

VAG Tech R32 Turbo

Words & Pics: Carlin Gerbich

If you thought the Mk4 R32 was a little on the tame side then this turbo conversion from VAG Tech, which hoists the power to 400bhp plus, could be just the thing. Look out Evos...

Until recently engine outputs of over 400bhp were the preserve of an exclusive collection of exotica and track oriented machinery. But times change, expectations increase and the search for more power becomes an all-consuming passion for car fans and manufacturers.

The Japanese market, for one, has embraced the recent pangs for silly horsepower figures. The latest Mitsubishi Evo VIII MR FQ400, for example, will soon have tuners extracting that sort of power with a simple exhaust, filter and ECU remap. But it comes at a price: the last FQ-400 sold for a cool £47,000...

The Mk4 Golf R32, on the other hand, has always had the potential to develop such mind-blowing levels of power. The 3189cc V6 delivered 237bhp in standard trim and, while reasonably potent, it always felt like the engine's true potential had been hobbled by bureaucracy and an overly-safe approach to longevity and operating margins.

VAG Tech's chief Jon Watts first saw the potential of the engine at GTI International in 2003, when German tuning firm HGP Turbo turned up with its twin-turbo development car. "I had an R32 at the time and I saw this thing with a massive amount of power. I was working in IT in London and I tuned cars in my spare time, but I instantly wanted to do



Above: you've over 400bhp under your right foot and it's pissing down. Thank Golf for four-wheel-drive

something like this in the UK," he said.

Further research led him to HPA Motorsports in Canada which had built the turbo kits for HGP in Germany and, after a few discussions, plans for kits for right-hand-drive variants were drawn up.

"We determined fairly early on that, while the twin turbo kits had huge potential for massive power, they simply wouldn't fit. It's one thing to strip out things like air-

conditioning on a development car, but you simply can't do it on a road car." The biggest problem was altering the turbo down-pipe to avoid the steering box and the brake servo units - but once this was accomplished, the kit was ready for the UK market.

At the heart of the kit is an HGP-developed R30 Garrett ball bearing turbo which runs at a relatively low (and safe) 0.9bar of boost. The custom compressor housing has an integrated recirculation valve, and the custom exhaust housing has an integrated wastegate for efficient turbo pressure management.

The standard exhaust manifold is junked in favour of a custom made, flowed cast manifold while the intake manifold is also replaced with a short run cast item. The intercooler, meanwhile, is tucked down in the passenger's side of the engine with air directed in via a metal shrouding. The kit also includes a head spacer plate to lower the compression ratio to 8.5:1 along with high-flow injectors and uprated and optimised hoses, plus feed-and-return-lines for the turbo's oil supply.

But it's not a quick job. The conversion takes 10-hours over five days and also includes a comprehensive re-mapping of the ECU to extract the most out of the changes. That said, the result is one hell of a car. Lower end pick-up is instant, and there's a stonking 380lb.ft of torque to use from 2500rpm, so there's no need to push the engine to get shifting. Unsurprisingly, the car's mid-range punch is awesome, particularly in third and fourth gears where acceleration is so blindingly quick that you have to really work the gearlever to keep the tach needle from hitting the red. You can feel the car as it squats over the rear wheels, the front tyres bite into the tarmac and G-forces press you back into the leather sports seats.

In fact, there's not a dead-spot to be found in the engine's delivery and you've always got power to hand, at any revs and in any gear - and there's no horrible off-throttle, off-turbo, shunt as you lift off to change gears or brake.

Okay, so the 4Motion drivetrain is predominantly front wheel drive, but Haldex has produced a controller for the centre diff that sorts this out and only costs £500.



Above: for £9000 plus the VAT you'd expect a professional job, and you won't be disappointed. Below: R32 interior still looks great. The HGP-R30 turbo is at the heart of the conversion



With that fitted (it wasn't on our test car) and the VAG Tech FT400 turbo upgrade the Mk4 R32 is the car VW should have produced in the first place.

The only quibble is the price - at £9000 plus VAT it's serious money. There's a 360bhp £7000 option but it lacks the compression-lowering gasket and uses the standard inlet manifold, plus it's an entirely different drive so most people opt for the larger kit (but not the largest, which gives 450bhp! - Ed).

With the imminent release of the Mk5 R32 good examples of the Mk4 can be snapped up for considerably less than 20 grand and are likely to drop further. Couple that with VAG Tech's warranty and suddenly £25k or so for a 400bhp supercar baiter with impeccable road manners and exceptional engine response doesn't sound too scary.

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Dial for power: with Mk4 R32s coming down in price this could be a sensible big power option

