



bike porn

EMPIRE

prototype

Price: Priceless Prototype

From: Empire Cycles www.empire-cycles.com

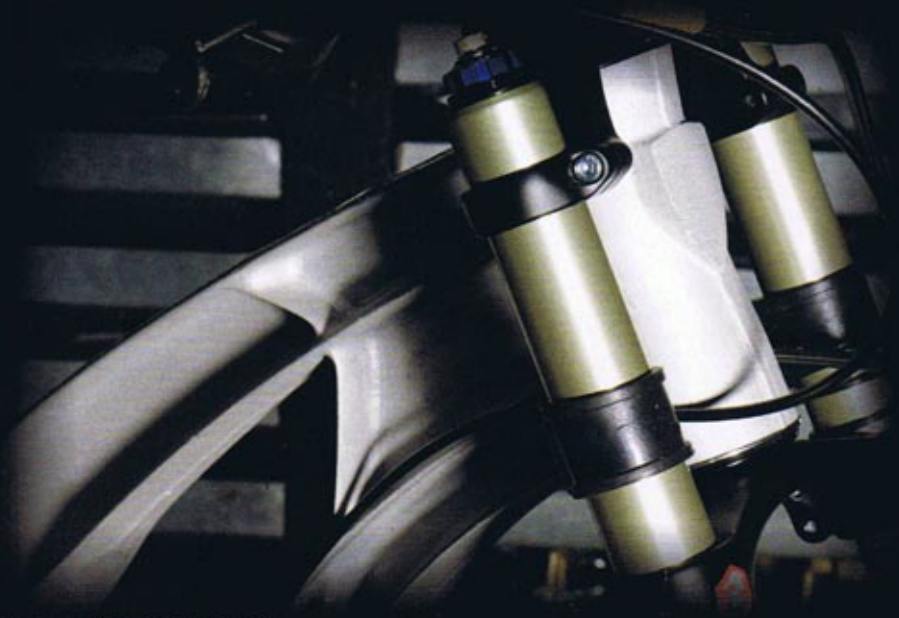
Look in most manufacturers' brochures and you'll find a plethora of bent and hydroformed tubes in increasingly odd shapes. While others go in search of the most extravagant shape to make a piece of alloy pipe, Empire has abandoned tubes all together. Utilising technology that's been holding the likes of Honda's motocross bikes together, Empire is breaking (or rather making) the mould in their workshops in Lancashire.

Casting metal in sand is an age-old process, but a process that has been refined to become a viable option for producing highly detailed and massively strong structures for modern appliances. Internal shaping is possible and, thanks to all kinds of clever computer programs combined with a great deal of know-how, wall thickness can be paired down to the minimum without compromising strength. Sand is probably the wrong word to describe the fine talc that is

used in the casting process, fingerprints left in the sand can end up on the metal as it is so soft and impressionable, yet it can withstand molten alloy being poured into it and cool it at precisely the right temperature to leave a structure that is light, strong and as intricate as any hydroformed tube you could find.

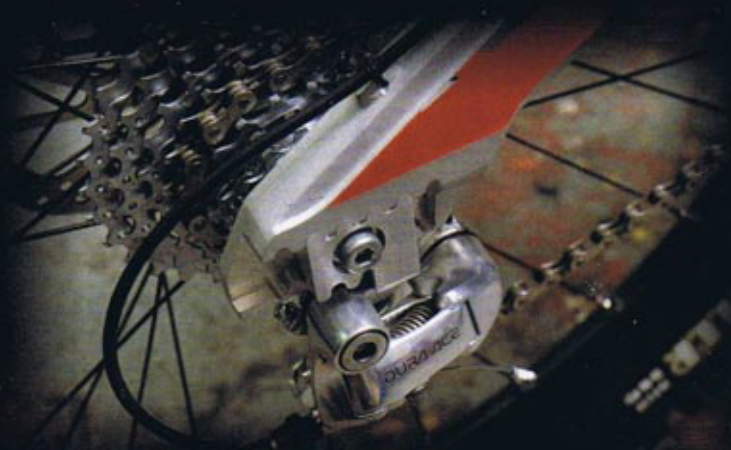
Craig Robertson and Chris Williams, the brains behind Empire, aren't just taking a wild gamble with this though, it's a very well thought-out enterprise. Chris has a lot of experience in working with casting, helping design motocross swingarms amongst other things.

As the owner of Ride On bikes Craig has been lucky enough to have access to the latest in suspension technology from many of the current Downhill World Cup manufacturers. After riding and analysing them all it may be a shock to some that the cutting edge Empire uses an old fashioned single pivot design. Like casting though, sometimes



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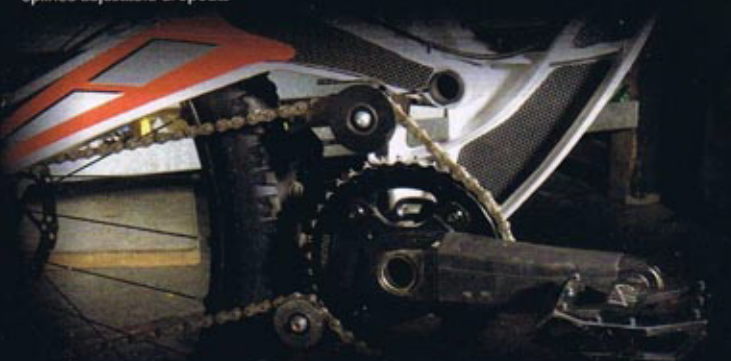
Can you say 'intricate industrial chic'?



Splined adjustable dropouts



Bolt-on seat mast above regular sized pivot bearings



Drive roller in line with pivot means no pedal feedback

the oldest ideas are the best. A single pivot system is reliable, strong and, when done right, leaves you wondering why you need an acronym-heavy, multi pivot, bike at all. It just works, and works well, especially when it's combined with a shock with the performance and tuneability of the Ohlins designed Cane Creek Double Barrel seen here.

Everyone who has ridden the bike has talked about how confidence inspiring it is - too much so, judging by the scuffs on the brake levers. They also rave how the bike accelerates like nothing else thanks to proven geometry and its relatively low weight (for a DH bike anyway).

But it's not all science, the Empire is lucky to be aesthetically as strong as it is structurally. The lines of the frame are sleek and visually make the bike look dynamic, but also give you a certain feeling of

invincibility when you're sat astride it. Clever features such as using the horizontal edges to attach the cables and hoses to, combined with common sense usage of easy-to-find industry standard bearings and bolts show that the Empire is born out years of experience on the hill as well as back in the workshop.

The most exciting thing about this bike is that this is just the beginning. The production models are nearly done, with all edges and surfaces cleaned up and given some anodising. Beyond those are plans that involve lightweight gearbox set-ups that use the frame as a shell and even a 5in 'All Mountain' version. Indeed, talking to Craig it appears that the possibilities are endless and that this really is the tip of the iceberg, both for cast metal technology in mountain biking and for Empire itself. **st**