INTERVIEW

THE TITANIUM MAN

The latest range of McMahon frames and MRC components will be at the Cyclex show in a few weeks time. Steve McMahon will be there too, and he gave us a preview of his latest and trickest kit. Report & Pics by Steve Rowley

Some 70 miles north-west of Los Angeles on Highway 101 lies Carpinteria, the home of McMahon Racing Cycles. From the idyllically situated clifftop premises overlooking the Pacific Ocean, Steve McMahon told me of his passion for titanium bikes. Listening to Steve you get the impression he has a vision – the complete titanium bike, from rims to rear mech. Few others have used titanium with such success and in such a range of components. However, Steve is too wise to use the metal for applications that are not suited to its characteristics.

With frame-building experience spanning eight years, Steve McMahon has worked with steel, aluminium, carbon fibre, and titanium. He now draws on all of these materials to a greater or lesser degree to produce his frames and components.

In the early days he custom-built Tange Prestige steel-framed bikes for local riders, often building frames for strange requests. Like the time he built a16 inch frame with a 29 inch top tube for a man weighing 380 lbs. The mind boggles at what the guy looked like!

FIRED UP

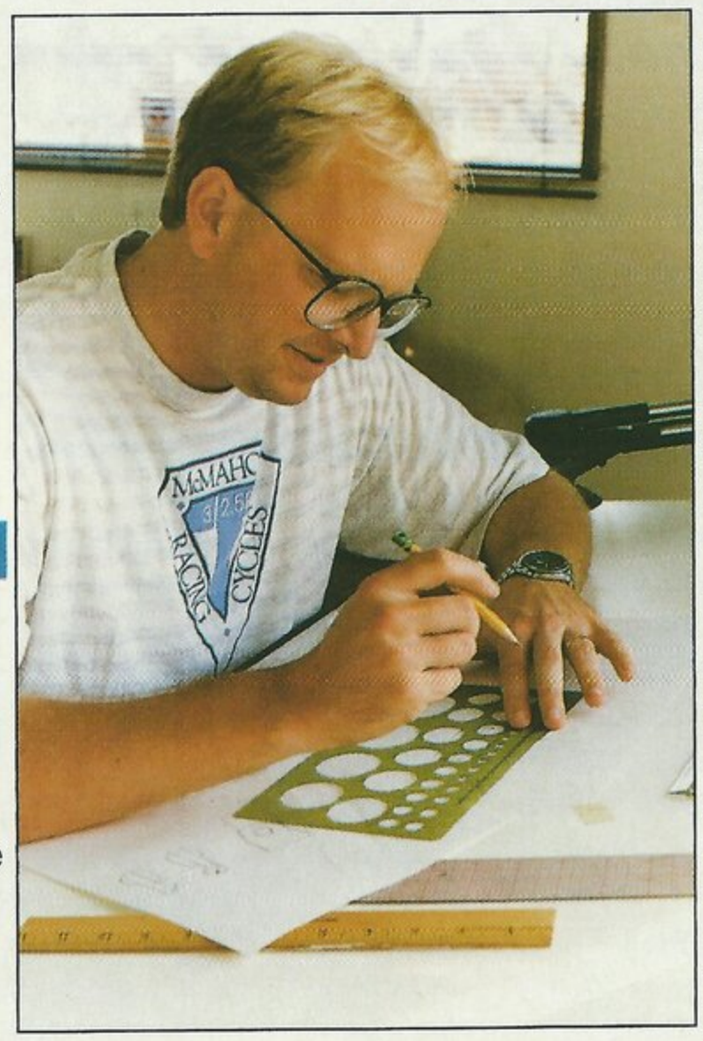
Steve's first departure from steel as a frame material was with carbon fibre. His first non-steel frame used carbon fibre tubes bonded to steel lugs. It was obviously not up to the McMahon standards as Steve quickly dropped the idea in favour of titanium. Steve got fired up over titanium about three years ago when he visited a bike show and saw lots of the stuff about. Again he bonded the tubes to steel lugs and fitted the frame with a fillet-brazed steel fork. The design generated lots of interest. Steve McMahon's entry into the world of titanium frame building had begun.

MAINTAIN QUALITY

Changing to TIG-welding methods (using Tungsten and Inert Gas, the most common method of joining mountain bike frame tubes), Steve began building titanium frames in earnest. Dealers around California snapped them up and so did serious mountain bikers. It was obvious that in order to meet worldwide demand and maintain quality something had to be done. Says Steve, 'While the quality of the tubing is the basis for a good frame, with titanium the quality of the construction is definitely the priority. The difficulty in welding titanium and the result of doing it badly is what distinguishes titanium frames. For this reason we selected Sandvik to fabricate our frames to our design.'

Sandvik Special Metals is one of the largest US titanium frame-building companies, based in Kennewick, state of Washington, and it has awesome capabilities. Not only does it make the cycle frame tubing, it has years of experience and engineering background that help produce some of the best built and well-engineered frames available. Nonetheless, all the Sandvik-built frames are further checked from alignment on MRC's impressive-looking granite alignment table before being shipped around the world.

THE BIKE & BITS



MRC produce a range of titanium frames and component to satisfy the most ardent of titanium freaks and racers. The platform for the total package is the 325R frame, made of 3Al/2.5V titanium alloy tubing (3% Aluminium, 2.5% Vanadium). There are several design features which distinguish this 3.85lb frame from other titanium frames on the market. Even when built up with lots of titanium components, this bike can weigh nearly 22lbs, so it's sturdily-built by the standards of many design-project titanium frames – and not cheap either at around £3,000 in the UK. The geometry uses a long and roomy top tube combined with comfortable angles which allow riders to perform in a wide range of conditions. New for 1992 is an ovalised 1.5" down tube at the junction with the head tube. A wide bottom bracket shell allows good rear tyre clearance and increased support for the MRC titanium (what else?) bottom bracket spindle. This retro-fit item is now produced with threaded cups, English threads. Every frame comes with seatstay-mounted U-brake mounts. Steve does not like cantilevers because, 'They don't work as well, they have diminishing mechanical advantage'. Instead, he recommends his own design MRC 'Power Link' brake (which mounts onto the U-brake studs) which, he claims, progressively

THE TITANIUM MAN

exerts more grip as it is operated. As the brake lever is pulled the roller-cam-style straight brake callipers are forced apart, rather than pulled together like cantilever arms. For this reason, the lever action of cantilevers become weaker as the pull increases. However, past experience suggests the Power Link brakes are more prone to clogging than the cantilevers popular in Britain. The bushes on the Power Link brakes have grooves to hold grease, and Power Plate straps – like brake boosters – can be added to cut down on flex.

It is attention to mechanical design that has given Steve an edge in the world of titanium MTB's. Take the MRC seatpost for example. While I was there, Steve was redesigning it to make it both lighter and more functional – the tubes are drawn to size, 26.8mm or 27.2mm (no shims), and weigh around 165g for a 330mm post. He never stops refining and improving MRC products.

As well as the new seatpost, MRC has a new mountain bike fork for 1992. Weighing 1.51 lbs, the fork has a titanium steerer with carbon fibre reinforcement, an aluminium clamp-type crown, and titanium blades which are again reinforced with carbon fibre.

I saw a prototype titanium unicrown fork which weighed an incredibly light one pound – but it's unlikely that this model will ever see the light of day due to the high cost of production. Nonetheless it is an indication of Steve's innovative approach to component design.

There's also a new MRC suspension fork which, utilising titanium construction with elastomer technology from Uniroyal, weighs in at around two pounds – very light. No pogo stick this one.

Steve is working on a titanium SPD-compatible pedal which also promises to offer considerable weight saving over the original, and in the States these now sell well along with the XC Pro spindles.

Other trick bits include the lightest stem on the market (190g with Ti expander bolt), handlebars, and the Ti springs in the Power Link brakes.

HAWAIIAN INTERVENTION

Prior to last year's Interbike Show at Anaheim, MRC was approached by an artist in Hawaii with an offer to apply trick finishes to the frames. Steve agreed, and the finish, an attractive anodised purple marbling, was resplendent on his bikes at the Anaheim show.

The normal finish for MRC frames is a handsome bead-blasted matt finish, though Steve sometimes produces others to order including an inconspicuous black.The black disguises the titanium and makes the bike less likely to be stolen.

As the day grew long I realised it was time to say goodbye to Steve McMahon and continue on my way. Earlier, watching from a window that overlooks the Pacific, I had witnessed pelicans diving into the ocean. Dolphins had danced among the waves. Now the sun was setting, and a more tranquil view would be difficult to find. Behind me lay the hills and trails above Carpinteria. An idyllic setting to dream up beautiful equipment.

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Steve McMahon will be attending Cyclex 1992 at Olympia, London, and you will find him at the Nicol Trading stand or the Cadence stand. A bike test of a built-up McMahon appeared in the Midsummer 1991 Issue of *Mountain Biker*.