





Heavy breathing!



You don't have to fit a turbo or a supercharger to improve the performance of the R32. VAGtech took Gary Whitehouse down the naturally-aspirated route...

WE'VE FEATURED several supercharged and turbocharged R32s in the pages of olkswagen Oriver, and for good reason. The 3.2 V6 really comes alive when fitted

with a forced induction system with easy nower outputs of upwards of 375-400 ohp, from what is essentially a bolt-on conversion, albeit a very expensive one ultimate power output is never going to be

But some owners prefer the naturallyaspirated approach and although the guite as impressive, there's a lot to be said 386 GTI, and then a SEAT Leon Cupra. for conventional tuning techniques which naintain the original character of the

ree-revving narrow-angle VR6. One such owner is Gary Whitehouse from Worcestershire; a regular at our track ... drove a wide range of 'hot hatches' and days, so far, he has pursued the naturally- had nearly decided upon a Leon Cupra R, spirated route when it came to tuning his but then I visited Listers in Worcester Mk 4 Golf R32 and the results have to be experienced to be believed: the sound of his engine is worth all the effort, let alone quality and the exclusivity of the R32 its instantaneous response, flexibility and were just irresistible for me and the deal

But the story really begins a long way further back in Gary's driving career, as he himself recalls: "I started my motoring life with Minis, a Clubman, '67 Cooper, 1275 GT etc. and quickly found lets of aftermarket 'DIY' modifications for them. I then had many years of company cars. mostly frustrated by restrictions of choice and no modifications. There were some good times, though, mainly behind the wheel of

I already knew that the Mk 4 Golf was a popular car for tuning but I only really discovered how much scope there was after buying a few copies of Volkswagen Driver magazine. The car was a year old when I bought it and just prior to its third birthday. when the warranty was due to expire,

VORCESTER AND TOOK T

B32 FOR A TEST DRIVE. A

a couple of Peugeots, a 1.9 205 GTI and a Then I decided to go back to buying my own car, as the HM Treasury was making it virtually impossible to choose a high-performance company car, I test-I started to search the pages of Volkswagen modification plan and took the R32 for a test drive. The VA engine 4-wheel drive, its looks, build

Driver to commence the first phase of the What I had in mind was a re-map and a Milltek cat-back exhaust, which seemed to be a popular combination, and after shortlisting a few tuning companies I contacted VAStech, after reading about their R32

WWW.VOLKSWAGENDRIVERMAG.CO.UK

turbold R32, which you'd think was an OEM install, not a conversion, I realised that their work was well thought out and, just as importantly, they were like-minded enthusiasts. So my car was duly booked in

for the Revo re-map and Milltek exhaust. The next upgrade was prior to the Autometrix track day at Croft in 2007 This comprised a set of Yokohama Parada Spec-2 tyres and EBC Yellowstuff brake pads. The tyres made an instant improvement over the Michelin Pilots providing higher levels of arin improved. steering feel and predictability on the limit The EBC brake pads were far superior to

After speaking to Jon Watts, visiting the

workshop and taking a look at their HPA-

the OEM pads, giving much higher levels of 'bite' and no fade on track. After running the R32 on a couple of track days I was quite surprised at how much body roll I was experiencing. especially given how stiff and crashy the stock suspension set-up is on the road. So it was back to VAGtech for a competition Haldex controller and KW

focused setuin

WWW.VOLKSWAGENDRIVERMAG.CO.UK

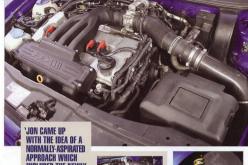
into the bends and power applied much earlier on the exit. The other benefit of the new suspension was that it artually felt Variant 3 suspension installation, with 'Jon at VAGtech then suggested fitting Forge adjustable rear control arms, along leurspeed anti-roll bars to finish off with a 4-wheel alignment with a trackthe suspension upgrade, so these were

installed during a 10,000-mile service. This was followed by a track day at ulton Park, to out the new suspension They were quite a surprise as they enabled through its pages. It proved to be a complete the car to cope with sudden changes in direction with almost kart-like ability. At control through the bends, with much less subsequent airfield track day at Abinadon understeer, sharper turn-in and even some | I could carry much more speed through lift-off oversteer Braking could be left later corners and attack the chicage with a lot

more confidence than my previous visit the year hafore, prior to the suspension 'Although the Milltek exhaust and Revo more power After discussing the options

APRIL 2008 VOLKSWAGEN DRIVER | 21

road surfaces compared with the DEM set-up. remap had improved things, I now needed with Jon, he came up with the idea of a normally-aspirated approach which



HPA MOTORSPORT'S CVP (Constant Welseity Port) short-runner manifold is described as an 'industryfirst modular design'. Manufactured in such a way as to allow several different configurations to suit situration andiretions it realises the standard factory-fitted variable induction manifold, offering advantages in high-performance use as well as greater flexibility for future tuning gations. Standard feel injection applications can use the long neck', to maintain the printed throttle

car which also runs modified cams, exhaust and has body position, or use the left or right 'short neck'

flanges to position the throttle body closer to the For more information, log on at the HPA website: interpooler (when the engine is turbecharged)

22 | VOLKSWAGEN DRIVER APRIL 2008

included the newly developed HPA CVP inlet sports cats and downgipes, it would provide braided hoses front and back, and the also used for a turbo conversion at a later compromising fuel consumption and date, as my final solution will be along the

www.hasmetorenerts.com

driveability too much for everyday use.

for improved recognic for naturally assistated

product, but rather an integrated part of a more

Even so, because the CVP is primarily designed

to improve breathing at the higher engine speeds.

where the OE intake tends to become restrictive, it has

recorded an entra 10-15 bbn even without additional

extensive tuning package, as with Gary Whitehouse's

applications, the CVP is not intended as a standalone

turbo route, for various technical reasons and the huge power and torque increase set of Schrick cams, a custom Revo stage 2 have the ECS Stage 5 upgrade fitted to the conditions, so a set of EBC Yellowstuff pads map, Carbonio cold-air induction kit, Milltek front along with a Stage 1 rear, with new were fitted instead. →

manifold. The big advantage is that it can be a useful power and formue increase without system was replecished with Ate Super Blue high-performance brake fluid. This brake upgrade provided massive While assisting the delivery of all the parts stooping power, but the Hawk parts supplied for the HPA conversion my brakes needed with the ECS kit do need to be warm and attention, as the original discs and pads were dry to work property. For daily driving they But, in the meantime, combined with a new worn out so I took the concrtanity to didn't inspire confidence in wet and/or cold

THE FCS BRAKE UPGRAI

WWW.VOLKSWAGENDRIVERMAG.CO.UK







APRIL 2008 VOLKSWAGEN DRIVER | 23



including photos of the build, and then we

started the engine... The sound was incredible, totally different to before, but not losing any of the distinctive VR6 growl. After taking the car for a quick test drive the engine note was an instant addiction, delivering a unique

soundtrack which saves the best for 5000 rom up to the limiter at 7400 rom! 'But it's not just noise, the power delivery has completely changed, providing a lot more null from annew 4000 com unwards. with no tail-off until past 7000 rpm. Compared to the standard car, the improved delivery is very noticeable. This was clearly demonstrated when I took the car to Surrey

Rolling Road where it recorded 277 bhp and 246 ft.lb. torque. What's most noticeable from the graph is how the torque curve has changed. The peak torque has moved from 3500 rpm to 5000 rpm, but it now produces a broad band of torque, with more than 210 lb.ft. all the pulls strongly all the way past 7000 rpn way from 2200 rpm up to pearly 2000 rpm which demonstrates how well the CVP inlet your right foot planted to the floor, the

manifold works, providing a substantial improvement across the rev range and in particular at higher engine speeds. 'On the road the engine is very tractable remains consistent at 12.8 right across the

at low speeds, yet when pushed it has a engine rpm range and the car still delivers

each week. If anything, it has improved stightly, since the conversion! The next additions to the car will be a set of auxiliary gauges from NewSouth

Descript. | UN Golf NS2 Mid

15-91-2000

: 0183852,004

Iona journeys that Lundertake for my wor

Performance, complete with a panel

THE POWER DELIVERY HAS COMPLETELY CHANGED PROVIDING

mount for the centre console in lieu of the 6-disc CD changer. After all, who needs a CD changer when you can have an engine sound-track like this?!"

Indeed, it feels as if the longer you keep

The proof that the set-up has been well thought out is that the air/fuel ratio

Init 2 Hillcroft Works, Stewkeley Road

E-mail: info@vagtech.co.uk Website: www.vagtech.co.uk

smooth and linear power delivery which over 30 mpg during steady driving on the

free-revving delivery. 20 VOLKSWAGEN DRIVER APRIL 2008