

APRILIA SHIVER 750

 RIDING MASTERCLASS
 HOW DO THEY DO THAT?

 • California Superbike School: Level 2
 • Stunning feats on two wheels explained



Carbon wheels not only look stunning, they dramatically improve performance too. But by how much?

s well as helping towards a spiralling global depression, our wonderful Government is also spending our hard-earned cash on porn, furniture and presents for their crippled parents. They've cut VAT, but also bumped-up fags and booze, and generally enjoying ourselves is definitely not allowed. If that wasn't enough, the world's leaders are hellbent on culling more horses than Beechers Brook: soon we'll be stuck with 100bhp and electric scooters.

Whether we like it or not, the internal combustion engine will become extinct in years to come. Maybe not in our lifetime, but the everlasting search for sacred horsepower is hitting us now. The tree-huggers are getting chopsy, the environment is getting damaged, and the Ozone layer is gaping. It's time to search for fresh alternatives.

Shedding weight, advancing electronics and a barrage of new suspension technology are key areas already being worked on. In fact, engineers involved in racing have been experimenting for years now, including using composites like our

friend, carbon fibre. This research is now trickling down on to the production line for you and me to sample everyday. In case you hadn't noticed, we're



enough power and not enough control. Time to get scientific. Here we have one Yamaha R1, belonging to Moby's longterm fleet. We also have a pair of BST Carbon wheels, a track (Castle Combe), some datalogging equipment, and one fucking fast, sexy-ass rider (who cancelled, so we had to use Al - Ed).

FEATURE



WORDS BY: ALASTAIR 'A-FORCE' FAGAN PICS BY: FLOW

kinda big on modifying here at FB. We're also hot on getting the best for our buck and letting you in on our secrets. All too many folks get giddy with horses running around their heads and chuck-on an exhaust system to remedy the gallops. But is, let's say,

The aim is to back-to-back the R1's standard wheels with the carbon BSTs, to see if the £2k asking price is warranted. To keep things super-fair, we used a brand-new set of Bridgestone BT-003 RSs for each set of rims, and limited laps to ten each. Fastest time wins.

Before starting, it's essential to note that Moby fitted Akrapovic Evolution cans and a Y-piece to the Yammy. This semi-system retails at £1,300 and

G WE'RE TESTING THEM BACK-TO-BACK TO SEE IF THEY'RE WORTH £2K

10bhp going to shave seconds off your lap time? No, probably not. Especially with a litre bike, where there's already

brought 4bhp to the show: I don't care if you're name is Valentino Biaggi or Nori Spies. You ain't going to shave seconds with that measly gain. Those of you who have experienced

the thrills of Castle Combe will know it's one of the fastest, bumpiest and gnarliest circuits in the UK. Honda and Suzuki use it to test prior to the TT: it's the closest thing to UK roads.

The standard R1 coped well, though, and I was surprised to see a 1m16s





ourselves 10 laps to gain data, as after

three, the tyres are still getting up

lap. It felt planted and stable, despite the bumps and the iffy feel from the front Bridgestone.

My fastest lap previously was on board the JHS Racing 'Blade at 1m10s, with slicks, 16.5 inchers, 185bhp and full-race suspension.

So, on to the carbon slags. Being truthful, I was sceptical about the advantages, particularly at a circuit like Castle Combe. In the past, regardless of a stopwatch, they've performed beautifully at silken-laced Tarmac tracks, but their lightweight nature and stats shouldn't be able to show true potential at the bumps of Combe. Or could they?

Matched-up against the standard R1 wheels, the BSTs weigh less than half. Lighter wheels mean less unsprung weight, which automatically reduces the moment of inertia. This is the science-scmience behind weightloss and tells us how much effort is needed to actually spin the wheel. Also needing to be illustrated is the fact that each kilo of unsprung weight lost will equate to 5kg off the rest of the bike: hence the dramatically improved feel and handling.



to temperature. Side grip was still sketchy and there was no chance of trail-braking. Carbon doesn't conduct heat as well as the standard wheel's aluminium composite. Saying that, the increase in performance is instant, particularly in the slow speed chicanes where change of direction mimics riding another bike. The R1's soft

CYOU CAN TURN IN LATER, BECAUSE YOU CAN TURN IN QUICKER, AND WITH MORE PRECISION

Above: Moby gets the pliers ready, in case Al crashes his bike and needs his bollocks removed in penance suspension doesn't feel so saggy, and more bumps are highlighted.

With heat comes the confidence to push. The BSTs feel like flicking a crusty bogey instead of the stodgy, more viscous snot-ball of the standard wheels. Everything takes less effort. You can turn-in later because you can turn-in quicker, and with finer precision. You can let off the brakes earlier, in order to carry more midcorner speed and let the bike run-in. The R1's cross-plane crank feels lighter and crisper on corner exit, and the rear wheel more sensitive to throttle movement: almost like playing an amusement arcade game. It all makes sense. The science is working. This all ties together to make a very handsome 1m14.5s lap: a difference of 1.6 seconds in favour of the car-boners, and all without playing with a single

suspension setting to better suit the new wheels. Bellas rodas. It's not all roses, peaches and

fluffy bears though. Some of the stability and planted-like-a-tree substance vanished with the BSTs. Both ends were more prone to getting a twitch-on: nothing alarming, but certainly enough to limit 110% confidence. There was also the

fact that Moby's R1 had a sudden passion for wheelies, especially exiting the tight stuff. But, although floaty, it is controllable.

Moaning over: the GPS datalogging doesn't lie. I knew I went quicker on the carbon-shod machine but, despite sounding miniscule, over one and a half seconds is a huge amount. Those who have chased lap times will know. We took data from various points around Combe to back-up the









Flick it in and fire it out - the carbon wheels make corners far less hard work



CE MORE CORNER SPEED AND LESS INERTIA

theory, and were also astonished by the results. For starters, the gap in terminal speed between the two sets is phenomenal. Over 10mph lends a huge hand in reducing the lap time, despite preconceptions that only corners will reap rewards. Although the power obviously won't show up on the dyno, you will need approximately 5bhp more with standard wheels to accelerate from 0-125mph, than you will with a carbon-wheeled bike. On a circuit where you're constantly razzing out of chicanes, and then chasing mph around the long sweepers, it's all starting to make sense.

Obviously, the sexed-up handling brings sexy data in favour of the BSTs. The normally retarded chicane on Dean Straight was almost ballerinalike with the carbons, and this showed with an extra 7mph on the exit. More corner speed and less inertia, meant getting out quicker and the rear hooking-up, and biting harder.

The two 'main' corners of Quarry and Tower were of a similar script. While mid-corner speed was only four or five mph faster, the exit speed

Yeah, you like that dontcha!



	KE	Y DATA POINTS	STANDARD WHEELS	BST CARBON WHEELS	VARIANCE
	AVO	IN RISE (START/FINISH)	125.91	134.83	8.92
	AUQ	ARRY CORNER	68.40	78.50	10.10
	том	VER CORNER	63.08	68.02	4.94
	DEA	N STRAIGHT CHICANE	70.91	77.26	6.35
	HIGH	HEST TOP SPEED	131.78	141.83	10.05
		TIME	01:16.1	01:14.5	-1.60
was an incredible 10mph extra. Of course, all of this data was taken over a 10 lap period. If we had our	Top: Moby boots up the Wi-Fi and watches the last GP on iPlayer while Al takes a breather	DEAN STRAIGHT CH	AVON RISE (STA	ART/FINISH) QUAF	RRY CORNER

over a 10 lap period. If we had our 'perfect' lap, we'd be looking at delving into the low 1m14s, maybe even a high 1m13s. And if time wasn't of the essence, there would be scope for playing with suspension to properly gel with the BSTs, and stop some of the issues we have at high speed courtesy of the extra feel and lighter weight.

Carbon wheels were banned from racing a while ago, while some cynics say that Gucci-wheels, in general, are more show-than-go. Some have had bad press with an element of risk involved too, thanks to a few minor shunts. But in the same capacity as smashing a breeze-block with a hammer, or pummelling a virgin vagina, things are going to go wrong at some point.

Regardless of opinion, we've quashed many rumours and set many facts with this snippet. A full-system will excite on a dyno and turn a few heads, but will never



C A SYSTEM WILL EXCITE ON THE DYNO, BUT WON'T GIVE THE SAME PERFORMANCE GAINS

bring the same performance gains as the ones shown here. You'd have to spend another £5k on controlling that power, with extra grip and tricked-up suspension to get anywhere near.

Many-a-carbon wheel is donning an exotic bike across the globe. Some just have to have them, some just wanna go bling. And some use them methodically for outright performance like our Project Superlight. However hard they try, there's no way the fun police can upset us with this one. Or maybe they'll ban bikes that weigh less than 200kg?

THANKS TO

Castle Combe circuit for letting us abuse them, in particular, Rodney Gooch. You too can ride the gnarliest track in the UK on one of their rare, but well-run trackdays. They start in March but the remaining dates of interest are the 2nd September, 23rd September and the 7th October.

castlecombecircuit.co.uk 01249 782417