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KLASEN

There comes a point where horsepower figures become extreme and, whisper it, faintly ridiculous. Figures that are so high that they're damn near impossible to comprehend unless you've been lucky enough to drive a selection of equally quick cars, the kind of power that makes a heavily tuned XE seem about as potent as a clapped out Dyson. Klasen's Astra is

the perfect example. The UK has a fine history of churning out mental FWD drag cars (Ben Lawless, take a bow), but Klasen's attempts put ours in the shade, so to speak. Here's an Astra that generates 914bhp, all of it sent through the massively wide front wheels, all of it used to propel the car up the quarter mile in well under 10 seconds. We spoke to the man in charge of Klasen, Stephan, and got some more info on what must surely be the maddest, baddest and most



ACT

FAST FACTS

- * C22SEL block, Z20LEH head
- * Garrett GTX4202R turbo
- * 4T65 3-speed automatic transmission
- * 10.5x15in Schmidt TH Line alloys

A 914bhp Astra H designed to obliterate European drag strips? You'd better believe it!



“We ended up having KW design and build some custom one-off dampers”

↙ focussed front-wheel drive Opel in the world.

The Astra is actually the latest in a long line of increasingly bonkers drag Opels built by Klasen, so it's fitting that it pushes the boundaries of Opel tuning further than any of the others. (Other projects to have been treated to Klasen's own brand of lunacy include a 650bhp Speedster and a mad Corsa D).

Development of this car (now affectionately known as the 'Klasen goo' for reasons that'll soon become clear) began three years ago, when Klasen decided to see just how far they could take the Astra H GTC. “We've a special relationship with Opel in Germany, so we were able to acquire a raw chassis direct from the factory – it didn't even have a VIN number,” explains Stephan.

That probably tells you a lot about how dedicated Klasen are to churning out awe-inspiring drag cars, and there was no way this Astra was ever going to (legally) turn a wheel on German highways. The raw shell also

represented the ideal base, allowing Stephan and his team to really assess what they had, and what areas of the shell needed improvement. Suspension was obviously an area that needed work, and even Klasen's extensive range of uprated dampers weren't quite up to what Stephan had in mind for the Astra. “We actually ended up having KW design and build some custom, one-off dampers. They're amazing, but each one costs 1200 euros!”

QUARTER POUNDER

Klasen's extensive experience came in handy, and they were able to use the same double wishbone suspension design they'd perfected in their Speedster. Of course it's hard to discuss a car like this without talking about that engine. It's not even really an Astra anymore, rather an incredibly well designed and built beast, complete with massive, air-guzzling turbo at the front. As you'd expect, an engine of this spec isn't something you can just whip up ↘



Engine is a mix of C22SEL block with an Z20LEH head which Klasen refer to as a 'Z22LEH'

914BHP ASTRA



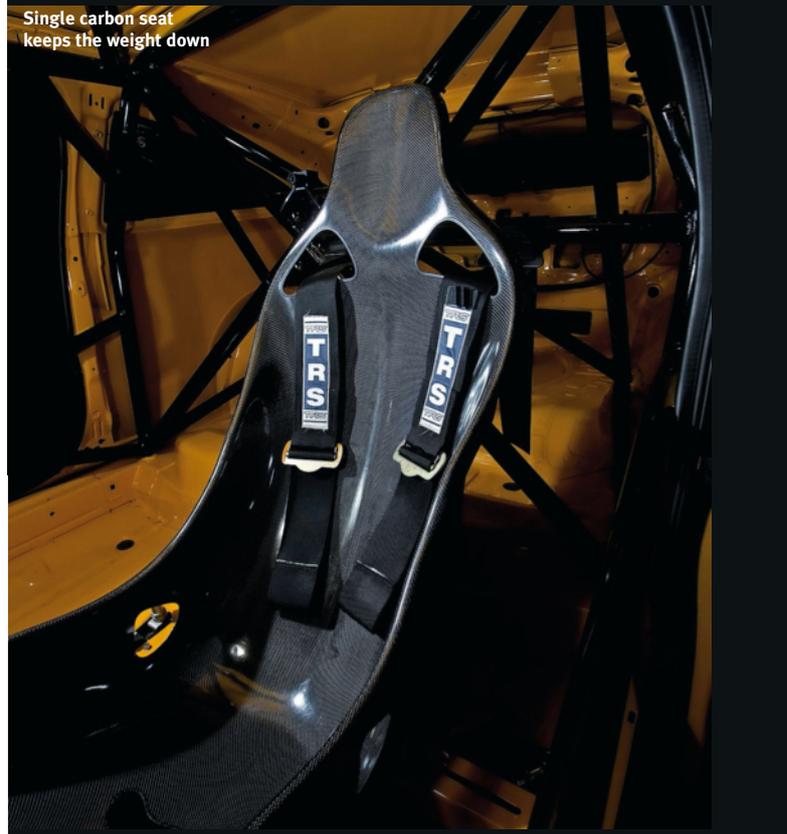
using leftover bits from an XE Corsa conversion, and some of the components contained within it really are very specialised. "We decided to use the C22SEL as a starting point. It's strong, responds well to tuning and we've had good results from them in a number of our Zafira builds." In the block you'll find custom hardware in the form of JE pistons and rods, and a forged crank with a 94.7mm stroke. The bore remains 86mm, though the head has been totally overhauled and is actually from a Z20LEH, with extensive and painstaking porting and polishing, bronze valve guides, mechanical lifters and double valve springs. They refer to it as a "Z22LEH"

Interestingly, though Klasen have

invested in a set of custom turbo-profile cams, they've found the OE valves to be more than up to the task, so are retained. Forced induction was always going to be the order of the day of course, though quite what the Opel management would make of the humongous Garrett sticking out the front of Klasen's Astra is anyone's guess! "The turbo is a Garrett GTX4202R with a Tial turbine housing. The 'R' denotes it has a ball bearing core, essential considering how much pressure it's expected to deal with and the sheer volume of air it must flow," Stephan explains. There's also a Tial external wastegate and BOV, an electric waterpump, and a custom charge cooler complete with an ice tank.



Single carbon seat keeps the weight down



Gearbox is a 3-speed drag auto unit



TECH SPEC

ENGINE

C22SEL block, custom forged JE pistons and rods, forged crank with 94.7mm stroke, water jacketed block, electrical waterpump for the head, ported and polished Z20LEH cylinder head, bronze valve guides, mechanical lifters, double valve springs, custom designed cams with turbo profiles, Klasen inlet manifold with dual plenum and double fuel rails, 1600cc injectors, Aeromotive fuel system, mechanical (cam driven) fuel pump, uprated FPR, Pace dry

sump, Klasen exhaust manifold, Garrett GTX4202R turbo with Tial turbine housing, external wastegate and BOV, 100mm front-exit exhaust, chargecooler, Megasquirt MS3 ECU with data logging

POWER

914bhp, 720Nm torque

TRANSMISSION

4T65 3-speed automatic transmission, Coan Racing torque converter, LSD, custom CNC flywheel, engine/transmission adaptor plate, Astra VXR

driveshafts, custom inner CV joints

SUSPENSION

Custom Klasen double wishbone setup, custom made KW dampers, polybushes

BRAKES

308x25mm brakes with aftermarket pads and calipers (front), Tarox discs and EBC pads (rear)

WHEELS & TYRES

10.5x15in Schmidt TH Line alloys (front), 3.5x15in (rear), Mickey Thompson super soft tyres

INTERIOR

Full FIA-spec roll cage, carbon bucket seat and six point harnesses, mounted oil tank, full fire extinguisher system, chassis strengthened throughout, Race Technology dash with DL1 data logger, Video 4 system with x4 cameras

EXTERIOR

Astra GTC three-door bodyshell in yellow, fibreglass front clamshell, wide arches, polycarbonate windows, drag parachute



“We decided to use the C22SEL as a starting point”

914BHP ASTRA

“In the end we went for a GM 4T65 3-speed from the US”



Front is dominated by the turbo and exhaust that exits the bonnet



↙ The turbo sits on one of Klaseen's own highly respected exhaust manifolds. Fuelling is taken care of by massive 1600cc injectors, an Aeromotive fuel system (complete with cam driven fuel pump) and a beefy FPR. Other spec highlights include a Pace dry sump and custom made interior mounted oil tank, and, perhaps surprisingly – given how advanced this car is – Megasquirt management.

Obviously a 'common or garden' M32 six-speed was never going to be up to the task of handling the power this engine had the potential to generate, so Klaseen looked further afield for a suitable transmission. "In the end we went for a GM 4T65 three-speed from the US, then had it custom built for us by GM Racing over there. It's a 'box that's been used in a number of pro FWD drag cars in the past," says Stephan. It's proved to be a wise choice

too, with no problems to date. All internals are uprated, it has a ten litre oil capacity and can handle up to 1600bhp! Klaseen have also had a custom adapter plate made up to fit the gearbox to the engine, and the transmission now mounts to the rear of the motor. The driveshafts stick out among all this custom work too – they're the OE ones from an Astra VXR, and have proved very reliable so far.

HIGH FIBRE BUILD

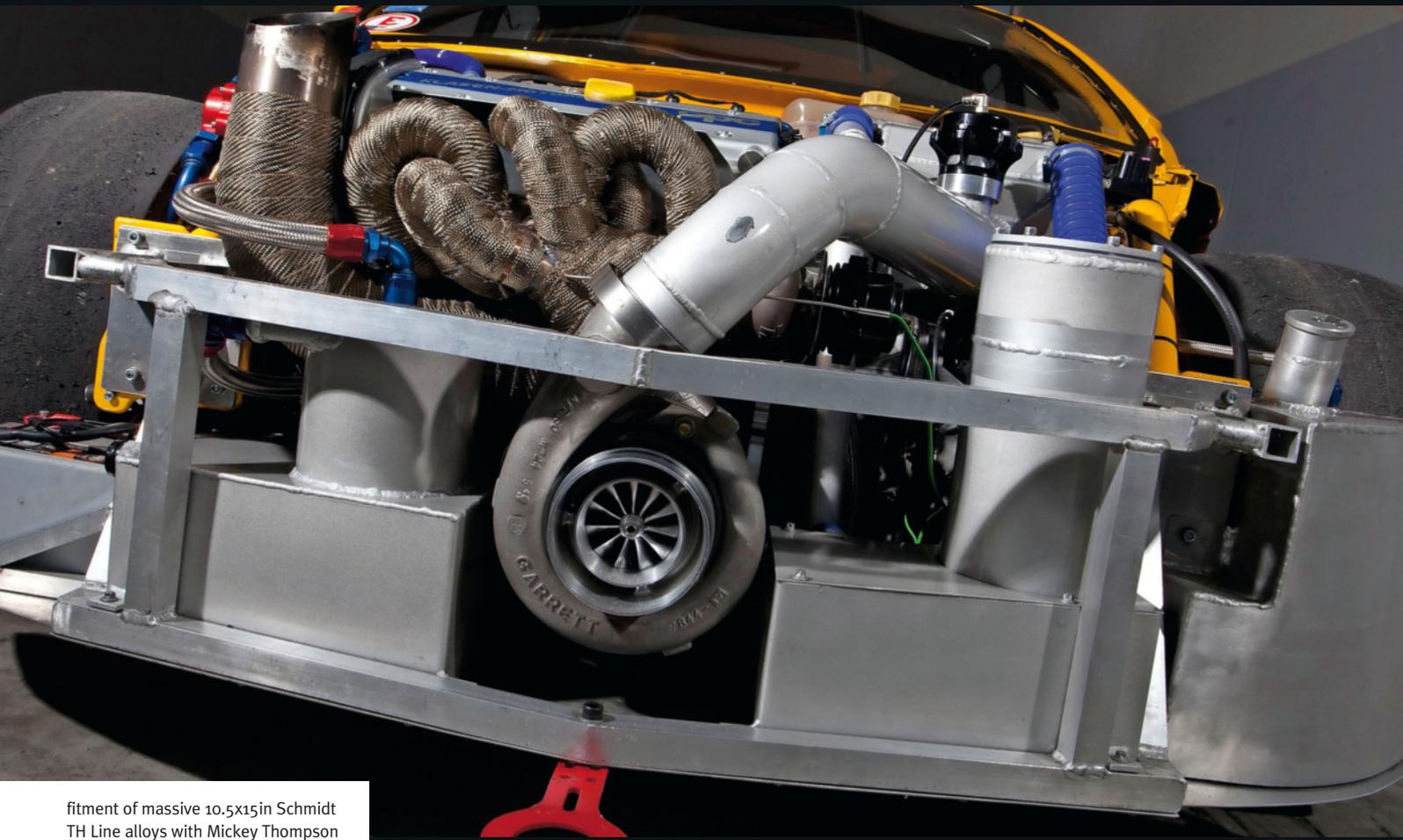
Though Klaseen have retained the shell's original steel structure, the entire front end has been re-manufactured in fibreglass. Not only does this save a phenomenal amount of weight, it also means working on the 'Z22LEH' is a much simpler prospect. (It also means Stephan can run a ludicrously short, front-exit exhaust). The fibreglass front arches are also flared, allowing for the



10.5x15in Schmidt TH Lines are covered with massive drag rubber



Exhaust exits the bonnet for least restriction



fitment of massive 10.5x15in Schmidt TH Line alloys with Mickey Thompson super soft tyres and 308x25mm front discs.

This really is one of those single minded, utterly focussed builds. So much so that it's not especially surprising that the Astra now develops 914bhp with 50psi of boost and regularly sets low 8 second quarter mile times. The way Stephan talks about this car almost makes it seem effortless; a steady, faultless development process that's resulted in one of the most bonkers drag racers in Europe today.

So how do you get to fully appreciate the sheer savagery of this car? Well ideally by popping over to Germany yourself (Klasen are always at the Opel Treffen show), but if that's a bit too much, have a search on YouTube – it's well worth it! ○



Ballistic Astra regularly smashes low 9sec quarters