most Titanium bikes are designed to be ridden hard.

Titanium is remarkably resistant to abuse and, as perceptions rise to accept the true value of pedal power, it seems likely that Titanium bikes will start to lose their 'status symbol' image and simply become a rational top of the range choice in many manufacturers' catalogues. After all, buying a Titanium bike is still a hugely preferable way of spending good money to seeing it dwindle away in depreciation and huge bills on the motorised weaponry crowding the black topped trails.

There are two versions of the Titanium **Alpinestars** . . . the *Team* and the standard one. Each comes as a frameset, including bottom bracket, fork, headset, seat post and collar, handlebars and stem. The *Team* is really OTT, with forks and almost everything else made of Titanium, retailing at £2,699.99. (It would be well worth paying cash, simply to experience the thrill of waiting for your penny change).

The standard frameset is £1911.99 with aluminium fork and bits. Inevitably, we got the standard one, a tad more standard than expected in fact, with *Deore DX* components fitted, due to no trick components being to hand at the time of bike delivery.

ONE MAN AND HIS BIKES

After stroking and prodding the frame, I spoke to Mr Big at **Alpinestars**, Bernie Schreiber, about the whys and wherefores of company direction. For those who aren't aware, Mr Schreiber was the man who almost single handedly invented the hopping technique in motorcycle trials competition. It took him to a World Champion title in 1979 as well as being three times runner up and four times American Champion. His technique was quickly emulated by bicycle trials riders and his other expertise in the motorcycle field has given him inspired insight and enthusiasm for the MTB market.

"We are aiming at producing the highest quality production mountain bike in the world", says Schreiber.

"We see Oversize and Elevated as two keys to future innovation. Last year, everyone was doing elevated bikes, but without a real function, only fashion . . . there were major flex problems in the bottom bracket area and rear end. So, we thought, if we're going to do this, let's do it right, using the full advantages of short chain stays and oversize tubes".

The "We" at **Alpinestars** includes product Manager and TI Mega designer Bill Stevenson, who, with 20 years in the bike industry including 13 as a custom builder, was tempted away from **Fisher MTBs** to continue his ways with **Alpinestars**. This year's curved seat tube elevated chainstay designs are, according to Schreiber, a culmination of Stevensons' design for the **Fisher** *Montare*.

The main principles behind the frame design are to maximise climbing potential, with 15.9in chainstays, to maximise mud clearance and stiffen the bottom bracket by curving the seat tube and hence shortening the angle into the bottom bracket, and to optimise strength to weight ratios with the full benefits of oversize tubes.

All **Alpinestars** bikes are based on geometric principles related to frame size. The actual angles, tube lengths and stem length vary in accordance to perceived rider needs for each frame size . . . says Schreiber: "I don't sell bicycles, I sell needs!" I've heard that statement before, but it seemed to have a ring of sincere confidence to it. Time to get off the phone and on the bike!

THE FINE DETAIL

For the metallurgists, the *TI Mega* chassis is crafted from 3-2.5 Titanium, with TI-6.4 used for the dropouts, head tube and bottom bracket. For mere mortals, the frame's made by **Litespeed** in the USA with shiny fat Titanium tubes.

Overall impressions of unrelated critics varied from "beautiful" to "cumbersome". The latter appears to fade into insignificance when you pick it up. Even with a load of very ordinary equipment on it, it only weighed in at 25.25lb. The "cumbersome" look relates solely to what **Alpinestars** prefer to call "Mega" . . . big diameter tubes and ultra wide seat and chainstays. It only appears unattractive if you're still vaguely into the sleek road bike mentality.

A wide (90mm) bottom bracket shell with pressed in bearings emphasised the design desire to provide more stiffness to pedalling energetics by giving the cranks maximum support. One disconcerting aspect of the set up is that you can't take a quick glance down to see what chainring you're in or which side the front derailleur is graunching on - the elevated stays are massive enough to hide the chainset so you have to peer round the side of them to see what's going on - still, once you get used to a bike, the feel of the gears becomes second nature.

Because of the way the seat tube curves forward, it's not possible to wrap the front derailleur around it. Instead, it hangs on the back of a TIGed on titanium bracket which, despite being the obvious solution, looks like an afterthought. The fact that the rear wheel is so far forward also means that the fitting of wider tyres than 2.1in is excluded by the fact that they would rub on the front derailleur when it's in the extreme inboard position - minor niggles but nonetheless relevant.

The rear wheel dropouts hang well below the meeting point of the seat and chainstays, with the gear hanger a replaceable unit, designed to bend or break before the frame if you stuff the gear in the wheel.

Other small features: - An excellent wrap around stainless steel seat clamp and QR lever looks pretty indestructible. All cable guides are well positioned, but the rivets on the aluminium top tube guides are flimsy - TIGed on titanium ones, like the others on the bike, would have been a nicer touch.

THE RIDE

Titanium bikes have a very particular ride sensation. They feel soft. If you're used to a rigid bike, it's a change which takes a while to accept. Initially, you feel as though your tyres aren't pumped up hard enough, but a quick sprint out of the saddle will tell you that everything is in order. In fact, quick bursts of speed will soon let you know why Titanium is such a highly respected frame material.

The *TI Mega* just seems to skip along. It has bounce, with minimum flex, although the bottom bracket still flexes noticeably more than a standard twin triangle type frame. This bike never unduly punishes your body on the downhills, despite the aluminium straight forks being fairly rigid. Front suspension would be an obvious addition. Team rider Mike Kloser has shown what it can do in the field, with his silver medal in the Worlds downhill in 1990 and continually placing high in Grundig Cup events.

THE FUTURE

Bernie Schreiber does not see **Alpinestars** becoming a giant in the bicycle industry. "The company specialises in design, marketing and service distribution", he says. "We're aiming for 25,000 bikes in 1991. That will include about 150 in Titanium, but only a few will reach the UK. The UK consumers are very well educated, so we have to get it right. We'll probably never sell more than about 3000 bikes a year in the UK. We started in Europe but we'll be putting more and more into the American market now".

If the *TI Mega* is a prelude of things to come from **Alpinestars**, 1992 should be an interesting year. Look out for a full suspension bike!

UK Distributor: Alpinestars UK (0291) 421885.

TREK 8900 COMPOSITE

Of all the materials used for frame construction, carbon fibre is the one that seems to cause the most suspicion, confusion and excitement. As a 'raw' material, it is remarkably cheap when compared to titanium or the now much talked about metal matrix composites, but, as with most exotic materials, it can be as fragile as a raw nerve in its raw state. Method of construction is where it's at and that's where **Trek** come in.

We chose the **Trek** because it represents the totally understandable, consumer accessible end of carbon fibre technology. It's state of the art without conjuring up comparisons with giant hairdryers, as do many of the monocoque construction machines.

TREKS TRICKS

The **Trek Bicycle Corporation** began in Wisconsin, USA in 1976. A group of a dozen or so committed riders started building frames and still haven't finished. The emphasis, in recent times, has been on the 'Function Specific Design' aspect of every frame, with a range of bikes designed to match every riders' particular needs. Almost every other manufacturer claims the same aim, using different words, so where do **Trek** gain the advantage?

During the last couple of years in the UK, **Trek** have gained their market distinction through chunky joints and clever price point targeting. The oversize ("Optimal Dimension") lugged construction has set them apart from the majority of MTB manufacturers, most of whom now TIG weld, and the composite bikes in particular caused a bit of a stir amongst smaller manufacturers when the prices were announced at trade shows.

Suddenly, for less than £1500, it was possible to get a carbon bike with suspension and a whole bunch of trick American accessories.

THE CHASSIS

First, forget carbon fibre, and call it Graphite Epoxy Composite, Trek do. The construction process begins with **Spectre** polyethylene plastic fibre sleeves with fibre glass ends. Seven layers of uni-directional graphite (constructed of 100 per cent carbon fibre) are wrapped over the sleeves and a bias woven layer is overwrapped for extra strength and protection. A coat of clear lacquer finishes off each tube.

For the techno freaks, a graphite epoxy tube has an extremely high specific ultimate strength and specific modulus and a very low modulus of elasticity (7.88 MSI to be precise!). If anyone knows the equation by which this converts into how much less training I have to do to maintain the same performance level, please write it on the back of a postcard and forward quickly to **MBUK**.

Anyway, the specific benefits of all these features are as follows - Spectra lining adds exceptional strength to the tube; fibre glass end sleeves prevent galvanic corrosion between the carbon tubes and the aluminium lugs; carbon fibre provides the blend of strength and lightness that seems to make all these other complications worthwhile.

Trek's aluminium and composite bikes use bonding to join the tubes to the lugs. The lugs have a tapered splined plug which ensures a concentric bonding of the tube and optimum adhesive gap for every joint. The sticky stuff is an epoxy adhesive which, as usual, has proven itself in the aerospace industry . . . what do jet fighter manufacturers use to show off about the competence of their bonding techniques? Apparently, it would take 14 tons of weight hung from the head lug to pull the tubes away, that equates roughly to the sudden impact force achieved by two packs of tethered together pit bull terriers charging flat out in opposite directions on a twenty six foot lead. *(Not everybody knows that. Ed.)*

The rear triangle of the *8900* is aluminium. Canti bosses and brake cable bridge are bolted and bonded. Cable guides are all well positioned, slotted on the top tube. A top entry cable to the front changer does away with the mud collecting pulley

wheel, standard on most top routed bikes, although the extra loop of outer cable down the side of the seat tube is not particularly inspiring.

THE FRONT END

Pilot controls are right up to date as standard on the *8900*. *Rock Shox* do not come as standard on many production bikes, or even many custom bikes below £2000, although rumours of 1992 show **Trek** to be simply one of many to regard suspension as a rational option in any serious range of upper end machines.

The debate about hydraulic versus elastomer suspension goes on. Each system has its pros and cons. One of the seals had blown on the **Trek's** *Rock Shox*, not a major problem if you can get to a shop with the right tools, but a major hassle if you're out in the middle of nowhere or racing when it happens.

Superlight *Answer* stem and **Matrix** *Taperlite* bars with bar ends are also fitted as standard, and the hand controls are finished off with **SunTour** *XC Pro* thumbshifters and excellent two finger levers operating **Grafton** *Speed Control* cantilevers.

DRIVE CHAIN

Sugino Cranks and **SunTour** *Power Rings* (24,36,46) link up with **SunTour** *XC Pro* gears. **Bullseye** hubs mean that a screw on freewheel has to be used, no problem, although choice of top quality screw on freewheels is becoming very limited with all the major manufacturers promoting cassette hubs at the top of the range.

Wheels are 32 spoked on **Matrix** hard black anodised rims and **Matrix** *Z Axis Comp* black wall tyres, all adequate for a top of the range machine.

TREKKING THE TRAILS

Weighing in at 27lb, with *Rock Shox*, means an armchair ride when the going gets tough. The ride feel of the **Trek** is soft and absorbing, but the response to hard pedalling is immediate through the stiff back end.

There's a tendency to promote front suspension for fast descending. That's very relevant but it may be on the bumpy climbs where you notice the surprising differences. The fact that the fork dips and bobs with the terrain means that you can save your energy for pedalling, without continually lifting up the front and tiring your upper body. By the same token, the lack of upper body exertion on descents will give you more power left for the climbs.

All this applies to any suspension fork. The *8900* benefits greatly and, in many ways, it actually prevents an accurate assessment being made regarding the feel of the frame and components. Suspension can serve to flatter the set up of an excellent bike or it can hide deficiencies. In the case of the *8900*. It is the former (I've ridden the same frame without *Rock Shox*).

Trek UK: (0462) 811458.

PACE - THE INSIDE STORY

As Test Editor of this salubrious publication, I get to look at most of the attention grabbing mounts that find their way into the in-tray (my left hand cellar). I've grown out of the drooling stage so most bikes simply become the object of a 'rational' assessment before being slung into the out-tray (my right hand cellar) pending return to their assorted marketeers.

The one bike which remains in the in-tray is my **Pace** *RC100*. When I'm not crouched in front of a hot word processor, trying to introduce a second finger to my keyboard technique, I'm usually in the **Pace** workshop, fettling (Yorkshire dialect) a few *RC100s* for their launch into the big wide world of MTB culture (as in 'rapid fed growth', for example: yeast).

THE EARLY YEARS

When Adrian Carter and Duncan Macdonald sat down at their respective drawing boards and gave birth to **Pace Research Cycles**, they had several things in mind. First and foremost, they did not see the **Pace** machine as a marketing exercise. They still cringe at some of the Gonzo imagery associated with Mountain Bikes, the names in particular. On the other hand, they do not see themselves as pure status peddlars. The name **Pace Research** tries to embrace a wide area of imagery, simple yet technical and with a character of athletic accomplishment.

Back in the early eighties, Adrian and Duncan were manically involved with motorcycle enduro competition. They first met half way up a mountain during a stage of the Welsh International. Competing in enduro at top expert level means staying fit to extremes, but in the year that Duncan won the North of England Enduro Championships, he'd also decided that he hated running, Adrian had already used cycling to supplement his championship winning form - with a stash of 42 gold and silver medals and a British 175 Class Championship win, together with enough minor injuries to make a major one seem imminent, it seemed to be time to throttle back.

THE CONVERSION

A matching pair of **Ridgebacks** were acquired. This new sport of Mountain Biking seemed like a less risky way of scoring fitness, excitement and skills. After six months of **Ridgeback** wrecking, Adrian took the plunge and went for a fluoro pink **Cannondale**, with matching Lycra, causing outbreaks of confusion and mirth amongst more traditionally clad enduro accomplices.

With Adrian's background in graphic and product design and Duncan's specialist engineering abilities, they combined their drawing boards and spent a weekend looking at the pros and cons of current Mountain Bike design. Duncan's work that week had been to "make the hardware for a remote controlled hydraulic arm to be used in a highly contaminated area in order to ultrasonically test all the welds inside a nuclear reactor". In comparison, knocking up a pair of aluminium forks for Adrian's **Cannondale** was a piece of . . . **Pace**.

The rest is history. They went to the Cologne show, compared mountain bike design with the considerably more advanced motorised variety and came back full of enthusiasm to build a prototype. Duncan had already built his own alloy monocoque framed air suspended trials bike so putting together the first **Pace** was not really a problem.

The Mark 1 was a total overkill. Built with massive box section 6082 heat treated aluminium, with double fork yoke above and below the head set, it weighed in at nearly 30lb and had the ride characteristics of a pneumatic drill. Mark II and III concentrated on losing weight and gaining flexibility, and used 7020 box section aluminium. The split gullwing fork crown design took care of front end flexibility, stiff enough for direct steering response but absorbing enough for hard riding over rough terrain. The design of the crown allows for the optional retrofit of suspension blades.

The Mark III became the pre-production model. 7020 aluminium is not heat treated and can be easily repaired if crash damaged. Duncan dismantles frames on a regular basis in order to play around with new ideas, some of which are then incorporated as production features.

The use of CAD (Computer Aided Design) has been of major benefit to **Pace**. Employing a system used for assessing material stress patterns on remote control underwater machines, it was a relatively simple matter to set up the evaluation controls to work out the pressures on a mountain bike frame. The decision to use box section aluminium was based on the information gained from CAD. Five tube sections were found to be optimum and dies were designed to extrude the sections to exact specifications.

SHAPES OF THINGS

The headtube is circular section with two reinforcing webs up the rear face to cope with steering and impact loads. The bottom bracket shell is the only other round section on the frame, large diameter to cope with heavy torsional load and overwidth to cope with end load. The bearings are fixed into the outer faces of the shell for maximum support and the crank spider overlaps the shell to avoid an overwidth pedalling tread.

The main frame triangle uses both square and rectangular sections. Using CAD, it is possible to assess fully the directional forces on all surfaces and to extrude sections of different wall thickness to maximise both strength and weight saving. On each section the side faces are thinner than the top and bottom faces. To reduce weight further and to give a less harsh ride, all sections are externally butted - shallow slots are milled into each face and positioned according to the particular requirements of each frame in terms of load and resilience.

The rear triangle, extruded with the external butting already in place, is offset, in order to fit an undished (stronger) rear wheel. The chainstays are spread as wide as possible into the bottom bracket shell for maximum rigidity and tyre clearance. The right hand seat stay goes through a series of bends to give maximum chain clearance over an eight speed block.

The front end of the bike features a unique one piece stem steerer system which clamps straight into the 6082 CNC machined aluminium fork crown. The crown clamps the blades in place as well as being part of the headset adjustment mechanism. To adjust, you simply loosen the fork crown locking bolts and tighten a 10mm alloy nut under the crown. This design effectively loses the weight of a stem expander bolt and steerer tube. Its only disadvantage is that the stem is not adjustable. A choice of stem length and height is available for each frame size.

The fork blades are 1.125 diameter **Reynolds** *531* (seat tube). The dropouts are CNC machined and welded into a deep slot cut up the front and bottom faces of the blades. The end result is a fork which resists torsional steering load and does not auto-steer, whilst absorbing trail vibration through the split crown design.

THE PRODUCTION LINE

An average of five frames a week emerge from the **Pace** engineering workshop. All of them are set up and welded by Duncan, with several part timers helping him to prepare the time consuming fiddly bits, such as cable guides and dropouts. The next stage is the paint shop, where several coats of Dupont Polyester Enamel are applied before a final coat of lacquer over the graphics. From there the frames are despatched to the **Pace** assembly workshop where Adrian and I try to find time, amongst all the paperwork and phonecalls, to put together a few bikes and send them out in the direction of our ever anxious customer-hassled dealers.

BACK TO THE FUTURE

The emphasis has always been on producing complete bikes for competition riders, although at least half the bikes sold probably go to people with no particular knowledge of either racing or the engineering finesse applied to the frames.

Pace are gradually changing their emphasis. Problems in obtaining the right finishing components and a change in the buying demands of the 'top end' customer has meant that the market is heading more towards 'custom' machines. Everyone wants something different. Buying a frameset and equipping it with all the latest gadgetry is an attractive option.

Pace will continue on its own evolutionary path. There's even a chance that another colour option may be introduced . . . darker grey perhaps! There's a lot more in the pipeline, but the main change of emphasis will be towards framesets, for customers to equip to their hearts content. Planning along these lines has also meant the gradual, and often painfully slow to realise, introduction of a range of top end components . . . hubs, chainrings and retrofit forks in particular.

It's difficult to get the balance right between the fascination of new development projects, making a living and getting out for a few hours riding. Time spent in the saddle is still more relevant to the progression of **Pace** than any amount of business planning, although one cannot work without the other. My attempts to keep up with Adrian on radical downhills as he tests yet another new suspension set up have resulted in my own conversion to the benefits of suspension. We all continually bounce new ideas off each other and our only wish is that there were far more hours in each day to put them all into practice.

My own bike has become a test bed for all the new ideas. It spends a lot of time in bits, giving me opportunities to ride and assess all the other machines that **MBUK** put my way. It's a tough job but somebody's gotta do it!

For further information, contact **Pace** on (0535) 6447948.

TEAM FAT CHANCE

About nine months ago, I visited a friend in Montreal. A look at the atlas showed Boston only half an inch away. It turned out to be a nine hour bus ride but I'd already decided that half an inch was probably the nearest opportunity I would get to visit two of the diverse and welcoming characters I'd met a couple of months earlier at the Cologne Show.

Gwyn Jones and Chris Chance are next door neighbours in their light industrial units in the suburbs of Boston - Somerville, to be precise. **Merlin** and **Fat City** are their respective companies, two of the most influential and inspiring developing forces on the American MTB scene.

THE FACTORY

I arrived in Boston on Thanksgiving Day, probably the most inappropriate day of the year for requesting a factory tour. But **Merlin** and **Fat City** are no ordinary factories. Both operate a workers flexi time system which allows for the fact that the eccentricities of the characters working there may well involve the desire to turn up at obscure times, day or night, to turn out a few inspired welds.

'Yo Eddy' team graffiti decorates a brick wall two streets away from **Fat City**, the only hint that you're on the right trail before entering the factory door. First impressions are of surprisingly well organised chaos - cardboard box constructed swing doors separating sectioned-off work areas, part finished frames dangling from all the spare headroom and a weird and wonderful assortment of machines suspended from ceiling beams. The characters who work here produce some of the most desirable steel MTBs in the world.

THE MAN

Fat City produce **Fat Chance** and **Slim Chance** bikes, the dirt and off-dirt versions of Chris Chance's sound acumen for all things well thought out.

It must be said that, for many, the main desire to own a **Fat Chance** is tied in to the hip image the company portrays. Their excellent workmanship and long standing reputation are the two extra factors of justification in forking out a large sum of money to acquire one of the limited number of bikes reaching our shores. There are many other manufacturers producing superb steel framed bikes but few have captured the right combination of serious engineering and the carefree playtime awheel escapades of the more colourful sides to our personalities.

Chris Chance apprenticed as a framebuilder during the 70s and started making road frames. He was converted to the off road emphasis after discovering his own riding preference. Journalist visitors to the **Fat City** factory will not escape unscathed by the genuine enthusiasm for anything with pedals and two wheels. The Toxic Tour is a regular after-visit ride, with a route passing through Boston's storage yards of illegal waste and the affectionately named 'Satan's Asshole', a blanket of car exhaust deposited carbon along the outlets of an underpass. Nearby New Hampshire also boasts some wonderful countryside, reserved for more inspired product testing and development.

THE BIKE

Every **Fat Chance** is slightly different. As any custom builder will tell you, if bikes are genuinely hand built, the character of the builder is in there somewhere. **Fat City** are a company who have 'rationalised' their custom building system, meaning that there are several 'standard' sizes and different parts of the bike are built by different people. To let you know how many builders' characters are actually in each frame, they send you a little control card headed "One Man's Work is Another Man's Play", signed by up to twenty people and including a kiss and a couple of cryptic messages.

Customers who buy **Fat Chance** bikes can usually pay extra for something special. The hot pink, white and slime green paint job on the *Team* **Fat Chance** we tested caught a lot of eyes. There are not many of them around like that and getting hold of one here will set you back well over £1000 for the frameset alone.

So what's so special? I'll ignore the components because people buying a **Fat Chance** will already have their wallets set up for maximum output in order to acquire the latest gadgetry. The frame is the structure we're looking at here.

All **Fat Chance** frames are steel, cleanly TIG welded for strong joints and reduced weight. The tubing on the *Team* is *True Temper*, custom designed to **Chance** specs. Reading the information about the amount of care that goes into the butting and the tube mitering for every joint will only tell you that the hidden bits are good as well, but then every manufacturer goes on about the bits that you can't see.

The fine detail of the frame stands out for all to see. The gussets below the headtube end of the downtube and at the top of the seat tube are subtle strength enhancing features, like the domed seat and chainstay ends. The forks are of a box crown design, straight capped tubes, superbly finished at both ends.

Cable guides are all smooth, slotted and ideally positioned for top tube side routing and, wherever you look on the frame, there's another nice little touch to add some justification to your wallet's murmurings.

Press fit bottom bracket bearings emphasise the **Fat Chance** smooth simplicity appeal. Throughout the frame, the build quality is subtle in its excellence but adds up to a heart with the souls and spirit of all who donate their minds and working days to running **Fat City Cycles**, Boston, Massachusetts.

THE RIDE

The *Team* model we played with weighed in at just over 25lb, with no especially light components. The weight saving emphasis has a lot to do with the ride quality. It's a stiff bike, giving acceleration and overall speed benefits which far outweigh the trade offs in the comfort stakes.

Reactive is the word which probably best describes the overall handling feel. Steering is direct and sharp, climbing is stable and inspiring, descending totally controllable although harsh through the bars with a radially spoked front wheel.

A lot of people in the USA are racing on **Fat Chance** bikes. I can see why. They've got the quality, the input and the craftsmanship but, above all, the **Fat Chance** image will probably be the main bait for UK purses.

Distributor in UK: Cadence Distribution (0562) 823278.