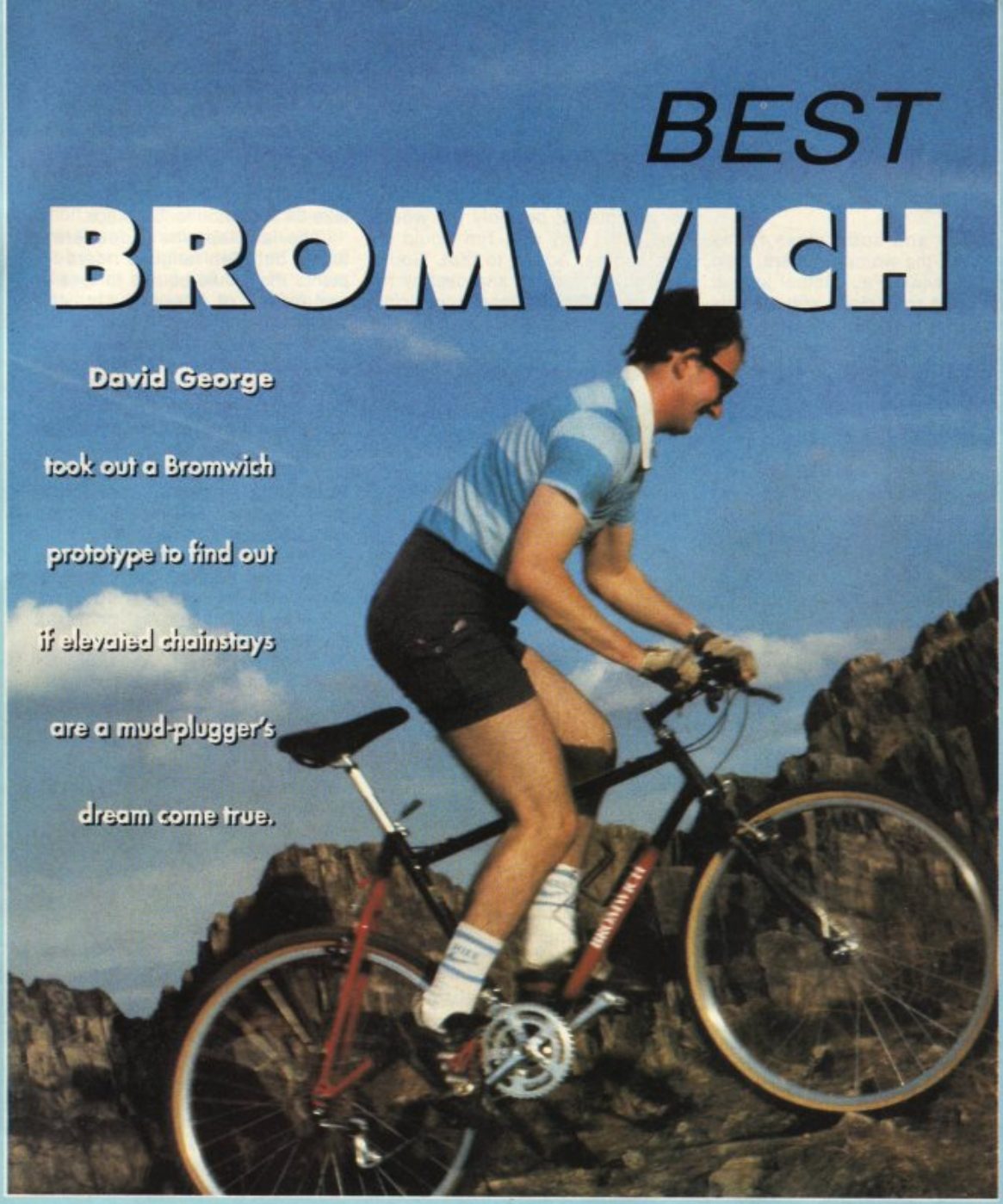
BEST BROMWICH

David George took out a Bromwich prototype to find out if elevated chainstays are a mud-plugger's dream come true.



As soon as I picked this one up from Bromwich Cycle Works in Coventry, I realised I was onto something special. It's not every day I get to road-test a bike with a frame as radical as this one.

The bike in question is a custom-made prototype built by Jim McIlwaine and features wishbone seatstays, sloping top tube, semi-straight forks and elevated chainstays.

Stay Territory

For those not fluent in 'tech-speak', elevated chainstays run from the rear dropouts, up and over the chain where they join the seat tube above the front mech. Conventional stays run under the chain and are brazed on to the bottom bracket.

Elevated chainstays have several advantages over the conventional arrangement. They eliminate chain 'suck' or 'slap', where the chain gets trapped between the stay and the tyre, and they allow easy chain maintenance and wheel removal. Since they also build up into a smaller rear triangle, it means an effective chainstay length of 15.5 inches - much shorter tham most MTBs - is possible.

The only disadvantage is extra stress on the bottom bracket. This is because it is supported by only two tubes, instead of the four usually found on a normal frame. To cope with this problem and prevent flex, the seat tube on the Bromwich uses oversize 1.25 inch, 18 gauge tubing, lined with an internal sleeve for extra stiffness. This stops flex and offers a larger brazing area but does mean a slight increase in weight.

The frame and the one-piece stem/bars are constructed entirely from Reynolds 531 All Terrain tubing. Joints are hand fillet brazed to an excellent standard. Each joint has been rubbed down and given a large radius for increased contact area. This results in increased strength and gives a smooth lugless finish which reflects the quality and precision of a handbuilt frame.

The geometry of the frame is race-orientated. The low-rise one ▶

piece stem/bars offer an aggressive, stretched riding position. The sloping 20.5 inch top tube is shorter than that of a conventional frame and consequently is a little bit lighter and stiffer. This arrangement permits the seat post Q/R to be positioned in front of the seatpost

instead of behind. As a design student, I've always thought this would be the ideal position, much easier to operate while riding the bike, and preventing mud and water, thrown up by the back wheel, from entering the seat tube.

The rear wishbone seatstays, theoretically, offer greater stiffness than conventional stays and also contribute to the great look of the bike.

The Ride

Enough about the technical aspects of the frame - you want to know how it rides. The short answer is the performance is excellent. Despite the short and stiff rear end, the ride is not as hard as expected. In fact, it is very comfortable and yet instantly responsive when putting on the power. The 72.5 degree seat angle positions enough weight over the back wheel to make climbing easy, while the stretched riding position prevents the front wheel rising up when using low gears.

Steering is done via a 70.5 degree head angle and a pair of semi-straight unicrown forks with a rake of 1.75 inches. This proved to be a very effective combination. The steering provides absolute control at both ends of the speed range without a hint of the harshness or twitchiness sometimes associated with straight forks and race geometries.

The bike instils the sort of confidence that makes you want to throw this machine into any corner at any speed knowing that you will most likely emerge unscathed. Slow, technical descents were executed with ease as the saddle can be dropped right out of the way leaving you to concentrate on balance and riding line. The positive steering helps here as the optimum control needed to get out of trouble is easily obtained.

The componentry on the prototype is a selection of bits from major manufacturers. Transmission and controls are mostly SunTour XCD 9000 with the exception of the front mech - a modified Shimano 600EX braze-on type. Rear changing with the SunTour Accushift XC 9010 short cage mech proved quick and sharp. The Shimano 600EX coped well with the Stronglight double chainset.

I was less impressed with the thumbshifters. These are XC 9000 and were surprisingly stiff to use. The front shifter uses a ratchet type mechanism and had to be pushed further than needed in order to move up one ratchet notch. I prefer the smooth friction action found in Shimano gear as I feel it is more accurate and positive.

The XC 9000 brake levers were a different story - very comfortable and ergonomic. Similar in shape to the Shimano Deore XT levers, these SunTour ones have a rubber sleeve which adds grip and a slight, very pleasing, cushioning effect. 2mm oversize cables add to the positive feel.

The frame uses XCD 6000 cantilevers which worked well enough but I could not help feeling that they could have worked better. Rims are the already established Specialized X26 built on to SunTour XC 9000 Q/R hubs. This combination showed no faults throughout the test.

These views of the componentry are fairly critical but because the bikes are built to order, customers can specify their own choice of equipment. Otherwise, what impresses me most about a custom-built bike whenever I ride one is the attention to detail. This Bromwich model is no exception. All cable guides are robust, sensibly placed and slotted for maintenance. At each cable stop there is a precision milled brass barrel which supports the cable outer and maintains a smooth run for the cables.

Paintwork, done by the builder, is flawless and the two colours - black and flame red - work well together. The frame is cleverly sprayed. Attention is immediately drawn to the innovative rear triangle by painting it red in contrast to the black of the main tubing. This blackness is broken up by a red band on the down tube where the decals are fitted. These are a clever understatement and their plainness, to me, simply oozes quality. Of course, choice of paintwork can also be specified by the customer.

Needless to say, a high class bike like this has a matching price-tag. At over £400 for the frame, a complete bike with a top quality specification is likely to be in excess of £1000. In my opinion, it's worth it. It certainly offers something different and the ride is excellent.

Breaking away from tried and tested products has always been difficult. Witness the U-brake, which was hailed as a braking revolution 18 months ago and is hardly seen now as many new bikes have returned to cantilevers. Is this new elevated chainstay design, 'change for change's sake' or is it a genuine progression for MTBs? Only time will tell.

TECH SPEC

Frame:
Sizes to order. Reynolds 531 All Terrain throughout. Wishbone seatstays, elevated chainstays, sloping top tube, bottle mounts. Other braze-ons to order.

Forks:
Reynolds 531 Unicrown, semi-straight forks.

Geometry of 19" test bike:
Top tube - 20.5 ins
Chainstays - 15.5 ins
Bottom Bracket Height - 11.75 ins
Fork Rake - 1.75 ins
Head Tube Angle - 70.5 degrees
Seat Tube Angle - 72.5 degrees
Wheelbase - 42 ins

Transmission:
Stronglight 100LX Double 44/32 Chainset; Specialized Bottom Bracket; SunTour XC 9010 Shortcage Rear Mech; Shimano 600EX front mech; MKS Footjaw pedals; Sedis Mountain Chain; SunTour 6-speed 13-28 freewheel.

Controls:
Steering - Reynolds 531 one piece flat bars and stem. Sizes made to order.
Tange Falcon Headset; SunTour XC9000 brake levers and shifters; Cassano rubber grips.

Brakes:
SunTour XCD 6000 cantilevers front and rear.

Seating:
Selle Royal Licra saddle; Kalloy microadjust 300mm seatpost.

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