

A man with short grey hair, wearing a white shirt, a grey tie, and a high-visibility orange and grey jacket, stands with his arms crossed in front of a silver McLaren Honda truck. The truck's hood features the text 'McLAREN HONDA' in white. The truck's grille has a 'KEN' logo. The background is a plain, light-colored wall.

McLAREN HONDA

***"Everything is managed  
in-house here.  
We like to wrap our arms  
round things and do it  
the McLaren way"***

*Martin Boyes*



# WINNING FORMULA

Ever wondered about the scale of transport engineering required to support a high-profile Formula One team in and out of the season?

Brian Tinhaam goes behind the scenes at McLaren Racing

It's a crisp spring morning and I'm meeting one of the crew that runs transport operations for Formula One team McLaren Racing at its futuristic technology centre in Woking, Surrey. Martin Boyes' title is assistant transport manager, and I'm looking at a man with everything from logistics to motor racing, truck driving and event management in his blood. By his own admission, Boyes likes challenges and, as you might expect, there's no shortage of those here.

"I started in transport and logistics with our catering business before I came here in 2005," he recalls, explaining that Absolute Taste is behind the entire hospitality for the Monaco Grand Prix, as well as McLaren globally and a host of other big name brands. "One of my first engineering jobs there was converting a redundant McLaren Racing 18-tonne, two-axle fridge box into a professional mobile kitchen. Then I turned one of the race support box trailers into a triple-compartment fridge trailer to support our catering business." Those kickstarted a thirst for project engineering that has stayed with him ever since.

"I had no engineering background back then, but I was handling logistics

for a reasonable size organisation and making things happen. The reality is you don't need it at first - as long as you know where to get the right resources and expertise you can trust." It's been a steep learning curve, he concedes, but when you're part of a high-profile group like McLaren, the technology world is very happy to give you serious attention.

Now, embedded in McLaren's transport department, he looks after operations for all group companies - McLaren Racing, McLaren Applied Technologies, McLaren Automotive, McLaren Managed Services and Absolute Taste. That includes all responsibilities under the O licences, but also vehicle procurement, design, refurbishment and repurposing. "We like to wrap our arms round things here, and do it the McLaren way."

## FLAGSHIP MERCEDES

Turning to the centrepiece, Boyes explains that the overall F1 support fleet includes 25 13-plate tractor units - all Mercedes-Benz for obvious historical reasons - as well as 24 trailers from a mix of manufacturers, plus 20 vans, ranging from Citans to extra-long, high-roof Sprinters (a mix of 3.5- and 5-tonners

capable of towing trailers transporting road-going sports cars).

"From a professional transport point of view, we would go with Mercedes every time because we get exceptional quality, service and reliability," he says. "For example, we regularly send time-critical car parts from here in vans for testing in southern Spain, near Cadiz and Barcelona. That operation is double-manned, non-stop. At the moment, we're also running to Bordeaux up to three times a week and Cologne every day. We need the confidence that our vehicles are going to do that and do it well." And he adds that, while mileages on truck operations are comparatively low (20,000-30,000km per year) and usage infrequent, their reliability and image remain critical.

Boyes explains that the F1 race trucks come under two categories. The hospitality fleet comprises 15 tractors, most pulling heavily-bespoked trailers, some of which are integral to the McLaren brand-centre build for the paddock. Then the race fleet itself, with the remaining nine combinations, again uses heavily customised semi-trailers, transporting the cars and equipment, but also the bespoke office units,



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workshops, equipment, IT and power supplies for trackside engineers.

“All our latest tractors are top-of-the-range Euro 6, left-hand drive Actros 4x2 1848 low liners with a few standard height 1851s, procured through Mercedes-Benz Charterway finance,” states Boyes. These are impressive, with full-spec sleeper cabs, bright Alcoa alloys, super singles on the front axles, full Mercedes air kits and side skirts, as well as many boasting custom-profiled infills, from SB Components, around the sliding fifth wheel and catwalk. In fact, just about the only extra not included was the PTO – it couldn’t be justified and would have added needless weight.

#### **ALL THE EXTRAS**

“Safety is key, so we went for Mercedes’ full cruise control system with LDWS [lane departure warning], as well as the Active Brake Assist 2 radar-based emergency braking and traffic following system. We also specified the latest PowerShift 3 AMT [automated manual transmission] with the full-spec retarder, although we just missed out on the GPS functionality.” Boyes says McLaren could have had the latter retrofitted, but, with the team’s highly-trained drivers backed by Fleetboard telematics, it wasn’t worth the extra £1,500 a go.

That said, he’s keen to point out that acquiring these trucks wasn’t just a matter of strolling into a dealership with money to burn and ticking all the boxes. “Some of our earlier ‘pop up’ tandem-axle trailers were quite heavy and built with long swan necks to accommodate our generators. So we used to run with bespoke three-axle tractors – buying 4x2s from the production line that were then modified at Mercedes’ Molsheim custom engineering plant. They added a third mid-axle and shortened the rear by 900mm, which meant moving the batteries, air tanks, etc, before getting the body kit on.”

So Boyes instituted a trailer and associated equipment re-engineering project that shaved three tonnes from the maximum combination weight – and then used a dynamic weighbridge to prove that off-the-shelf 4x2 tractors with standard axle weights would now do the trick. “That project not only massively reduced the timeframes for getting our latest tractors, by eliminating the Molsheim intervention, but also cut a total of £230,000 from the order value across 25 tractors.”

And he adds that Mercedes-Benz UK’s technical centre, in Milton Keynes, provided excellent support and advice. “For example, with our previous tractors, we needed vents in the top of the infills to provide cooling for the retarder. So we needed to know if those would need modification to dissipate heat with the Euro 6 models. As it turned out we didn’t need vents, because the engine airflow had been beefed up.”

Back on Fleetboard, Boyes says he uses the telematics not only to monitor truck performance and compliance, but also to support driver training and to reward excellence. “We set up an annual driver challenge scheme, sponsored by Mobil Delvac 1, which provides our lubricants,” he explains. “It runs from the start of the race season to the end of October, comparing driver performance in all but top gear [anyone can score highly at 56mph on cruise control], as well as pedal movement, and coasting and idling times. We don’t include mpg performance.”

There’s a constantly updated league table and an annual award ceremony with serious Harrods vouchers for the winners. “We see it as a proactive approach. Our drivers are competitive so it works well, but we can also use the data to help define any driver training needs, for example, around proper use of the retarders. There’s rarely much: most of our drivers score 9.6-9.8 on

Fleetboard’s metrics, which is good.”

What about vehicle management? Boyes says he uses Fleetboard reports to see everything from maintenance-related data – “right down to filtration performance and tyre pressures” – to when the trucks need servicing. Next, however, he wants to improve McLaren’s spreadsheet-driven workshop management system, moving to a web-based alternative that covers everything from Fleetboard to PMI (preventive maintenance inspection) data. That would make the whole process of scheduling PMIs – McLaren is on 12-weekly inspections – and filing off-road notices far slicker, and ease PMI planning during the busy race season, when vehicles rarely return from the continent.



“Our preferred Mercedes dealership in Fareham uses Truckfile and Fleetboard for workshop management, so I’m hoping to be able to mimic that and see everything in one place – including our trailer compliance data, right down to the LOLER [Lifting Operation and Lifting Equipment Regulations] inspections for the tail-lifts. If we can also integrate maintenance management for specialist equipment, too – such as compressors and trailer AC – so much the better.”

Moving on to the trailers, Boyes reiterates that they fall into two distinct fleets – hospitality and race. “There are



24 in all - 15 on the hospitality fleet, the rest in the race team - and they comprise everything from curtainsiders and fridge trailers to heavily-bespoked, highly individual units for each fleet."

Looking at the trailers responsible for making up McLaren's brand-centre - a three-storey hospitality suite erected at every race - 'bespoke' is hardly a strong enough word. Boyes explains that the central atrium behind the glass facade at

the front of the suite is transported in collapsed form on three, specially commissioned trailers. However, erecting the building starts with three other custom units that must be manoeuvred into position, effectively forming a 'U' shape. These comprise two pop-ups, which form part of the structure and remain in-situ, and a demountable 40ft professional kitchen, which forms the rear. The structure is then completed with two demountable 20ft office pods that are craned on top of the kitchen, using McLaren's truck-mounted crane.

#### SEQUENTIAL ENGINEERING

It's a complex exercise in sequential engineering and trailer design. "The two pop-up trailers flank the kitchen unit. Then, in go the floor-standing atrium sections, operated by hydraulic rams that expand the structure to three floors. These are connected and make the final structure before infill panels, wall furniture and balustrades, etc, are installed to complete the build."

Clearly, everything needs to be done in the right order. In fact, the kitchen

trailer goes in first. "Given the limited space on site, we've made that work by installing an extra fifth wheel on the rear end of its 40ft tandem-axle trailer, with a dolly and drawbar. Four locking pins at the dolly end are hydraulically lowered so that another tractor can pull the beam out and turn the trailer. Then, when the dolly wheels are in the right orientation, the pins go back and the tractors can manoeuvre it into position." The only downside: that dolly then needs to be hauled away and even a concrete block on the tractor back end isn't enough to stop it from being a little lively.

Moving on to the race trailers, Boyes explains that these are just as heavily customised, and from a range of manufacturers. Walking around, you see trailers from Spectra Specialist Engineering, Krone, Koegel, Chereau (for the fridges), Pocklington Coachworks (for the cars) and Andover Trailers - including one that hauls a 12-tonne Manitou, scissor lift and 150kVA generators. "You can't rely on power quality or availability at the circuits, so we bring our own."

Astonishingly, some of these trailers



Top of the range tractors and trailers, ultra-clean lines and the ultimate in attention to transport detail: you're looking at the team from McLaren Racing



**"Andover reverse engineered new trailers for us. They did an amazing job, matching the German design points, but beefing them up"**

Martin Boyes

are nearing 20 years old, but they look as good as new. And there is plenty of interest. "For example, we originally chose Andover for our tri-axle plant trailer, which I specified as a flat floor, not a step frame, so we can also transport cars, simulators, etc, out of season. But then in 2010 our brand-centre atrium transporters started showing problems. So we took them to Andover and they reverse engineered new trailers for us. They did an amazing job, matching the German design points but beefing them up, and adding electro-hydraulic rear-steers, with slightly spread axles, to comply with the legal turning criteria."

However, Boyes' piece de resistance is the race team pop-up, which has just come back from PMI. Proudly, he points to the 4m-high road-going trailer, which

is being extended to 5.6m in front of us, via six internal, electrically-operated and co-ordinated screw jacks. As we watch, the trailer transforms into a slick double-decker, revealing two office spaces, convertible to a workshop with an office above.

It's a class act. "The ground floor accommodates the engineers for the cars," explains Boyes, as we step in. "It has the screens, computers and comms they need to monitor the cars live via the telemetry links." Looking around, it's impossible not to be impressed by the quality of the carpentry. It's in pristine condition, yet it has already completed six seasons of race and test events.

Climbing the stairs, we reach the control room, which houses the senior engineers and managers, along with

their communication systems for the trackside engineers downstairs, and to mission control at the technology centre, back here in Woking.

Boyes points to the cleverly designed seating, desks and custom laptop and screen stands - form and function combined. He also shows me the hidden power, headset and IT jacks, the roof-mounted air conditioning, subtle star lights and the touch-action access panels for maintenance. Even the printer housing is impressive: "The unit was too high to sit on the top deck of the trailer when it retracted. So we attached its stand to the roof and now it slides into the stairwell recess when we transform this kit for road-going."

Simple, maybe. Clever, even beautiful? Certainly. **TE**

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