



Moto2 bikes feel unexciting unless you push them hard, but the Taylormade is friendly, plush and a lot of fun'

Michael Neeves



FIRST RIDE

TAYLORMADE FOR MOTO2

The Moto2 racing class rules inspired this imaginative concept race bike. MCN gets the first UK ride

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There's nothing remotely normal about the scene at 2.45pm on this Sunday, the 14th of July. It's the Goodwood Festival of Speed and lining up to ride the famous hillclimb (basically, Lord March's garden path) are a stream of current F1 cars. Jackie Stewart's Elf-sponsored Tyrrell Ford dribbles by, inches from my left toe-slider. Highly-strung engines are straining at the leash behind us, ready for their run up the hill.

Sitting in front of me is Freddie Spencer on his 1984 'upside down'

WHAT'S THE STORY?

■ In its first ever UK appearance, we ride the innovative Taylormade Moto2 concept bike up the hill at Goodwood Festival of Speed. We also catch up with the bike's creator, Paul Taylor, to see what inspired its creation.

Honda NSR500, freshly restored and sent from Honda's museum in Japan. To my left there's Kevin Schwantz on his '93 Lucky Strike Suzuki RGV500 and Kenny Roberts straddling his home-built KR3 500cc triple. Behind is a who's who of the racing world, past

and present: Walker, Haydon, Agostini, Davies, McGuinness, Hill, Lowes, Camier, Laverty, Cluzel, Hutchinson, Miller, Anstey, to name a few - all riding some of the most recognisable racing machines in history. Making the biggest racket is Mamola, warming up Rossi's 800cc Desmosedici GP11...

The machine I'm about to thrash up the garden path fits right into these surreal surroundings. The American-built Taylormade Moto2, swathed in carbon, is anything but ordinary. Looking for all the world like a two-wheeled stealth bomber, it's not exactly pretty, but it's packed with innovation.

When the new Moto2 class' rules were announced at the end of 2009 it got bike designers very excited. Honda 600cc 'control' racing engines had to be used, but they could be bolted into anything, thanks to 'free' chassis rules.

Imaginations soared, the sky was the limit for innovative chassis design and we fantasised over a grid full of funny front ends, carbon frames and rim-mounted discs. But it never happened.

In the end everyone went for the safe option and all the Moto2 bikes that lined up for the first race of the new dawn in Qatar on April 11, 2010 (won by the late Shoya Tomizawa on a Suter), were boringly conventional, and still are. In the racing world, teams tend to go with what they know they can win with, out of the box - it's too risky and expensive not to.

Transatlantic dreamers

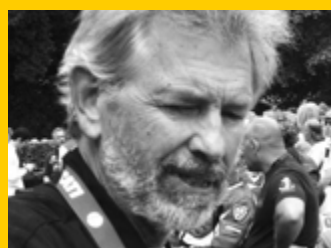
Brit-born Paul Taylor of LA-based Taylormade Racing was one of those people inspired by the new Moto2 rules. He teamed up with talented UK designer John Keogh to come up

with the bike I'm now sitting on at Goodwood, engulfed in a cloud of two-stroke smoke from the Suzuki that Schwantz has just wheeled-off the line in front of me.

Paul Taylor is no stranger to building successful race bikes - his own Saxon-framed 980cc Triumph raced in the free-ruled American and European 'BEARS' series in the 90s and even beat the mighty Britten at Monza in 1995. John Keogh has worked with Roberts' GP and WCM race teams, as well as being on the design team that created the Buell Firebolt and Lightning.

Taylormade Racing's day-to-day business is creating beautifully-designed exhausts and carbon fibre bolts-on (www.racetaylormade.com).

Honda engine aside, this bike is nothing like a conventional Moto2 racer. It has a carbon composite monocoque



INTERVIEW: PAUL TAYLOR

'Moto2's rules captured our imagination'

"I've always been interested in building bikes and I have my thoughts on what can give you a competitive advantage. The sort of bike I'm interested in is one that I've designed, not modifying something that already exists, like a production bike.

"After the 90s, when there were innovative open classes like BEARS and Sound of Thunder, the racing world went to production-based racing and there was no avenue to express new ideas.

"I got into racing in the first place to see if my ideas were any good rather than doing it for the sake of doing it. Racing is the arena to find that out because the feedback is immediate, on the stopwatch.

"The Moto2 rules captured our imagination. Here was an open prototype class, at a high level, where we could do what we want and explore our ideas.

"The plan now is to get a wild card entry in Moto2 in Austin next year. We've done the development of the bike and feel it's solid. We now want a hot-shot rider on it to give it some stick."



Tank surround (above) is part of monocoque frame. A-frames let forks deal with bumps, not braking forces

chassis and a funny front end. The radiator is mounted to the underside of the seat unit, fed fresh air via a scoop that runs from the fairing nose and through the middle of its vertically-mounted fuel tank (see tech highlights, right).

With a funny front end, all braking forces are absorbed by an A-frame mounting, which leaves the forks free to worry only about bumps. The forks won't stick or bind at full lean, and because they dive in the normal way, they help you turn into a corner. Well, that's the theory.

Now I'm apprehensive as I prepare for my run up the hill. I'm on cold Dunlop slicks and the mile-long strip of Tarmac ahead has a pronounced crown, perfect for high-siding, or losing the front. The surface is dirty after runs by a dozen showboating rally cars.

Designed to be narrow for minimum aerodynamic drag, the TaylorMade's slim proportions make it feel unusually long. You sit low in the bike and the pegs are set further forward than most race bikes. It's soft, too, which is a trait of many a 'funny front end' machine. Whether it's this, the Vyrus Moto2 machine with hub-centre-steering, a Bimota Tesi 3D, or the French Metis World Endurance bike I've ridden,

the idea of separating braking forces from absorbing bumps is the same, so the front suspension doesn't need to be stiff to support the bike under hard braking.

Screaming up the hill

We're off and screaming up to the first right-hander. The CBR600RR motor is sweet. It's nothing like a road-spec one, which feels like you've got the back brake jammed on when you hit the throttle. This racing engine revs instantly and delivers a strong, consistent wave of thrust, belying its capacity. Being so light (140kg, wet), the feeling of acceleration is even more vivid. The gearbox is a gem, slicing through quickshift-assisted gears.

Hitting the brakes and turning into the first of Goodwood's tight turns is the first chance to feel the bike's front suspension. It feels great. Six-piston ISR brakes plus bugger-all weight to pull up equals GP levels of stopping power. The steering is light, crisp and there's lots of feel for a cold, squirmy front Dunlop. It gets better the faster we go and that engine feels so nice I want to unbolt it and take it home with me.

The TaylorMade is low at the back compared to a normal racer. I must

be too heavy for it (ex-Buell test rider Shawn Higbee is the regular development rider) and I squash the rear down too much on the power. It makes the machine go into a gentle weave, probably accentuated by a short 1375mm wheelbase and steep steering geometry.

This is a pure-build Grand Prix machine and it's designed to work specifically for its rider, not be a one-size-fits-all bike, like a CBR600RR. I'm sure if it was set up for me and we were on a racetrack, the instability could be dialled out.

Before I know it I'm at the fastest and last part of the hillclimb, pinging through the gears over the finish line for a final adrenalin injection. It all ends too soon and I'm back in fantasy land again, propping the TaylorMade against a wooden post at the top of the hill, next to GP, WSB and BSB bikes.

Riding the TaylorMade at Goodwood has left me wanting more. Moto2 bikes I've ridden before have been so stiff they've felt dead and unexciting unless you push them hard, but the TaylorMade is friendly, plush and a lot of fun. I'd love to get it out on a proper track, lean it right over and see how the sum of its very clever parts and ideas work at full speed.

TaylorMade Moto2 tech highlights

1. Front end**Separating braking forces from the suspension**

Honda CBR600RR USD forks with 43mm sliders (up from 41mm), mounted upside down. The bottom 'yoke' is connected to the cylinder head via a carbon composite A-frame. The top 'yoke' is fixed to the monocoque and has a controlled joint, which allows movement as the forks move through their full arc. The Honda forks have 25% lighter springs and are re-damped (by Traxxion Dynamics in Woodstock, Georgia) to suit the reduced weight of the bike and lack of braking force.

2. Monocoque chassis**Strong and super-lightweight**

The one-piece hunk of feather-light carbon you see as the fuel tank and bodywork is the chassis, with the Honda CBR600RR engine as a stressed member. Bolted to the monocoque is a self-supporting carbon seat unit, top 'yokes', clocks and fairing.

3. Vertical fuel tank**Keeping the centre of gravity consistent**

The fuel tank is built into the monocoque (TaylorMade's philosophy is that each part should do at least two things). It's positioned vertically so the centre of gravity doesn't change as the fuel load goes down. It

has a hole running through it to accommodate the air duct, which runs from the nose of the bike to the radiator at the back.

4. Carbon composite swingarm**Light, strong and flexible**

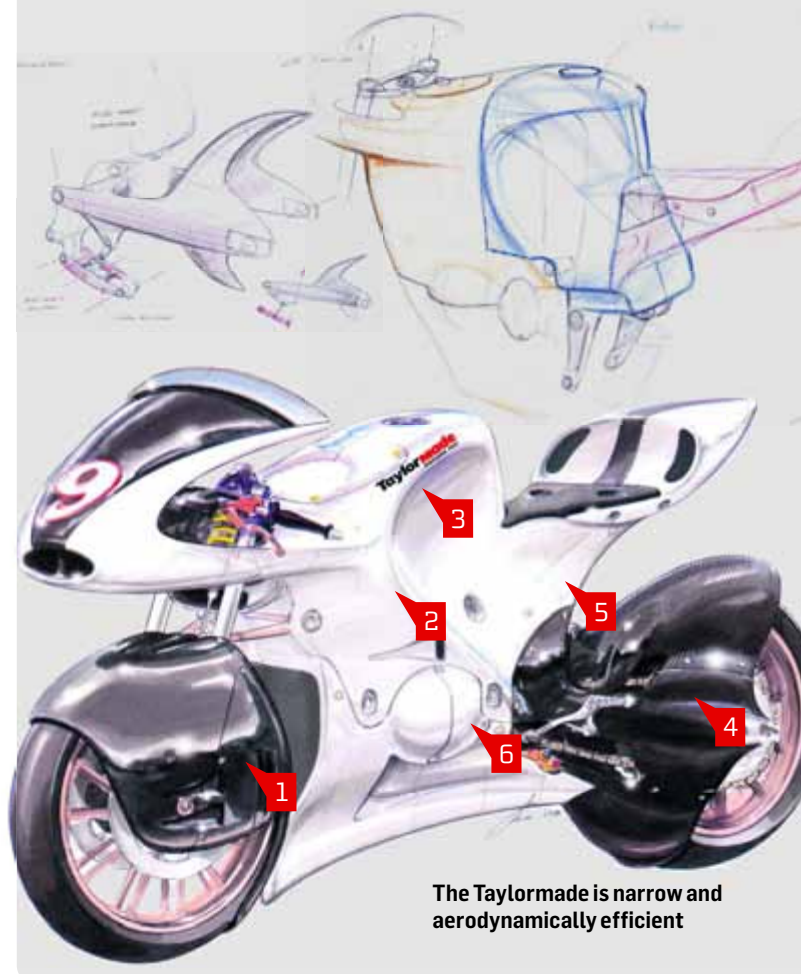
A 585mm long, carbon composite swingarm, bolted to the back of the engine, is in its fifth evolution, as they strive to find the right balance between flex, feel and strength. The suspension linkage, shock set-up and ride height adjuster are manufactured in-house.

5. Rear-mounted radiator**Ultra-light and efficient cooling**

The radiator is mounted in the 'undertray' area of the seat unit. It's fed fresh air via the huge air duct in the nose of the fairing, which runs all the way through the bike. It's more efficient than a standard radiator and a third of the size. Airflow from a normal radiator is blocked by the front wheel and forks and is heated by the exhaust headers.

6. Honda CBR600RR engine**Control Moto2 unit**

Control Honda CBR600RR motor, supplied by GEO Technology, is estimated to make around 125bhp. It's moved 50mm closer to the front of the bike, thanks to the lack of front-mounted radiator.



The TaylorMade is narrow and aerodynamically efficient