

6. HAGON

SUSPENSION SPECIALISTS

Established: 1958

Based: Hainault, Essex

Why they're great: Manufacturer of suspension for over 1000 different models of motorbike.

"You'll definitely walk out with swarf on the soles of your shoes," says Hagon's Head of Sales, Tony Hutchinson, describing the manufacturing company where he's worked for eight years. Formed in 1958 by famous grasstrack and drag racer, Alf Hagon, the company is still run by Alf's former world champion son, Martin.

They have the springs wound to their specification, but virtually everything else is made on-site. This is good honest engineering that's British to the core, and all done beneath one corrugated roof, under the provocative gaze of a dozen glamour calendars.

Hagon list shock fitments for over 1000 twin shock, monoshock, classic, race and road bikes. Kits for lowering bikes is also a growth area, and Hagon build shocks to order so, as Hutchinson puts it, "They're built to suit the vertically challenged or less aerodynamic riders."

Wheels are built upstairs. Rims and hubs are bought in, then the wheels are laced by hand.

All around the two-storey factory are spotless speedway bikes, many of them from the past few years; methanol-burning reminders of the amount of sponsorship Hagon put back into bike sport, nearly 60 years after they started in business.



Aside from the springs, everything at Hagon is engineered on site and by hand

7. REYNOLDS ENGINEERING

FABRICATION GURUS

By Adam Child
SENIOR ROAD TESTER

Established: 1993

Based: Milton Keynes, Buckinghamshire

Why they're great: Sublime engineering, and builders of the trackday addict's ultimate drug.

This is the probably the best chance you'll ever have to own a CRT MotoGP bike. The stunning DR Moto, built by Reynolds Engineering, is powered by a heavily tuned R1 with

nearly 200bhp, propelling this 160kg, MotoGP-eligible, trackday weapon into a class of its own.

The frame, swingarm, rear sets, and shock linkages are all made from billet aluminium, which means it's lighter, stronger, and precision built. Imagine turning a solid block of aluminium the size of several breezeblocks into a section of frame weighing just 1kg. These sections are then welded together to create an ultra-lightweight, billet aluminium chassis. It looks, and indeed is, incredible.

All the development and engineering

has been carried out by Dean Reynolds, founder of Reynolds Engineering, which produces machined components for clients in F1, WSB, BSB and MotoGP, and were one of the first to produce full billet swingarms.

The engine started life as a cross-plane R1 unit, but is unrecognisable now. Internals include Pistal pistons, Pankel titanium rods, a Nova gearbox, YEC kit generator, Suter slipper clutch, active bell-mouths, and a billet factory-style deep sump. The whole lot is controlled by an M800 Motec ECU via a ride-by-wire throttle. The engine and

ECU alone account for £25,000. But the motor is now developing 198bhp and 112ftlb of torque. The electronics package is immense, uses a Motec 'Advanced Dash Logger' ADL2 dash and takes information from almost every part of the bike; from suspension potentiometer front and rear, to airbox temperature and pressure.

While the spec is mind-boggling, it's nothing compared to the experience of unleashing it on track. It snarls with total aggression as Dean warms the motor ready for my first outing. My ears are intoxicated by the noise, Dean



'A MotoGP bike you can buy'

8. RENTHAL

HANDLEBAR KINGS

Established: 1969

Based: Stockport, Cheshire

Why they're great: UK company that has a hand in 180-plus world titles and 62 TT wins.

When Henry Rosenthal grew sick of bending his handlebars every time he took a spill, it was his aunt who suggested making replacements from

aluminium instead of thin-wall mild steel. His friend, Andrew Renshaw, bent up the first set, and the duo soon combined their names and set up in business together.

Renthal products have been fitted to so many world and national championship-winning bikes it's hard for the factory to keep count. At the last count it was 181 world and 184 US motocross titles, as well as 62 TT wins.

A workforce of around 90 staff produce handlebars, clamps, clip-ons, levers and sprockets, trusted by some of the greatest racers of all

time. Renthal grips and chains are manufactured elsewhere.

While the manufacturing base is still in the North West, in 2006 the company was sold by the founders to US group, MAG, who own a number of brands including Vance and Hines and Roland Sands Designs.

Renthal produce consumables, items that wear out, like sprockets, or are damaged in a crash; stuff we need throughout our riding lives. It is their heritage, reputation, innovation and marketing that keep buyers returning to Renthal.





Billet aluminium frame, carbon-fibre bodywork and 198bhp justifies the £90,000 pricetag



Motec dash displays endless information



Carbon-fibre is flawless and functional



Crossplane R1 engine now packs 198bhp



Reynolds were first to make billet swingarms

gives me the nod, and I head out onto the Rockingham circuit on pre-warmed Pirelli slicks.

The R1-derived motor proves to be remarkably linear, which isn't what I was expecting. When not using the clutch on backshifts – it has an auto blipper – it backfires and crackles into the braking zones. I love it. After a few laps of acclimatisation I start to stretch its legs, and immediately the track feels comically small.

The straights just aren't long enough to really let it completely off the leash. You can get on the power early

for the pit straight as there's masses of grip from the rear, with the Motec electronics controlling a perfect blend of wheelie and drive. Tap two gears in rapid succession and I'm back on the amazing stoppers in what feels like a fraction of second.

The brakes are phenomenal, and part of a front-end set-up you'd find on a front-running CRT bike. The £3000 Brembo stoppers aren't just good looking, they're like a pair of vices bolted to the sublime £8500 Öhlins fork. It's one of the best front ends I've ever tried.

It seems to take no effort to get it to the apex. It's so light, and flicks and turns with such ease and fluidity, while the 16.5in Pirelli slicks offer a huge amount of grip and feedback. It feels like you'll never run out of lean.

I only tickled the surface of what this bike is capable of. It's an engineering masterpiece – and it works. A GP-level rider could get this on the grid, and if you've got the money, it's the closest you're ever likely to get to lining up next to Rossi and Marquez.

10. XENOPHYA DESIGN DESIGN HOUSE

'The Enfield we designed now sells over 300,000 units a year'

Established: 2001

Based: Cramlington, Northumberland

Why they're great: Styling house for Triumph and Royal Enfield.

Unlike Massimo Tamburini or Pierre Terblanche, you probably haven't heard of Xenophya [pronounced Zen-of-i-a]. But the Northumberland-based design company, founded by Mark Wells and Ian Wride in 2001, is becoming increasingly influential.

"We've done a huge amount of work that will never see the light of day and that is the hardest part of establishing a design company," says Wells. "Gaining a reputation has been an incredibly hard slog, but Royal Enfield invited us to the press launch of the Continental GT, that we designed, and Triumph credited us with the styling of the Tiger Explorer.

"Our biggest measurable success was probably the Royal Enfield Classic because it's a bike selling 300,000 units a year. The Rieju RS3 was a nice little bike, too. But for my own personal satisfaction, the Royal

Enfield Continental GT felt like a life goal achieved because it was a bike I felt I grew up with, going to classic bike races with my parents as a boy.

"Design is highly valued in Britain. But, people talk about British, Italian or German design, despite most decent-sized design studios being staffed by a multinational group of designers. For instance, Pierre Terblanche is South African; the designer of the Ducati Streetfighter was French; the lead designer of the last Monster is Dutch, while one of the top designers at Kiska [the design company that works exclusively for KTM] is a talented young British bike designer called Craig Dent.

"We're interested in global bikes, ones that can sell all over the world. There are 12 million motorbikes sold every year in India alone. We're also excited about a project we've been heavily involved with, making £60,000 replicas of Peter Williams' 1972 Norton Monocoque racer. We've nearly completed the first two and it will be launched very soon."



JASON CRITCHHELL

Wride (left) and Wells (centre) are designing machines for the masses

9. RACEFIT EXHAUST INNOVATORS

Established: 2004

Based: Darley Dale, Derbyshire

Why they're great: Featherweight titanium exhausts for the connoisseur.

Derbyshire's Racefit have gone about creating their exhaust business with admiral individuality. Their titanium slip-on end cans, for the most popular superbikes, gained a cult status for

being incredibly light and especially raucous. When Racefit started making their Legend systems – retro looking, titanium complete exhausts for four-cylinder naked muscle bikes – the exhausts were fitted to some of the toughest street bikes in the country.

In a switch to the normal way things happen, the credibility and reputation built up supplying the street market actually attracted the attention of race teams. Michael Dunlop won the inaugural Classic TT Formula 1 race on a stunning Suzuki XR69 fitted with a Racefit Legend.

"We're busier than ever," says co-founder and bearded ball of enthusiasm, Jon Keeling. Racefit also build show-stopping specials to promote the brand. The bikes have helped accrue a global following of builders who appreciate the quality and relative obscurity of the British company, compared to the products of companies who can afford to sponsor MotoGP teams.

Guy Martin, a long-time admirer of company, had Racefit make the one-off exhaust for his own turbocharged Pikes Peak racer.

