

TOMORROW'S WORLD



HOT TOPIC

CLIMBING ABOARD

Even the professionals continue to learn during simulator sessions

“Try braking later and harder,” says the engineer’s voice in my ear.

“But it’s lifting me from the seat every time I step on the pedal,” I think.

The data shows I’m at 50 per cent braking compared to the engineer. Must do better.

“Braking is what the junior drivers often find when they come here,” I’m reassured. In my late 20s. “Steering inputs are good though, smoother than mine,” he says with graphs overlaid.

The second run on the Red Bull Ring is little better, but the times would be in the lower midfield of last year’s Formula 2 grid. That’ll do.

That is the level at which Base Performance is. It’s the go-to place when any big race comes around, be it mastering Goodwood in a Cobra in September (for Turner...) or Le Mans in June - and presumably Spa in a GT3 more recently. It’s a world away from the flimsy rigs sat in basements racing on PC, PS4 or Xbox, and you can’t blame the engineers for making an excuse for a few runs themselves.



Moog’s hexapod system sits underneath the Base sim chassis to provide feel

— SIMULATION STATION —

BASE LOOKING TO AEROSPACE

Performance simulators now use aviation-inspired technology

Jack Phillips

When you enter Base Performance Simulators, tucked away on what seems to be a farm deep in motor sport valley, you know you’re stepping into the racing world. But you’re also entering aerospace.

Its racing simulators are well known, which could be partly because of its high-profile owner, Aston Martin factory racer Darren Turner, but so too because beneath the Aston Martin bodywork or single-seater tub of the simulator rigs is some high-tech gear.

It’s a hexapod system, the more common of the simulator systems, and it’s built by American company Moog, which has half a century of aviation experience.

“If you think of it as an audio system,” explains Moog’s Philip van der Borch, “what we provide is the amplifier and CD player. You need to put in your favourite music, so in the motion system you need you provide your

own vehicle data. Base Performance is very good at understanding the vehicle model.”

So good, in fact, that racers from all rungs of the racing ladder visit to ‘test’, learn tracks and cars. If a racing team provides the set-up sheets, Base Performance is able to punch in the numbers and the Moog system will deliver close-to-real-life simulation. And it’s much cheaper to get it badly wrong at Spa on a computer system than it is in the actual Ardennes. It’s also cheaper to try a new car there than spend a day hiring a car and track.

The sim’s technology is complex, and vastly different to that previously explored on these pages during last year’s trip to Ansible Motion. A hexapod’s movement is trickier. While Ansible’s allows six degrees of freedom of movement at almost every point, the hexapod system can only do so from the centre of its rig. To get around that, Moog’s larger systems, like the one at Daimler, run along on rails.

Base Performance’s pitch to customers is different to Ansible’s, though, with Ansible chasing big manufacturers. But that’s not to say Base has a simple home-built special.

“Base Performance has one of our smallest hexapod systems,” van der Bosch says. “It is an excellent system for the application, but we have also built larger systems for high-end applications at Dallara, and we built Daimler’s.”

The latter is a spectacular piece of kit. It’s all but real life, standing on six legs and 40ft tracks. “BMW and Renault are building ridiculously large systems,” he adds. “There is a constant search to optimize the available workspace, ideally you’d have the whole world so you can make the accelerations 1:1.”

Until then, the simpler set-ups throughout the motor racing industry will more than make do. ☑