

# Lethal Weapon

12,500rpm in a front-wheel drive Mini? It can only be Pro-Motive's in yer face Yamaha R1-powered demo car

Words & photos: Simon Cooke

Somewhere in the distance, probably about five miles away, I can hear what sounds like a giant prehistoric insect that sounds very annoyed and is coming my way. Gulp! Any closer and that noise would almost be cancelled out by the sound of people's jaws hitting the pavement as this streak of glow-in-the-dark green whizzes past them and disappears into the distance in a cloud of smoke. Yup, Pro-Motive's latest creation has just entered the neighbourhood.

This is a Mini like no other. The facts and figures tell their own tale – at least 150bhp and a 0-60mph sprint in under five seconds, it revs all the way to 12,500rpm and it's front-wheel drive.

Darren Grasby has been working on cars since he was old enough to lift a spanner, started competing in Grass Track racing when he was just 14 and reckons he's owned more than 100 Minis so far.

"I think I've got about 17 at the moment in various states," he reveals with a grin. His day job is research/testing/development for Land

**OWNER** Darren Grasby

**Any pets:** A dog.

**Tea or coffee:** Coffee.

**McD or Burger King:** BK.

**Favourite food:** Roast dinner and garlic bread.

**Favourite TV:** *The Royle Family*.

**Member of any clubs?** Evesham Autoglass Club.



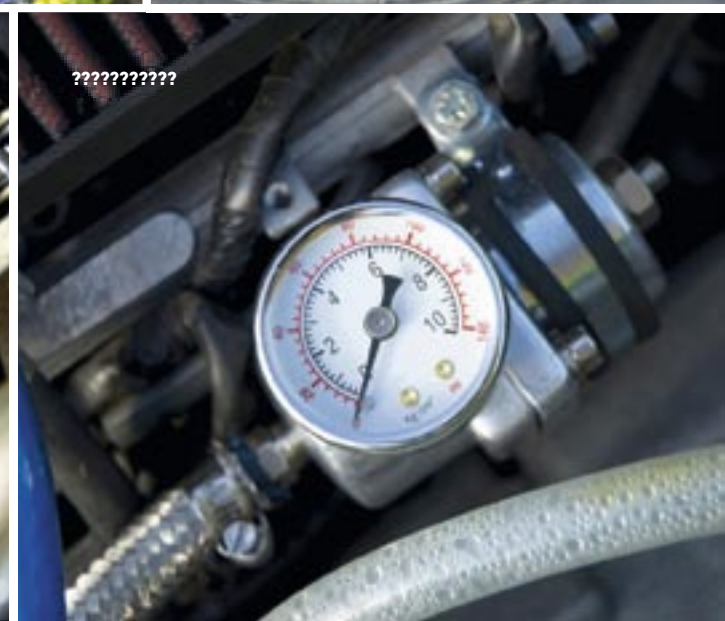
**Above:** The brains behind the conversion: Darren Grasby (right) and Phil Jennings



R1 motorbike engine fits in neatly without bulkhead modifications



Four-pot alloy callipers and Cooper S discs provide serious stopping power behind the front wheels





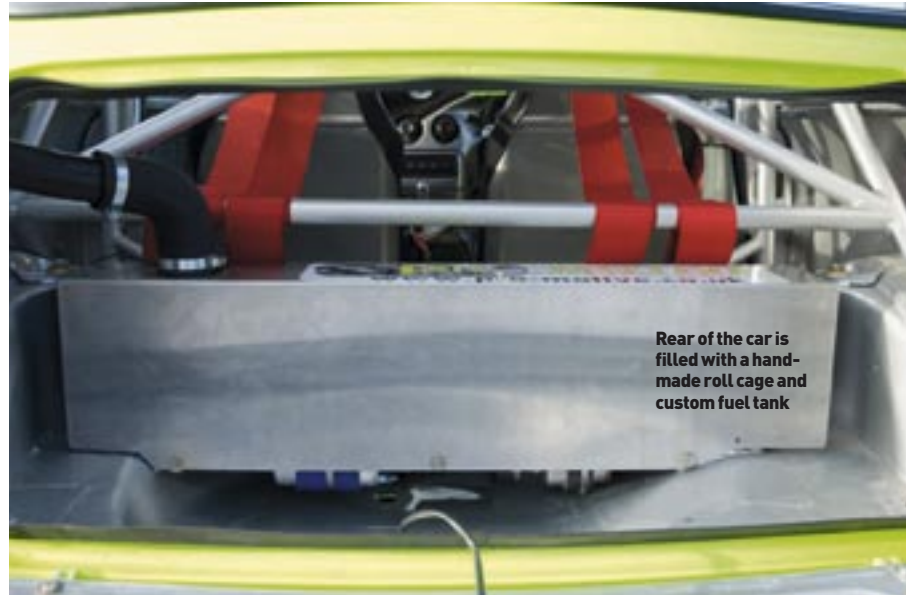
↳ Rover, which can involve working in hot deserts or the Arctic Circle. And he's the right man for the job: "I like creating and modifying things," he's happy to admit.

At night he turns his numerous skills and mechanical experience onto unsuspecting Minis. The story with this one starts a few years ago. "Everybody said you couldn't do a bike-engined Mini and make it front-wheel drive," he remembers. "I saw that as a bit of a challenge."

Darren proved them wrong by combining a Yamaha YZF R1 motorbike engine with a Mini. As you do.

"Of course there were a few teething problems," confesses Darren. There were several engine configurations I experimented with, and I spent many hours sitting on the garage floor trying to work things out. There was a lot of trial and error but I built most of it before I'd even put it in the car."

The car was a great success and generated so much interest that Darren saw the potential for making money



Rear of the car is filled with a hand-made roll cage and custom fuel tank

out of his conversion, so he got a Land Rover colleague, Phil Jennings, on board and together they formed Pro-Motive to fabricate and market the kits. This is their purpose-built demo car, which started life as

a bare shell. Darren explains that the 998cc R1 engines (1998-2003) are readily available (eBay is his fave source) and that he paid £900 for this one. As standard they will produce

**"It's very quick – it reaches 60mph in under five seconds"**



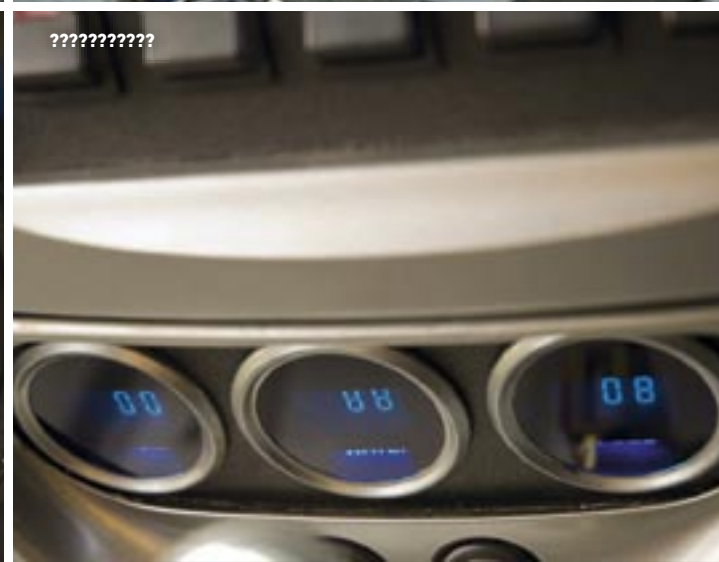
Don't recognise that flocked dashboard? It's from a Ford Ka



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The display above the speedo and rev counter shows which of the six gears the car is in



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**Owner's tip**  
If you fit an R1 engine and it breaks down/blows up, then it's probably as cheap to buy another complete unit rather than try to fix it. Once you have the subframe and wiring loom installed it's a quick and easy job to swap the main engine over.



Driver and passenger are secured in place with Kirkey aluminium race seats and Safety Devices harnesses

**WRITER'S OPINION SIMON COOKE**

The colour, the looks, the performance, the innovative engineering involved in this project – what's not to like?



between 150-180bhp, with the potential for quite a lot more. Darren is currently looking into a supercharger option. To start you need the engine/gearbox (it's a 6-speed sequential) and the wiring loom.

"It goes in without any bulkhead modifications," explains Darren. "There's a little bit you need to remove behind the slam panel and you need to mount the radiator on the other side of the engine bay, but that's about it."

He claims that its fitting is not much more complicated than a standard Mini engine transplant and says most people would be able to complete the task over a long weekend, assuming they had already purchased his kit. The Pro-Motive conversion kit includes all the parts you'd need such as the vital front subframe, hoses, radiator, exhaust manifold and the gear linkage, and costs £2,950. You just supply the engine and car.

"We do offer other options such as a ready-made wiring loom, or we'll install the engine for £5,000 and that includes the kit," says Darren. "In theory you could drop the car off in the morning and be driving it home at the end of the day."

Inside the car, everything is as light as possible and the doors and the boot are all



single-skin. Darren's also fabricated his own roll cage, a task he really enjoys.

"I was going to buy a carbon-fibre dashboard, then I noticed a Ford Ka dash fitted in a car at a Mini show," says Darren. "I had race Kas at home so I knew I had the parts needed and it was a doddle of a job to be honest. I then got it flocked, which covered up my modifications."

The car's braking and suspension are basically off-the-shelf Mini items with a few special parts, such as the subframe and the adjustable bottom arms. Outside, Darren's gone for a discreet colour scheme. Not. "I wanted something as bright as I could get, something which really stood out," confirmed Darren. And he's certainly achieved that – even Stevie Wonder could see this Mini coming. The photos don't do the colour justice – imagine the green/yellow of a tennis ball with a radioactive glow and you get the idea.

Okay, enough about the engineering and construction, impressive though it is – surely the key issue is the final result? "It's very quick - it reaches 60 in under five seconds and hits 125mph in sixth gear," says Darren. "I think the lighter engine helps the balance because Minis can often find that

they lock the back brakes and spin. And of course it revs a lot higher than any normal Mini – up to 12,500rpm. I change up at about 11,00rpm."

Changing gear does not even involve a clutch; the sequential box can be used by backing off the throttle and selecting the next of the six gears, which gives the car acceleration to match the Starship Enterprise. Darren is thinking of fitting a paddle gearshift on the steering wheel so he doesn't need to take his hands off the wheel, therefore gaining vital split seconds.

Okay, to be totally honest, wheelspin can be a problem – there's a knack to getting smooth acceleration and fitting a set of 13-inch alloys would no doubt help that problem, but Darren prefers 10s and it's a small price to pay for his ultimate track car.

The car is fully road legal, although there are a couple of possible drawbacks to using this engine for your daily driver. It's noisy, but they have fitted one into a road car and the owner says it's not much worse than the 1380cc engine with straight-cut gears that the R1 replaced.

Oh, and there's currently no reverse gear – bikes don't need them -which might make parking interesting. ■

#### Modified 1970 Morris Mini 1000

**Engine:** Yamaha 998cc R1 motorbike engine . five valves per cylinder . fuel-injected . fuel-injection throttle bodies . K&N box filter . modified aluminium radiator moved to other side of engine bay . Escort RS Turbo high-pressure fuel pump . Spal electric fan . standard Yamaha ECU and sensors . Dyno-Jet Power Commander . Pro-Motive FRW R1 manifold . twin-box 2in side-exit single exhaust pipe . four R1 coils . Iridium spark plugs . R1 water/oil cooler

**Gearbox:** Standard R1 6-speed sequential dog box gearbox (FWD) . Quaife LSD/ATB . Pro-Motive sealed alloy casing . R1 wet plate clutch . Pro-Motive cable gearshift

**Brakes:** Front: 4-pot alloy callipers . drilled 7.5in Cooper S discs . EBC Green Stuff pads . rear: alloy Super Minifins . Mintex shoes . Braided Aeroquip hoses

**Suspension:** Front: Hi-Los . Bilstein dampers . Pro-Motive R1-modified subframe . adjustable tie-bars . adjustable rose-jointed bottom arms . rear: Hi-Los . Bilstein dampers . adjustable camber/toe brackets

**Wheels/Tyres:** 10x6in Revolution alloys . Yokohama A032R 165/70x10 tyres

**Exterior:** Re-shelled with 1991 body, skinned for weight-saving . removable front end . Ford Moon dust silver inside and roof . Dayglo yellow body . halogen crystal clear angle eye headlights . new sills, doors, boot . carbon bonnet . no rear valance . Mini Cooper mirrors . Group 2 arches . carbon-fibre bumpers

**Interior:** Kirkey aluminium race seats . no carpets . Safety Devices 3in harnesses . Dakota Digital gauges/dials . Sparco removable 11in steering wheel . modified Ford Ka dashboard, flocked black . heated front windscreen . Perspex sliding windows . home-made rollcage



Front and rear bumpers are carbon-fibre The paint scheme is so bright it probably glows in the dark

Darren would like to thank: Phil Jennings for help with the engine and the wiring, my dad Graham for taking parts for powder-coating, etc, Pro-Motive for the R1 kit, Colin Taylor at Southam Mini Metro Centre for suspension and the rolling road (+44 (0)1926 815681), Mum Tina for putting up with all the Mini bits in the house, Steelfast (+44 (0)1789 49100) for the roll cage metal.