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**TALE OF
TWO EVOS**
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June '07



MILLTEK Mini

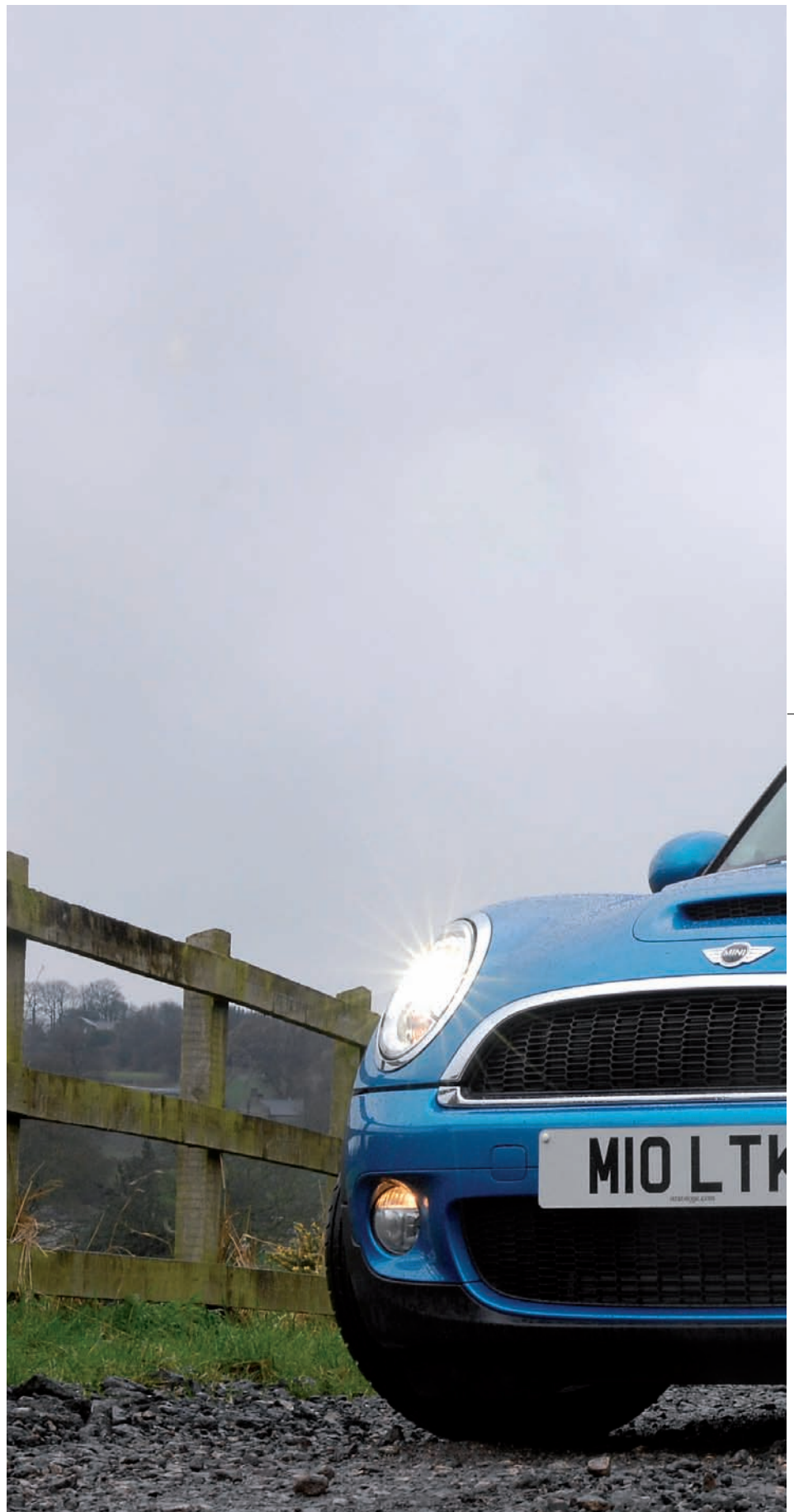
We're waiting patiently at the lights. Bass-box Nova pulls alongside. 'Widdy-widdy-widdy-widdy-BOOOOOOOOM' music distorts on his maxed-out stereo. I blip the accelerator of the Milltek Mini. It gives just 1000rpm, and a pleasingly meaty-sounding growl. It's not overly loud, but there's enough 'don't mess with me' menace there to let onlookers know that this Mini's packing more than average. Clearly the Nova driver's up for dragging when the lights change.

But we're not going to race. I've done less than a mile in this immaculate car, and I'm still getting used to it. Besides, urban drag races may have got my juices flowing once, but it's not really becoming of a family man in his 30s. My mobile rings as the lights go green, and with a shriek of remoulds Nova boy lurches away from the line, all exhaust smoke and chassis flex. Reject call, clutch up calmly and we're off the line smoothly. I'm not revving the nuts off this neat little car through a built-up area just to make a pointless point. But the Mini surges effortlessly forward and past the revving Nova. A huge wave of instant, effortless torque gobbles up the Vauxhall and brushes it aside. The pedal's not been more than halfway down as I slot third and pull away, leaving the young lad staring forlornly at the Milltek Sport Mini's neat twin oval tailpipe.

OK, so beating some kid in a knackered old shed with a £22K motor boasting the best part of grand's worth of after-market exhaust is hardly a 'kill' to boast about. But what has amazed us was that I didn't even try, and a huge wave of easy, accessible torque did the job all by itself.

Peak power may well usually win Top Trumps, but ask any engineer worth his salt and it's the area *under* the dyno graph that counts. Muscular low- and mid-range power makes for exceedingly rapid, effortless progress, whether you're pulling away from a standstill at the lights or giving it large down an unknown twisty road. And this delightful little Milltek

Subtle but effective Milltek exhaust helps Mini punch well above its weight, pushing standard 175bhp up to around 200. Mid-range urge is impressive



HOT AIR? HOT STUFF!

Can a high-performance exhaust system really boost engine power as much as some manufacturers claim? This Milltek Sport-equipped MINI 1.6 Turbo certainly seems to deliver the goods

Words: Tim Cummings Photos: Stuart Collins



MILLTEK Mini



Short flexible section at front of exhaust system (below, right) allows engine a degree of movement without fracturing pipework. Catalytic converter is incorporated in high-flow downpipe. Tailpipe can have twin outlets, as here, or larger single pipe for about £20 more



exhaust-equipped R56 Mini has that ability in spades.

The Milltek staff had given us all the usual spiel: 'We design our exhausts for the road, so we concentrate on mid-range power, not just the top end.' We had let it wash over us, but realise now that they weren't just saying it for effect. The standard car isn't exactly short of mid-range urge, but the Milltek exhaust has given it considerable extra poke.

We're out of town soon, and there's a chance to take it to the red-line through the gears. The pull is strong and linear. It's almost too violent in first; second's still proper rapid, too, as is third. Fourth, fifth and even sixth gear don't dull the performance much. For a 200bhp car this Mini really shifts, and it's undoubtedly that

**Peak power may well usually win
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bulging mid-range power that's making it all happen.

Exhaust note and volume are personal tastes, but most of us like a deep tone rather than a reedy buzz. Milltek doesn't make overly loud exhausts because it says that most of its customers may use a phone, listen to music, or simply don't want a splitting headache after a long journey. This Mini system's pretty quiet most of the time. It's a little louder and beefier than standard, and when you open the throttle it makes itself heard with a pleasing tone. Snapper Stuart reckoned there was a hint of 'booming' when the loud pedal was floored at low revs in a higher gear, but broadly speaking it's pretty civilised, with a polite enough hint that this is a genuine high-performance car.

Plenty of folk who fit an exhaust do so for cosmetic reasons, too. The twin oval tailpipes on this system are again subtly more

ANATOMY OF THE EXHAUST

Exhausts come in many parts, and they vary from car to car. This Mini Cooper S R56 has a turbo that uses the fast-flowing exhaust gases to spin a turbine to drive fresh fuel/air mix into the engine.

Milltek Sport doesn't supply the manifold that connects the engine block to the turbo unit itself for this car. The Milltek system does replace the entire remainder of the standard exhaust. The first part following the turbo is the large-bore downpipe and high-flow catalytic converter. This is an option costing £394 - miss this out and you can still fit the rest of the system, but power gains will probably be around 50 per cent less.

Next comes the front pipe, which has a short flexible section to allow a small amount of movement. Then it's the centre section, approximately where the OE centre silencer would have been. Connected to that there's another pipe before, finally, the back silencer/tailpipe assembly where the gases exit to the atmosphere.

For this system Milltek offers two choices of tailpipe - the twin oval as seen on this car which echoes the original design, or a larger single oval which costs about £20 more.

The entire system is made from aircraft-grade 304 stainless steel. It's about as corrosion-resistant as you can get. Yes, it'll discolour, as any metal will when heated, but it'll never flake or rust. They're unusual in that even the clamps and brackets are made from stainless steel, too. The only part that's mild steel is the lambda-sensor boss. Milltek found that using stainless here can cause problems with the thread stripping. Softer mild steel is a better choice.

MILLTEK Mini



Some might feel the Milltek system 'booms' if you open the throttle wide at low speed in a higher gear, but overall it's pretty civilised. Milltek car not what you could call shy and retiring, but without the signwriting no one would know you had an extra 28bhp or so!

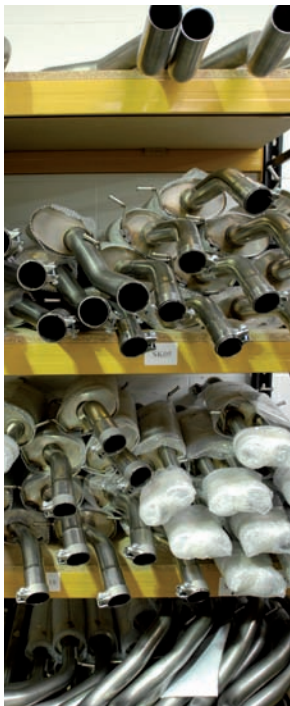


Milltek storeroom has more pipes than a cathedral organ. All systems made on site to precise make and model of car; no guesswork here

aggressive-looking than standard. What's great about this – and all the Milltek Sport range – is that they design each system with the specific car in mind. Some cheaper exhausts will be a combination of a generic back box and some bent-to-fit piping, which never looks quite as good, may be awkward to fit, and may not boost engine performance effectively. Exhausts are complex items, and Milltek Sport has enough experience to know what size and flow is needed at the various stages of the system to help the hard-working engine give its best.

As a driving experience the new-in-2006 Mini 2 is a nice mix of fun and giant-killing ability. With such precise, well-weighted steering and leech-like grip it's a car you can fling round bends with the precision and stability of a purpose-built two-seat sports coupé. The gears slot positively into place, and the brakes are strong and shouldn't start to fade unless you take it to a circuit and really give it some stick.

Like any powerful front-wheel-drive car with no limited-slip diff, it will understeer if you push it hard enough. It's never sudden on



MILLTEK Mini



Car certainly feels like it has extra power and torque, but what would the rollers tell us? Thanks to the Scooby Clinic near Chesterfield we were able to find out for sure: in fact, power peaked at 203.4bhp, torque at 215lb/ft - and that all the way from 2400 to 4500rpm



COMPANY PROFILE: MILLTEK SPORT

If you've a new model of car and want an after-market exhaust, then Milltek Sport may be your only choice: it's quick to develop them for the latest models. But even if you don't have a new car there are plenty of good reasons to choose the UK brand.

The company started as six enthusiasts making stainless exhausts for classic cars in the south-west of England. Now the team has grown to 45 operating from two sites in the Midlands.

Aircraft-grade 304 stainless steel discolours less than many types because it's anti-magnetic. All Milltek systems are made entirely from this material, including the internals and clamps.

When pipework needs to be shaped it's done with mandrel bends - these mean it's not crushed so it retains the same cross section throughout the curve, which gives the best gas flow. The exhausts have a bigger bore than original, and increase both peak performance and mid-range torque.

MD Phil Millington is keen to stress this: 'Take the BMW 335i fitted with our system. The peak power is increased by only 21bhp, but the improvement in mid-range torque means it's a real rocket. The systems we make for road cars are designed to be just that. They give real-world improvements in the cars. They feel quicker and drive better than standard.' He's keen to mention the firm's reputation for excellent customer service, too.

Their exhausts are quality products - as good as original, claims Milltek - and that means they're easier to fit than many competitors. A full system for a Porsche 911 GT3 will set you back a not insignificant £3995, but that includes manifolds.

Milltek Sport's range doesn't include cat bypass pipes. Although these are cheaper, and will give better performance than high-flow sports catalytic converters, the firm doesn't include them because cars without cats aren't generally good for the environment. They're often illegal, too.

Everything is designed and made at their factory in Ilkeston, Derbyshire. Significantly, the firm doesn't use a dyno when developing its exhausts. It has the knowledge and experience to build good systems without it. Plus, as they're often designing systems for the latest cars it's often the case that engine mapping specialists haven't managed to 'crack' the ECUs yet, so the cars can't be remapped. Milltek Sport knows that most owners getting an exhaust will get their car remapped, too, and is confident their products will work extremely well when they do.

the R56, and you have to be cracking on for it to even be an issue. The only mod on this car other than the exhaust is some firmer H&R springs. Use all the power on a pot-holed backroad and you do get chucked about a bit, but on smooth surfaces they make the car turn and grip noticeably better than the standard machine. It's a rapid, fun, everyday-practical car, and the Milltek Sport exhaust just adds to the grin factor.

On the dyno

After sampling some of Derbyshire's finest roads we called in at *Performance Tuner*-friendly Impreza specialist Scooby Clinic (incorporating Clinical Performance) near Chesterfield. We wanted to check the manufacturer's power claims on their independent dyno. A 27bhp gain on a 175bhp car from an exhaust had caused more than a few raised eyebrows from some Mini fans we'd spoken to.

But the Milltek car came good on the rollers. It peaked at 203.4bhp - a gain of 28.4bhp. Even more impressive was the torque curve. It holds beautifully flat and level at about 215lb/ft from 2400rpm all the way through to 4500. According to the official figures the standard car makes a maximum of 177ft/lb of torque from 1600rpm to about 4500rpm. It's worth holding on to the gears as the power keeps coming, but to change up at 6000-6250 as the power's dropping away as it approaches the 6500 red-line.

Comparison with the standard graph shows that the Milltek Sport team have done a mighty impressive job. Plenty of free-flowing exhausts may add a few bhp right at the top of the rev range, but will also sacrifice power lower down, too. This system makes good gains everywhere,

except possibly at low revs where it might be a fraction down on standard.

All figures are measured at the crankshaft. Ideally we would like to compare the same car on the same dyno with the two different exhaust systems, one after the other, but that wasn't possible. While there may be small differences between different dynos and cars we're happy to say that Milltek Sport's claims are genuine, and this exhaust system is officially a good 'un.

The Scooby Clinic guys were impressed with the curves, too, and noted that the fuel/air ratio was 'spot on'. Boss Kev Knight reckoned it would be a deceptively fast car round town. 'To be honest I think that car will upset a few Impreza owners,' he suggested. Impressive stuff from a man who's worked with some of the fastest Imprezas in the country.

Conclusion

We really enjoyed the Milltek Mini, and think the exhaust's a great product. At £894 for the whole system it's not cheap, but considering the power gains and substantial quality it represents decent value for money. Cost it out and the exhaust is about £32 per bhp, but you're getting that muscular mid-range as well. Obviously unless you fancy bolting it on yourself you'll need to budget for fitting, too (£50-£150 depending who does the job). A performance air intake/filter and ECU remap would probably release even more oomph. Plus most insurers won't load you too heavily for an exhaust, which they can do for some other tuning. **PT**

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