



Patrick Murphy, Managing Director of QUANTUM Racing Suspension

QUANTUM was set up by Ken Anderson – of USF1 fame – but is now owned and run by former F1 mechanic Patrick Murphy. It manufactures specialised motorsport dampers from its base in Pulborough, West Sussex.

Q: How did you become involved in the damper business?

A: I started out in motorsport working with an engine builder in the late 1970s and did just about everything on the racing ladder as a mechanic before ending up at the Onyx team in Formula 1 at the end of the '80s. Ken Anderson was doing the dampers at Onyx then and I worked with him. When I moved to Benetton as a number one mechanic, I carried on with the dampers there too. They had a fulltime damper guy, but I did the flyway stuff. In the meantime Ken had gone freelance and I went to work for him in 1992.

Q: Was it about this time that dampers were becoming more specialised in F1?

A: Yes, definitely. When I was at Onyx you could buy a Bilstein or a Koni and that was it. Then Ken brought along his own damper and this was the smart option, because it was half the weight and worked better. He sold it to a lot of the teams, but they would buy a set of dampers, then say 'oh that's great' and then they had the wherewithal and the resources to make their own versions - so they did!

Q: Does QUANTUM supply Formula 1 today?

A: We have no involvement now. The last team we supplied was Tyrrell in the mid-1990s, but after the first race someone had come along and offered them something like £25,000 to use their dampers and Tyrrell then asked us what money we could offer them to supply our dampers. Their argument was that our KR damper was quicker over a lap, but it wasn't going to make enough difference to lift them up a place on the grid. They were thinking about the money, which is fair enough - you forget how uncompetitive Formula 1 could be away from the top end of the grid - well in those days anyway.

Q: What categories do you supply now?

A: Probably the sharp end for us these days is Japanese Super GT. It's all specialist, none of it is standard. It depends on how the car is built, but it's usually a three-way adjustable for them - low speed, bump and rebound and high speed bump. We also supply Formula Nippon in Japan - they're fantastic cars.

Q: You have also built up quite a reputation in Formula 3?

A: I guess that Formula 3 is probably our biggest market place at that level. We made our name there, winning our third ever race in the formula in 1991 [with Paul Stewart Racing]. Dampers are still free in F3 and it's great really, because they're all running heave dampers, so it's six dampers per car.

Q: What other formulae are you involved in?

A: We're still heavily involved in Formula Ford at National and Club level and we are doing a lot more club racing than we used to. The historic scene is also very good, but over the years we've been involved in just about everything, including CART, DTM, F3000 and NASCAR.

Q: How important is it to work closely with the teams you supply?

A: That's what we try to offer, what the bigger companies can't really do – it's that personal service. Because we make everything in-house we're not like an off-the-shelf company where they buy the parts in and they've already decided what the damper is going to look like - we make a bespoke product.

Q: How frustrating is it to see so many one-make championships with specified dampers in modern racing?

A: It's very frustrating and it doesn't do the industry much good. The cottage industry that was a part of racing - a man in a shed making wishbones, that sort of thing is disappearing now and that's a shame.

Q: What sets QUANTUM apart?

A: Our biggest strength, but also our biggest weakness, is manufacturing in-house which we started doing in 1999. We have complete control over it, so we can alter and modify and improve all the time, but it's also our biggest weakness, because it's so expensive to do it yourself and the volumes are so small.

Q: What technology is in place at your West Sussex base?

A: It's quite a small operation, there are only five people working here, but we have the very best machinery available. At the moment we've got Mori Seiki CL-200 and CL-203 turning centres, a HAAS VF0 vertical milling centre, one Hardinge HLV centre lathe, Hardinge HCT and ESM capstan lathes, an Elliott Sturdimill vertical milling machine and one Sunnen precision honing machine. Everything is designed on CAD and we've our own in-house designed and built dynamometer for testing.

Q: Is building a damper still a skilled job?

A: Yes, it's like building a gearbox or an engine or something like that. It needs a clean environment and it takes time to measure everything. To build four dampers the same takes a lot of work, but one of the things we've worked hardest on is the repeatability of our parts, which is cutting down the time it takes to build the dampers.

Q: What's the future for race dampers?

A: The future will be all about weight reduction and friction reduction. I'm not so sure adjustability is such a big deal, because the weight reduction is obviously more important in formula cars anyway. These days, companies like Dallara deliver a car that's so good, it's very hard to improve on it at all, so the only way we can improve on the standard delivered car, is to reduce the weight of the damper or reduce the friction.

There are some new materials which we're looking into now. Some have been around for years, but have been kept secret because they've been used in military applications, so there might be some exciting developments with these.