

ASTRA VXR

ARMS RACE



FAST FACTS

- * Courtenay-Klasen V-Band exhaust manifold
- * Garrett GT3076 turbocharger
- * TiAL external wastegate
- * Fully forged bottom end

When it comes to the VXR world you've got to have big guns to stay ahead of the game, even if that means engines are destroyed in the process...

Words: Jamie | Photos: Chris Wallbank



You can easily forget just how good a car the Astra VXR is. Regardless of whether you like the fifth iteration of the Astra, you can't deny that the VXR variant has played a massive role in keeping the Vauxhall tuning world fresh and exciting. That said, trying to stand out with one is a tricky business; stick-on bodykits and wild spoilers don't do its looks any favours, while there are already plenty of fantastic 'Euro look' examples around. Inevitably most VXR owners find themselves getting

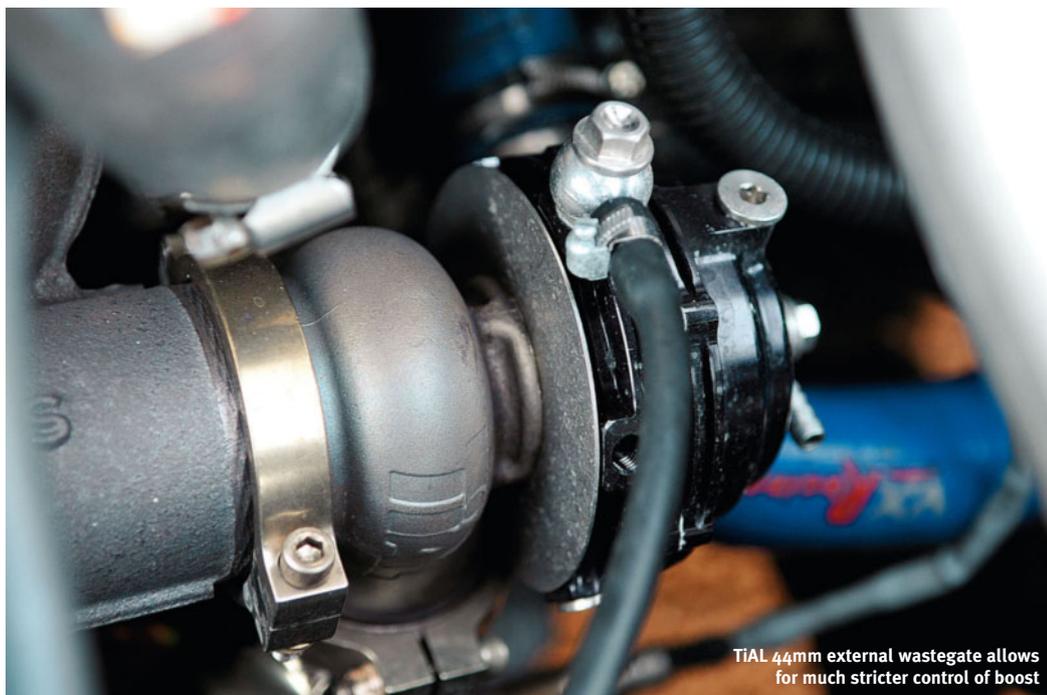
sucked into the addictive arms race that is Z20LEH tuning. The engine is hardly stressed with its standard 236bhp output, and there are plenty of Vauxhall tuning specialists who are more than happy to help you go ballistic with your power, providing your wallet is up to the task.

This is where Wayne Townsend comes in. We get plenty of feature enquires from VXR owners, many of which we've had to turn down owing to them simply not having enough power or style on top of the many 'mildly tuned' examples that are out there. Then Wayne emailed us saying

that his Astra would soon have 480bhp. We sat up and took notice. Wisely Wayne enlisted the help of legendary Vauxhall fettlers Courtenay Sport to help him achieve this headline figure.

Thing is, and if you've ever had a project car you won't be surprised to hear it, Wayne never intended to tune the VXR at all. "I swore blind that I wasn't going to touch the car," he says. "In fact I had to lie to my dad ever so slightly to be able to get a VXR at all – he helped me to pay for it and he wanted me to have a naturally aspirated model!"

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TiAL 44mm external wastegate allows for much stricter control of boost

Fortunately for all concerned, Wayne's act of subterfuge went unnoticed until his name was safely signed on the order form. Only then could he break the news that his new Astra actually had a cheeky Ko4 turbo bolted to it. This was back in 2008 and for a month or two at least the VXR remained in factory spec, with Wayne enjoying the 237bhp it came with. By his own admission Wayne is a car killer though, and it wasn't long before the OE clutch cried, "no more!", and had to be replaced. This was when Wayne first contacted Courtenay Sport, who supplied a replacement. "A friend of mine fitted the clutch but it had a faulty pressure plate." Wayne tells us. "Courtenay replaced and fitted it free of charge, but while down there I started enquiring about a Stage 3 remap."

A few weeks later and Wayne's wallet might've been several thousand pounds lighter, but his Astra was 61bhp quicker. He also paid a visit to 888 who fitted some of their own VXR 345mm front brakes, Bilstein dampers and Eibach springs. Although this chassis upgrade certainly helped improve the Astra's handling, 301bhp mated to an 'open' differential still made for some interesting handling characteristics. "At the time it was like driving an old Astra GTE," says Wayne, "flat out through the straights, tiptoe through the corners."

BORN SLIPPY

Wayne persevered with the car in this state for several months before common sense finally got the better of him and he booked it into Courtenay to have a Quaife LSD and 292mm Vectra VXR vented rear discs fitted. This done the Astra was transformed, released to utilise its extra power without spinning it away. Wayne was satisfied and kept the car in this guise until late 2010 when it began to smoke heavily under acceleration. As it was still under warranty Wayne took it to a dealer who



OWNER

WAYNE TOWNSEND

JOB Quarry manager

AGE 32

FIRST VAUXHALL Corsa C 14 with everything from Irmischer on it

WORST PART OF THE BUILD? That terrifying call when Jon told me it'd blown up again!

BEST PART OF THE CAR? The engine now it works properly

simply bolted on a new KO4 turbo, despite the head ports being awash with oil. Wayne again turned to Courtenay who diagnosed valve stem and oil seal failure. Not put off in the slightest, Wayne decided he might as well take the opportunity to upgrade to a forged bottom end with low compression pistons and steel con rods. He also had Courtenay port and polish the head and fit a pair of Klaxen camshafts. It was also at this time that Wayne began experimenting with upgraded turbochargers. "First Jon Shield fitted a hybrid Ko4 but that actually ended up producing less than the regular turbo," says Wayne. This turned out to be because of the low compression bottom end, which had been built with larger turbo units in mind. "We then fitted a T36 which was much better, up to 380-or-so bhp."

After a brief run-in period Wayne was able to take the car back home, only for the turbo to fail spectacularly on the way when he put his foot down. The car went back to Courtenay Sport who set about stripping it immediately. Although all the intercooler system,

inlet and exhaust had to be replaced, amazingly the block was unscathed.

Barely a week later Wayne got a call from Jon saying the car was nearly ready to collect, he just needed a few more hours running it in and he'd call him back to arrange an appropriate time. "Almost a day went by with no contact," he tells us, "so I called Jon myself and straight away knew it was going to be bad news."

Scarcely believably, the same fault occurred with the T36 again, the turbo failing within the final hours of testing. "The T36 was actually a development unit that the turbo supplier had used to great effect on Evo engines," Jon explains, "but the material used for the compressor wheels wasn't correct." The wheels had been failing, throwing the turbo out of balance and causing the whole unit to fail.

Fortunately the second failure wasn't as severe, Jon was able to catch it before it spat its internals through the inlet and intercooler, enabling them to identify the fault. Jon is at pains to point out that turbo company were nothing short of brilliant when the fault was brought to their attention. Wayne also accepts that by ploughing his own furrow with his VXR he was effectively developing new parts on it, and that setbacks are part and parcel of this. That said, he was still understandably upset. "To say I was gutted would be an understatement," says Wayne. "I was on the verge of cutting my losses and selling up."

BIG BLOW

Both Jon and Wayne agreed not to continue with the T36, opting instead for the better known T35. It's largely the same as the 36, just with different compressor and exhaust housings. By this point Jon and the rest of the Courtenay Sport team must've been going through the rebuild of this particular Z20LEH in their sleep,



Part of the beauty is that without looking closely you'd never guess this Z20LEH's potency

“The VXR was rolling roaded at a massive 479bhp.”



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but within a few weeks the lump was put back together, the new turbo fitted and the whole lot mapped on their rolling road. 373bhp was the result of all this work. Thankfully this was the last time the engine had to be rebuilt, it's run fault-free for the last two years.

Unsurprisingly considering how addictive the desire for more power can be, it didn't take long before Wayne began craving more. "The way I saw it was that I had a fully forged bottom end pretty much going to waste – I knew it could handle a fair bit more than 373bhp anyway!"

By September last year Wayne could take no more – he'd become a bit blasé about having 'only' 373bhp and a visit to Courtenay was pencilled in. The original plan was to fit a stainless tubular manifold to free up a bit of

extra power, but Jon vetoed this idea as the power the Astra generated would warp and crack it within months, especially considering Wayne's 'enthusiastic' driving style. Fortunately Courtenay were in the midst of a development program with German based Klasen Motors to produce a new V Band exhaust manifold for the Z20LE engines.

The manifolds in question are cast in order to match the strength of OE ones and, crucially, feature a TiAL V Band mounting flange and external wastegate. The TiAL mounting flange allows for a wide variety of Garrett turbos to be fitted to the engine, giving power outputs ranging from 320 to 700bhp and massive scope for further tuning. Wayne opted for a mighty Garrett GT3076 – a large turbo but one that allowed him



Carbon detailing extends throughout the cabin



“A further chassis upgrade was in order if he planned on using that colossal power.”

It might have incredible performance, but this is no stripped-out track toy



Yes, it's another Arden Blue VXR, but this one's ballistic power really makes it stand out



Recaro CS seats are incredibly supportive, and incredibly comfortable

>COURTENAY-KLASEN V BAND MANIFOLD

This brand-new item really is the key to the biblical power figures generated by Wayne's Astra, and it's no exaggeration to say that they promise to revolutionise ZzoLE tuning in the years to come. Not only are they of an exceptionally strong construction and free-flowing design, they can also accept a huge range of turbos owing to their TiAL mounting flange and the option of an external wastegate.



to retain the air conditioning system. Just. "Jon bolted it all up and put it on the rolling road which was a tense moment!" says Wayne. "Shouldn't have worried though as it behaved itself perfectly."

Perfectly might well be something of an understatement as with the V Band exhaust and a Klasen inlet manifold fitted the VXR was rolling roaded at a massive 479bhp – over double the factory car's power.

STREET TOUGH

At this point Wayne decided that a further chassis upgrade was in order if he planned on using that colossal power properly – and luck was on his side. "Jon had just taken delivery of some 888 Nitron coilovers – the very same as those used in production Sport Maxx Trophy cars," he says. "Needless to say I leapt at the chance to have them." Before fitment Courtenay swapped the race springs

for KW Variant 3 road ones – a logical step considering the car wasn't a dedicated track toy.

The uprated brakes are just about squeezed behind 8x18in Team Dynamics Pro Race wheels, perfect for ducting as much air to the discs as possible. Inside, the factory interior has been upgraded to plush leather Recaro bucket seats and carbonfibre effect detailing on the dash and doors.

As far as we're aware this is the most powerful roadgoing Astra VXR in the country. Wayne has no plans to part with the car and wants to enjoy its phenomenal power every weekend he can. In fact, he hasn't ruled out a further power hike in the future. "The V Band manifold is flow tested to 600bhp and Klasen have even had one running just shy of 700bhp," he says, rubbing his hands a little bit. "So we'll see how I feel in a year's time!" Forget the arms race, this is pretty much Mutually Assured Destruction! ○

TECH SPEC

ENGINE

Courtenay Sport-built Z20LEH with uprated forged low compression pistons, steel con rods, ported and polished head, Courtenay thermal gaskets and large bore plenum casing, Klasen high lift camshafts, Klasen inlet manifold, Courtenay-Klasen V Band manifold, Garrett GT3076 turbocharger with TiAL exhaust housing, TiAL external wastegate, Courtenay-Klasen 3in front pipe with wastegate link, 630cc injectors, uprated fuel pumps and FPR, 90mm AFM housing, Courtenay Sport Stage 3 remap, Piper 3in exhaust system, Samco silicone hoses, Courtenay FMIC, Pro Alloy radiator

POWER

479bhp

TRANSMISSION

M32 six-speed manual gearbox with Quaife limited-slip differential,

Sachs uprated clutch cover, Helix sprung paddle disc, billet lightweight flywheel

BRAKES

Front: AP VXR 345mm discs
Rear: Courtenay 292mm vented rear disc brake conversion
Braided lines all round

SUSPENSION

Nitron two-way adjustable race coilovers with KW springs

WHEELS & TYRES

8x18in Team Dynamics Pro Race 1.2 alloys, 225/40x18 Toyo 888 tyres

EXTERIOR

Astra VXR in Arden Blue

INTERIOR

Recaro CS front seats with custom trimming to front and back seats, SPA additional gauges, Xenon non-AFL headlamps



THANKS

My girlfriend Terri for putting up with me throughout the build, my son Cory (it's his car if you ask him), my brother Stephen at Auto Brite Direct for detailing it, Jon and the rest of the guys at Courtenay Sport for building such an amazing car and everyone else who helped out along the way.



All that power and yet Wayne can still use the factory fitted air con system



It's no good having a fancy turbo manifold if you can't keep track of boost in the cabin

