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WRAPPED RS**

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THE No1 FORD TUNING MAG



RS200

MONSTER

**INSANE 950BHP
PIKES PEAK
CHALLENGER**



INSIDE

WIDE-ARCHED FIESTA MK6

JWRC-KITTED FIESTA WITH INSURANCE-FRIENDLY MODS

RETRO

FROM BIRTH TO BAN

THE EPIC STORY OF THE RS200: FORD'S ULTIMATE GROUP B CAR

WANNA BE A RALLY DRIVER?

Jamie gets sideways in a RWD Escort Cossie!



MK2 FOCUS RS CLUTCH UPGRADE

Ready your RS for big power with our step-by-step guide



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THE MOC

AN ULTRA-WIDE, MONSTER-LIVERIED RS200
F1 TECHNOLOGY, AND READY TO TACKLE THE



MONSTER

COMPLETE WITH A 950BHP BDTE, DRIPPING IN
WORLD'S MOST GRUELLING AND DEMANDING
HILLCLIMB – THIS HAS TO BE ONE OF THE
MOST AWESOME MOTORS TO WEAR
THE BLUE OVAL, EVER!

Words: Jamie Photos: Jonny Gawler





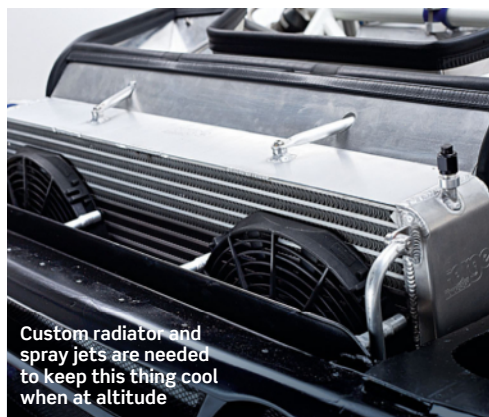
DRIVER SPEC

LIAM DORAN

Age: 24
 Job: Monster Energy Athlete
 First Ford: Fiesta XR2i
 Fave Ford: Mk2 Escort
 Best Mod: Monster flavour neon lights!
 What's Next: Practice! Then some more practice!



The suspension pick up points have been modified to get the car sitting much lower



Custom radiator and spray jets are needed to keep this thing cool when at altitude



Hiding behind the BBS 'show' wheels are F1 carbon brakes!



Brake cooling is critical at Pikes Peak, hence the custom cooling ducts



Like the body, the mirrors are actually painted carbon fibre

You'll have no doubt seen pictures of this car splashed all over the interweb in the past few months. It made a massive impact on the world's media when it was unveiled at Autosport International back

in January, and has been doing the rounds on various blog sites and forums ever since.


As with so many web phenomena, people hear half the story and fill in the blanks themselves, so what comes across as 'internet fact' can actually be a poor, speculative, and often misleading representation of the truth. In some cases it can be nothing more than simple hearsay and Chinese whispers.

So, let's put the record straight. Let's find out the whole story. Let's determine exactly what this awesome car is, why it was built, and what its purpose is. And who better to answer these questions than the man who drives it – one Liam Doran.

Liam admits the history of the car for the first 10 years or so of its life is a bit sketchy, and nobody actually knows for certain what it did, or where it did it. But from 1996 onwards, Liam and his dad Pat have been aware of this car's every move. "It was built by Julian Godfrey in 1996 for Dieter Knüttel who used it for German hillclimb events," explains Liam. "We know this because Julian was actually building 'Rosie' (Pat Doran's Rallycross RS200) at the same time. The two cars were built as sister cars, both sharing many of the same ideas."

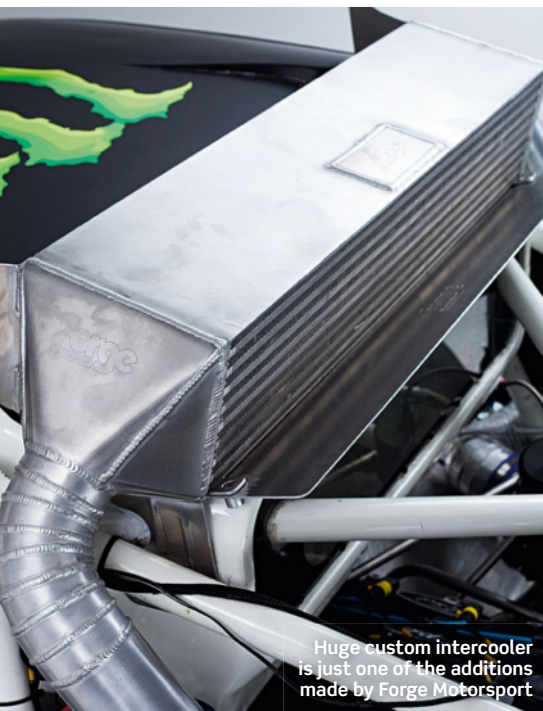
Those 'ideas' included the rather genius touch of doing away with the original honeycomb structures at the front and rear, replacing them with spaceframes instead. This means that the only bit of the original RS200 chassis left was basically the bit in the middle that the driver sits on.

Doing so meant that the already impressive RS200 could be made even better – much better. "If you look at where the suspension mounting points are," Liam says, pointing at the double wishbone set-up, "they are all higher up than on a standard RS200 – this means the whole car has effectively been dropped to the floor to help improve the handling." Standing back and looking at the level of the sills, you can see exactly what he means – this RS200 is lower than any other we've seen, and by quite a margin too.

This lowering of the chassis has another knock-on effect on the wheel arches, mainly the fact they can't contain the wheels any longer. That's why this RS200 has a custom-moulded front bonnet and rear clamshell – in carbon fibre of course. Just look at how wide and, more importantly, how high the wheel arches on this car are. The track has to be a good 100mm wider than a standard RS200, 

From this angle you can see just how 'flared' the wheel arches actually are!





Huge custom intercooler is just one of the additions made by Forge Motorsport



Rallycross turbo (pictured) will be replaced by a Garrett 'high altitude' special jobby very soon



The way the custom exhaust exits the diffuser is simply awesome!

➤ and fitted with 11x18in front and 12.5x18in rear slicks it certainly has some grip on offer!

When Julian originally built the car it featured a 650bhp BDTE, which, when coupled with the amazing grip, was more than enough to power this RS200 to numerous event and championship wins. In fact, this very car has recorded a blistering 0-60mph time of 1.7secs!

The car ran in various hillclimbs throughout Europe for the 10 years Dieter owned it. Then in 2002 it was bought by another big name in European hillclimbs – Gabat Tuning. Eagle-eyed readers may even remember a picture of the car sitting in Gabat's workshops in our April

2007 issue, where it sat minus engine and gearbox for 10 years before the Dorans swept in last year to take possession for themselves.

RIGHT CAR FOR THE JOB

Liam confirms the car was purchased solely with the intention of competing in the world's biggest, toughest, and most gruelling hillclimb ever – the Pikes Peak 'Race to the Clouds'. He goes on to explain that the original plan was for his dad to tackle the hill, and the car choice was due to his passion for the RS200. "We did consider using a WRC Focus, or a converted Fiesta Rallycross car at first," confesses Liam, "but as my dad loves RS200s that's what we

really wanted. And when this became available it was the perfect car for the job."

The Monster-sponsored Rallycross star and X Games gold medallist is keen to point out he is only the driver. "My dad owns the car not me. But I've been sponsored by Monster to do the Pikes Peak event, and this is the car I've chosen to do it in. It's actually on loan, and the deal was 'let me use you car and I'll give it back in an even better spec', so Dad agreed," laughs Liam.

When they got the car into the country it was an all-out effort to start preparing it for the Peak – it's not an event you can take lightly or you simply won't reach the top. Aside from a few cameo appearances at a few shows





The wastegate is huge - 60mm in fact!



You'll never get a jack under this car - so built-in air jacks are needed



Engine oil cooler is neatly hidden away in the side pod

such as Trax and the Forge Motorsport Action Day last year, the car has been the subject of some intense research and development. Liam agrees it was the best possible base you could wish to start from, but has to admit that Pikes Peak throws up some interesting challenges that you wouldn't usually have to consider when racing at sea level.

It was because of these challenges that Liam and the team sought the expert advice of Forge Motorsport. On-board with the project as part of a sponsorship deal, Forge was then drafted in to take care of the cooling requirements. An RS200 on full chat at sea level gets pretty warm, but at 16,000ft were the air is

only half as dense, cooling efficiency becomes much more critical. Therefore the craftsmen at Forge have skilfully devised a selection of one-off products specifically for this car and its upcoming battle with Pikes Peak.

KEEP YOUR COOL

The intercooler, for example, is much thicker than you would expect, and while the exact specs of the core are kept secret you can safely assume that it's the perfect stuff for the job in hand. The same is true of the radiator at the front too. And as if that wasn't enough, they were even given water spray too, with the jets neatly countersunk into the roof and on a

custom front-mounted radiator rail. Cool! Liam reinforces the importance of cooling by telling us that they have actually added weight in the shape of systems like the intercooler spray, power steering coolers and even brake master cylinder coolers just to ensure there is enough reliability for this car to reach the top of the hill. That's why the brutal 315mm carbon F1 brakes now have to be force-fed cool air through huge custom brake ducts too - otherwise the brakes would simply boil before Liam was even half-way up the hill.

The brakes aren't the only bits of F1 technology on the car either. Obviously the team wants to keep as much info



“THE CAR'S ON LOAN FROM MY DAD – THE DEAL WAS IF I BORROW IT I GIVE IT BACK IN AN EVEN BETTER SPEC.”



TECH SPEC

POWER: 950BHP
TORQUE: 700LB/FT
TOP SPEED: 160MPH
0-60MPH: 1.7SECS
WEIGHT: 950KG

SUSPENSION

Reiger three-way Tarmac dampers with remote canisters front and rear, double wishbone type suspension front and rear, adjustable bladed anti-roll bars front and rear, modified suspension pickup points to suit ride height, electric power steering

ENGINE

Julian Godfrey Engineering-built BDTE bored out to 2.4 litres, high altitude Garrett turbo (to be fitted – currently Turbonetics Rallycross turbo), 60mm external wastegate, nitrous oxide injection, water/methanol injection, Tibuc quad throttle system with air bypass anti-lag (to be fitted – currently RS200 Evo inlet), custom turbo hanger, intercooler (with spray), radiator (with spray), oil cooler, power steering and brake cylinder cooling, and oil, water, and fluid tanks and 4in unsilenced custom exhaust system all custom made by Forge Motorsport, Hose Technik braided oil, water, and fuel lines, Pipercross air filter, and Silicon Hoses radiator pipework, running on VP Race Fuel and to be final mapped in a barometric chamber

TRANSMISSION

Front-mounted X-Trac 4x4 five-speed, dog 'box with flat shift capability, X-Trac plated front diff, FF viscous centre and rear diffs, 50:50 torque split front to rear, Alcon triple plate carbon clutch, carbon high speed prop with titanium main prop (to be fitted)



EXTERIOR

JGE chassis with tubular spaceframe at front and rear, wider track and lower tub, carbon fibre wide track front bonnet and rear clamshell, Forge Motorsport one-piece radiator/bumper subframe, custom aerodynamics package including F1 rear spoiler with Forge extensions, DTM front splitter with Forge canards, Forge rear diffuser with exhaust outlets built in, full carbon fibre flat floor, Plastics4Performance polycarbonate windows, custom livery with sponsors' decals

BRAKES

F1 carbon 315mm discs with F1 calipers and carbon brake pads all round, custom brake cooling ducts, F1-style ABS systems

INTERIOR

JGE modified and strengthened roll cage with additional support braces, air jacks, custom steering column with removable steering wheel, Corbeau Pro Series single bucket seat, custom switchgear in carbon fibre centre console switch panel, FIA-spec safety cut-offs, brake balance adjuster, nitrous controllers (to be fitted), Pectel control monitor, single rev counter gauge

WHEELS & TYRES

Will compete on Speedline 11x18in fronts and Speedline 12.5x18in rears, currently on BBS 'show wheels' 11x18in fronts and 12.5x18in rears, tyres are Avon radial Tarmac hillclimb slicks

THANKS

Monster Energy, DC Shoes, Citroën, Speedline Corse, Avon/Cooper Tyres, Reiger Suspension, Sadev MTechnologies, Julian Godfrey Engineering, Forge Motorsport, Sparco, VP Racefuels, Alcon, NGK, Nicky Grist, Plastics4Performance, Laser Tools, Mum and Dad

to themselves so they can avoid competitors having the same 'edge' as they have, but there's no way in the world they're going to hide that rear wing. Look closely and you will notice that the centre section is a genuine F1 rear wing – a wet-weather wing off a Renault F1 car from a few years ago. Forge needed to extend the rear wing's width to provide the levels of downforce needed to compete in Pikes Peak.

In addition to this, the front splitter and rear diffuser have both been redesigned. "The existing aero package was already proven to work, but it had to meet motorsport rules and regs. At Pikes Peak there are no regs!" explains Liam. "So we could do what we wanted – stuff that we know works, but previously we've never been allowed to do without breaking any rules." The previous aero package had already racked up a fair few hours worth of wind tunnel time in its development, and now these new additions have been made the car's due back in for another couple of sessions while the fine tuning work is done.

With the majority of the bodywork finished, the focus was on sorting out the engine – and what an engine it is! The 2.4-litre BDTE has already been treated to everything that you can fit or do to a BDTE to make it more powerful. And if it doesn't have them yet, it certainly will by the time it goes up the hill.

On the day of the photoshoot the car was fitted with a 750bhp BDTE, but Liam informs us that this is not the final version of the engine that he will be competing with. Naturally, Julian Godfrey was the man enlisted with the task of building a BDTE that could put up with the demands and strains that Pikes Peak places on an engine. Liam informs us that the final, race-ready version will feature a specific 'high altitude' turbo direct from Garrett and a quad throttle set-up complete with air bypass anti-lag. And all this will be controlled through a new Pectel SQ6 ECU too, complete with the vital barometric correction that's crucial for competing at Pikes Peak. Again, there are no rules at Pikes Peak so Julian has free reign to work his magic without being restricted by regulation compliance.

NITROUS BOOST

Another thing that's vital for Pikes Peak is the use of nitrous – not just to replace the lost oxygen in the air at altitude, but also to keep the turbo spinning. Liam tells us how it's all going to work. "Basically the nitrous will all be linked to the engine data (boost, ignition, fuel maps, etc) and will kick in when the ECU notices that the boost level is not climbing quickly enough." This not only reduces the lag, but also should mean Liam won't have to do too much left-foot braking, increasing brake temperatures and potentially adding to the risk of brake failure, just to keep the turbo spinning.

The lack of rules scenario has also meant Liam and the team have been able to exploit another form of technology that's usually banned from motorsport – ABS. And before you laugh, we're not talking about the same kind of systems found on production road cars, it's a fully independent braking control similar to the systems that have recently been banned from F1. Liam says that this system will help reduce brake temperatures by as much as 20%.

It's all hands-on at the moment to make sure everything gets done in time,



Not the most luxurious interior in the world, but the horizon comes at you so fast you don't want distractions!



FOLLOW LIAM IN 2012!

You can keep up to date with Liam's progress at Pikes Peak and various other events across the world via his website (liamdoran.com), Facebook ([liamdoranuk](https://www.facebook.com/liamdoranuk)) or Twitter ([@liamdoran3](https://twitter.com/liamdoran3)). Plus you can see the car in the flesh before it competes in the Race to the Clouds at the BHP Show, Lydden Hill, on May 7.

"WITH THIS CAR AND THIS TEAM, I HAVE EVERY CONFIDENCE WE WILL FINISH AND GET TO THE TOP."





Oh, what people would give to be the man that sits here!



Pectel engine management is still the choice for big-power motors

➤ but with a successful team behind him Liam will definitely be in Colorado on 8 July. But before then the engine needs finishing and final mapping on a barometric-controlled dyno, the suspension will be put on a damping dyno loaded up with a map of a European hillclimb event (they can't use a Pikes Peak map as this is the first year it is 100% Tarmac) so the suspension settings can be fine-tuned, and the aero package will be tweaked after the results from the upcoming wind tunnel sessions.

The team has got its work cut out still, but Liam will have possibly the best ever RS200 to take up the hill in a few weeks time. Although he's under a lot of pressure to deliver, Liam is refreshingly honest and frank when it comes to setting his sights at realistic targets. "I'm not going over there to try and break any records, and just to finish the event would be a real achievement," he admits, "but with this car and this team I have every confidence we will finish and get to the top. And then we can look at further developments and build on our experiences for next year after that."

We'll keep tabs on Liam and his progress over the next few months and keep you up to date on the *Fast Ford* website and Facebook pages. And if you want to wish Liam luck, as we do, pop onto his Facebook or Twitter sites and send him a quick message. 📧

