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Hot Tuner 2015: Game On!
by Louis Cordony, Iain Kelly, David Morley, Scott Newman, Glenn torrens pics Cristian Brunelli, Nathan Jacobs, Ellen Dewar



9 cars, more than 3000kW, but only one winner: get set as we pull the trigger on Australia's only modified-car shootout

Herrod







e can all admit that modern performance cars are as good as they have ever been. We've never had faster, more comfortable or, arguably, as attractive performance cars as what is available to punters off the showroom floor today. It's easy to point to old cars that nail one out of those three, but all together? Modern cars have them covered (as painful as it is for me to admit as an avowed lover of old tin).

So why would you modify one of these supposedly perfect creatures? Because there is still plenty of compromise and safety margin built into these cars. The engineering underpinning them can support so much more, so why not give them a tweak to unleash a bit more? Why not personalise the cars to stand out from the crowd?

It's these questions that led *MOTOR* to kick off the first professional shootout for modified late-model performance cars in Australia back in 2008.

Aussies love getting brand new cars

and changing them. It might just be a set of wheels, tyres and an exhaust, or it could be completely torn down and re-engineered straight off the dealer's lot – the fact remains we love our cars and we love making them better looking, hammer harder and corner faster.

But how do you actually know if Company A's package will do what it says, or if it's better than Company B's pack? This is where Hot Tuner comes into its own, putting professionally-tuned vehicles to the sword with the aim of comparing apples with apples and figuring out if anyone is telling fibs. If anyone is telling porky pies we find out double-quick and haven't ever shied away from telling the world.

The cars themselves have represented every modifier niche in Oz. We've had everything from tiny supermini hatchbacks, bad-arse blown V8s, a Harrop-tuned 458 Ferrari and Tekno Motorsport's Lamborghini Aventador turn up to run the gauntlet.

Variety has always been the spice of life, but this year steps were taken to ensure the quality of the field was at its best and we were happy to sacrifice some quantity for it.

Despite only running nine cars this year, the demographics they cover means we have one of the most diverse fields in the event's history. We're putting muscle cars, sports saloons, hot hatches, superminis and turbo JDM drifters together in a pot, stirring vigorously and baking on a high heat until one is crowned winner.

Smack talk between the various tribes who make up the tuner scene in Australia isn't anything new, but as it's such a wide church you often wind up with apples being compared to pears or, in some cases, candied bacon. Running the cars we did this year allows us a unique opportunity to really show where each vehicle shines and why. It also allows us to compare bang-for-your-buck through the use of the BFYB algorithm.

We couldn't do this event without the silky smooth skills of Warren Luff, who wrestles the best numbers of out each modified beast





At first glance you might seem a bit bummed we're only putting nine cars through the wringer, but the fact remains we've had more time with each car. We've been able to get journos to drive them, to prod, poke, peer and also talk extensively to the companies responsible for tuning them to fully understand the wherewithals behind each machine.

The fact we charged an entry fee to cover the huge costs involved in running the shootout also meant tuners had to commit a long way out. Simply put, a few couldn't put their money where their mouths were and didn't sign up for the three-day event in the Harbour City.

This year we also held all entrants to a minimum level and standard of modifications. In the past it would have been all too easy to turn up with a Bugatti Veyron wearing carbon wrap

mods you guys and gals can relate to is far more important to us. And we make no apologies to the Thursday Night Maccanats crew for saying that we don't count stickers as a modification.

We've also specified all tyres must have a 140 treadwear to count semislick R-compound rubber out of the competition. This is a rule directly borrowed from World Time Attack regulations and it's all about having the vehicles represent what people actually drive on Aussie roads. While some do use them on their street cars, it really isn't representing an honest street car in our books.

While tyres are more tightly controlled, we've opened up the regs on fuel to allow E85. Yes, corn booze juice is okay for 2015! This comes on the back of increasing availability of the tuner-

especially in full-freight E85 (most is around E60-E70), many tuners now have options to set their cars up on it and claim huge increases over and above traditional 98RON PULP. Many of these gains come from being able to wind a lot more ignition timing into the motors, along with healthy boost increases. This assists in improving the boost threshold (response) on turbo cars as well as how aggressive tuners can get on aspirated or supercharged cars - the throttle response can be knife-sharp!

We hand-filled every car when they turned up to scrutineering on Monday night and then sealed the tank to ensure parity. Entrants were given the choice of 98RON PULP or E85, and many chose to show off their gasohol-tuning prowess and opt for the corn juice.

Tuners were also invited to use their

year's past encouraged, to put it meekly, *MOTOR* to throw the doors open for entrants to bring their own hot shoe along and launch the cars they built. However, while the tuners were given the option, nobody chose to take it up and instead left the straight-line testing of their steeds to the experience and natural born speed of Warren Luff.

It left us with nine cars from eight tuners, along with five journos, one professional driver, a gaggle of photographers and videographers, two race tracks, a dyno and a hell of a job to put it all together for you lot.

The 2015 Toyo Tires Hot Tuner Challenge has been a massive effort from all involved, but running Australia's only professional tuner shootout was never going to be easy.

Read on to find out the skinny on who

Tighter restrictions led to a smaller field than in previous years, but every single car that turned up was of a





e had Luffy test acceleration and braking at Sydney Dragway, literally over the crest of the hill from Sydney Motorsport Park. If you know how heavy a car is and how fast it covers the standing 400m sprint, you can actually extrapolate out how much rear-wheel horsepower it's making with a surprising degree of accuracy.

We didn't need to rely on the old Moroso slide calculator as we have a high-tech Vbox full of computer technology and quite a lot of witchcraft. Luffy did three runs in each car,

e had Luffy test recording the 0-100km/h, 0-400m and acceleration and braking then 100-0km/h for each.

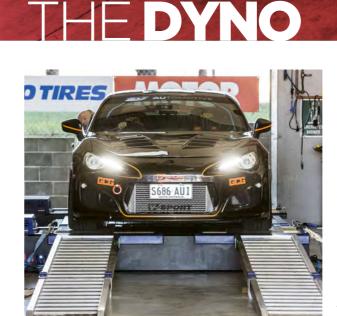
Due to the excessively greasy surface, some cars needed extra runs to complete three full, safe runs. This year we actually let testers nominate a driver of their choice if they wanted someone for their specific car, owing to criticisms of the testing procedure in the past.

However, they all chose Luffy. They were also allowed to alter their tyre pressures for the drag-strip discipline. This was to allow more grip off the line, due to lower tyre pressures giving more "bag" to the sidewall off the line.

THE FUEL

FOR 2015, a control fuel was used to ensure everyone played fair – either E85 or 98RON was fair game but it had to be hand-cranked out of the Hi-Tec Fuels drums. We needed to know that these cars, which were going to cop a righteous flogging over three days with no service time in between, would have a stable fuel in their tanks.

Detonation in these circumstances could be catastrophic to these motors and we're not in the engine-killing business, so we needed to know the fuel had the required octane for the tuners' handiwork.



e once again had the boys from Mainline Dyno bring one of their gun chassis dynos along to Hot Tuner so we could record peak power at the wheels for all the entrants.

AWD1800

The Course The Course

Mapping out the power curve also gives us an indication as to how the car will drive on the street, showing if the grunt arrives in a few hundred RPM, or climbs in a linear arc.

The difference is that the former will generally drive quite poorly outside its window and then come on in a rush of fury with all the subtlety of motoring journos at an open bar. The latter, however, is more like a factory-delivered

package that has power under foot all the time. It's less likely to overpower your tyres in a rush and most would consider a linear power curve to be faster everywhere outside the drag strip.

Cars are individually strapped down and run three times, back-to-back, to get the maximum power figure as measured at the wheels.

We once again called upon the blokes at Fast Torque Performance Engineering to house the dyno challenge.

With their location just around the corner from Sydney Motorsport Park, and with plenty of experience running dyno challenges, it made them the perfect guys for the job.

TUNERS WERE ALLOWED TO ALTER TYRE PRESSURES ON THE DRAG STRIP





erformance testing modified cars on public roads isn't smart, so we reserved a day at Sydney Motorsport Park's twisting, tumbling South Circuit. We needed to know just how these cars behaved at their limit; and while the larger Grand Prix circuit at SMSP is faster, the tight South Circuit shows up glaring errors in handling set-up or deficiencies in tuning.

The tight, heavily undulating layout pushes tyres and suspension, two areas which can make or break an upgrade package. And it also shows when tuners are relying on a good factory package to hide a lack of their own R&D.

After Luffy did a flying lap in each car

to record a time, the journo assigned to write up each car got to cut a couple of laps to really get a handle on how the cars behaved at speed.

Thankfully, no journalists were harmed in the making of this event, although Morley got a bit of dirt in his eye and Glenn Torrens almost fell off the tyre barrier during a regular bout of over-excitement.

We have to thank Sydney Motorsport Park for allowing us to base the 2015 Toyo Tires Hot Tuner Challenge out of the South Circuit garage, using it as Parc Ferme from Monday night, scrutineering and also the hub for photography for the three days.

THE WHEEL MAN

WARREN Luff: the man, the myth, the hairdo and smile so bright it can be seen from space. He's our gun tester because he's one of only a couple of people in Australia who can hop behind the wheel of a whole range of totally different cars and be not only eye-searingly fast, but consistent too. His experience driving fast on road tyres and suspension, and with modern stability control systems, gives him the edge over most other testers, plus with suspiciously little encouragement, he can hang the tail out and blaze fatties like it's going out of fashion. Follow Luffy (and his dog Gnocchi) on Facebook, by searching for him, or Twitter - search for @wazzaluff.





WHO: Harding Performance
WHERE: 11 Castlemaine Street, WHERE: II Castlemaine Str Coorparoo, Queensland HOW LONG: Since 1998 CONTACT: 1300 730 949 EMAIL: info@hp.net.au

WEB: hp.net.au

SPECIFICATIO

DRIVE: all-wheel ENGINE: 1984cc inline-4, DOHC.

GEARBOX: 6-speed dual-clutch **SUSPENSION:** coil-overs, A-arms, anti-roll bar (f); multi-

links, coil-overs, anti-roll bar (r) **BRAKES:** 370mm ventilated discs, 6-piston calipers (f): 310mm ventilated discs, single

piston calipers (r)

WHEELS: 18 x 8.0-inch (f/r)

TYRES: 235/35 ZR18 (f/r);
Yokohama Advan AO50

PARTS AND PRICES

AFR STAGE 2	40000
INTERCOOLER	\$1995
TRANSMISSION TUNE	\$1495
EXHAUST	\$5775
INTAKE	\$750
SUSPENSION	\$2599
BRAKES	\$3995
WHEELS/TYRES	\$3283
FITTING COSTS	\$1090
TOTAL MODS COST	\$24,97
VEHICLE COST (MSRP)	\$55,24

TOTAL COST \$80,212





GUY HARDING

For the MkVII, it's a complete fresh-sheet approach

arding Performance brought a mildly fettled MkVII Golf R to Hot Tuner just to prove how good the new-gen platform is. It was a brassy move considering the opposition, but Guy Harding admits the Volkswagen engineers had made it easier for his team having refined the Golf platform to a point of excellence for the seventh-generation model.

"Everything is new to us, so we have to start from scratch again," he says. "It's a complete fresh-sheet approach as the MkV and MkVI were very similar, we've had them since 2005. Everything we applied to the previous models over the last nine years no longer applies.

"We took the new cars out and tested them standard. It's taken quite a while to get into the engine management and the new chassis; the suspension development has taken quite a lot of time as the new car is more stable and we can't get the easy, quick gains we could on previous models, as Volkswagen has already taken care of those simple fixes."

What Guy and his team delivered was a mild but devastatingly effective 2015 Golf R. APR supplied the tune for the motor, E85 conversion and (prototype) intercooler, while HP tuned the DSG trans for better shifts and Milltek again provided an exhaust for aural delight.

The R600 intake, Sports springs and monoblock front brakes are from Racingline, while the swaybars and alloy control arms come courtesy of HP and SuperPro. With a retina-pounding vinyl wrap, the angry R is finished off with Racingline 18-inch alloys shod in Yokohama AD08R rubber.

"This Stage 2 Pack is almost as fast as our older Stage 3," Harding admits. "We're not yet sure if the MkVII Stage 3 will easily surpass the old one, as the cylinder head has a restriction. It has an internal manifold so the runners out of the cylinder are no longer visible and that's going to be our bottle-neck."

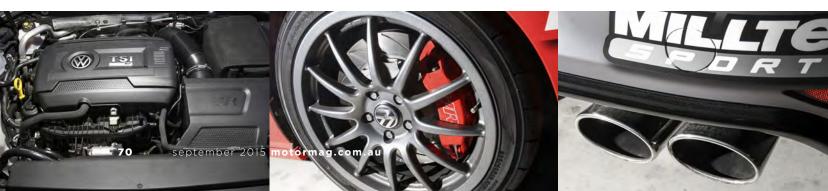
That restriction is balanced out by newfound opportunities with the MkVII platform in the form of dual-valve lift

control. And, in bigger news, it can now run alcohol-based ethanol fuels.

"E85 is new for us because, since the introduction of direct-injection to the VW Group in 2005, we just haven't had enough fuel capacity," Harding explains. "The aftermarket parts for DFI just don't exist for us; things like fivevolt injectors and the management to run them. This car, with eight injectors standard, including the crucial portinjectors, we can now get the flow to run E85. It's been a big step for us because we're getting race fuel performance for \$1.10/L instead of \$8/L. I think it's going to be big in VW tuning."

So, with such a good base car does Harding see the trend for VW tuning slowing down? Far from it.

"We have a lot of young professionals buying these types of cars, and we have to include the Audi S3 on this as it's the same car with a different skin. The new S3 is the biggest resurgence of Audi tuning that we've seen in a long time, like the old WRX and Evo thing." - IK







The combatants have bared teeth. Their makers have made their claims.

But only the MOTOR wringer can reveal the truth - and our winner





HERROD FIESTA ST

What it lacks in outright speed it makes up for in smiles-per-hour











LUFFY SAYS



"THE Fiesta ST is a great little car. For too long hot hatches have become too soft and don't live up to the proper hot-hatch tag. But this thing is a lot of fun to drive – you can throw it around, you can slide the rear, but it's still got really good power and good overall dynamics. The modifications have really enhanced the overall package of the vehicle and just made it that bit better again.

he stiffer Mountune springs are probably the first thing you notice on the Fiesta ST, even on a smooth surface like a race track. Then again, suspension compliance is not a Fiesta ST long-suit even in standard trim, so it's not like the end result has gone backwards.

There's also a whole lot more body control on the change of direction; something that the ST is otherwise pretty good at to begin with. It looks tougher being tied down a little, too.

In any case, what you notice about the car is not the ride it provides, but the pointiness that's been dialled into the ST's front end. What was already a pretty nosy little bugger is now a deadset apex-sniffer, and the trick is not to overdrive the thing with too much input from the helm. Side-step? Check.

Then there's the grunt. Oh yes. To be perfectly honest, the Herrod ST does feel perkier than the stocker, but it doesn't seem like a wholesale power hike. That, says Herrod, is because the calibration only allows for an extra three psi over the standard car's 17psi, meaning that the improvement is mostly

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downstream of that, in the exhaust where the lower restriction system simply flows better, allowing for a more efficient air pump.

So, on the dyno, the little Ford managed 121kW where you'd expect about 100kW from a standard ST. But it's the torque curve that will make you smile and there's a huge spread of grunt from about 1800rpm to redline.

That was good enough to get the ST to 100km/h in 6.8 seconds and across the quarter in 14.7. The big issue, as always with front-drivers with plenty of squirt, is that the front tyres want to go up in smoke when you try to launch. Even so, with Luffy at the controls, the ST was still quicker with the ESC switched off, suggesting that Luff is a freak and that the Ford hooks up reasonably well.

But, again, it's the in-gear squirt and roll-on thrust that makes the Fiesta such a blast to hammer around a track. Okay, so its 68.1 second lap was slowest of the bunch, but it feels fast and it should be a lot kinder to its tyres and brakes than some of the heavier gear here, too. Luffy backs up that assessment after a few laps, saying that the little Ford's

corner speed is probably its trump card.

Okay, so more grunt would make it even faster, but would it make it any more fun? Well, there's already a fair dose of torque-steer when you get on the noise, and I don't see that improving with even more urge trying to tear the front wheels off.

If you were to spend more money (which kind of defeats the purpose, I know) it'd probably be on a set of demon brake pads. As it is, the ST took almost 39 metres to haul up from 100km/h, despite it being about a tonne lighter than some of the other stuff at Hot Tuner.

And one thing that doesn't sound important, but you wouldn't do without, is that short-shift kit. It makes gear selection not just faster, not just more accurate, but heaps more fun, convincing you of the need to shift just for the hell of it. And I reckon that quick-shifter is a metaphor for the whole Herrod Fiesta deal: it doesn't cost much, doesn't re-engineer the car in any major sense, but simply makes a fun car even funner. And, no, I don't care that there's no such word as funner. – DM























LUFFY SAYS



grade on this car and it's ine can do for an everyday ar and still make it really seable. This thing would be



The MRT Big Brake Kit up front will set you back \$3426; at the rear, the MRT Super Sports Brake Kit is another \$1050

MRT SUBARU WRX MRT's super Rex is more than the sum of its parts t's a bit strange to jump into a tuned WRX and not be confronted by the active diff controls in the centre console. It's a sharp reminder that this s a WRX, not an STI. But if anything, that just makes the anticipation all the more tasty. Can this thing really hand an STI a blood nose? Um, not sure. I reckon I would want

DEVELOPMENT VEHICLE

to back-to-back it with the hotter factory version before I made any bold statements. But I can tell you that the MRT Rexie is definitely as fast as the STI, despite giving away half a litre of engine capacity.

MRT boss Brett Middleton is not kidding when he says the twin-scroll turbo of the WRX spools up quicker than ever before, and the dyno figure of just about 190kW at the treads is proof that the tuning works, because that

equates to something like 240 or 250kW at the crank – the stock STI manages a claimed 221kW.

On the dragstrip that amounts to 0-100km/h in 5.8sec and a standing 400m time of 13.7sec. And that's after Brett had leaned into the window of the car and reminded Luffy that he was dealing with a standard clutch.

For Luffy's part, the dragstrip showed that even with the extra grunt, the Rex was still at the point of bogging as he launched. It also showed that he needed fifth gear through the traps at the end of the quarter.

Clearly, on-road roll-ons are going to be the MRT WRX's thing. Did somebody say real-world performance?

The South (Amaroo) Circuit at Sydney Motorsport Park has a wicked little uphill section after the first couple of

turns that points you at a blind crest and then into a downhill braking area before a don't-mess-this-up left-hander. And the eye-opener for me was just how bloody fast the MRT Subie was across the top and into the abyss of that crest. Where some cars want to lift a wheel on the kerb on the right-hand side, or feel like they're gonna get all light on you, the WRX just smashed its way over the top and gripped up, with me hanging on like a terrified barnacle.

Okay, so all-wheel drive is part of the secret, but equally, the way the suspension is set up is also a big part of this ability to maintain grip and, therefore, speed. Frankly, I reckon the coil-overs on this car are probably where most folks should start when it comes to souping up a WRX.

Unlike a lot of coil-overs (or, indeed,





the stock STI) these aren't rock hard. In fact, they almost feel a bit underdone when you're pootling about, because the ride quality is better than any stock WRX derivative I've ever driven. But make them work and the control is phenomenal.

Yes, the MRT Rex will still understeer a fraction if you jam it in too fast, but it's a mild case of the pushes and it only really happens in the slower stuff. Meantime, get your entry speed right and the MRT car just loves a good spanking. It actually seems to come together better the harder you flog it. Maybe it would hand an STI its

backside on the track, maybe not, but it would be a hell of a road car with so much more ride compliance, it'd be chalk and cheese. And if you wanted to save yourself a few bucks and delete the STI body kit, which would otherwise set you back \$2500, this thing would be a real stealth bomber.

I imagine the problem will be that kids actually want all that active-diff stuff inside so they can play with it and actually make the car worse. But for us grown-ups, the MRT Rex makes a strong case for itself in the real world of speed humps, potholes and the Highway Patrol. - DM









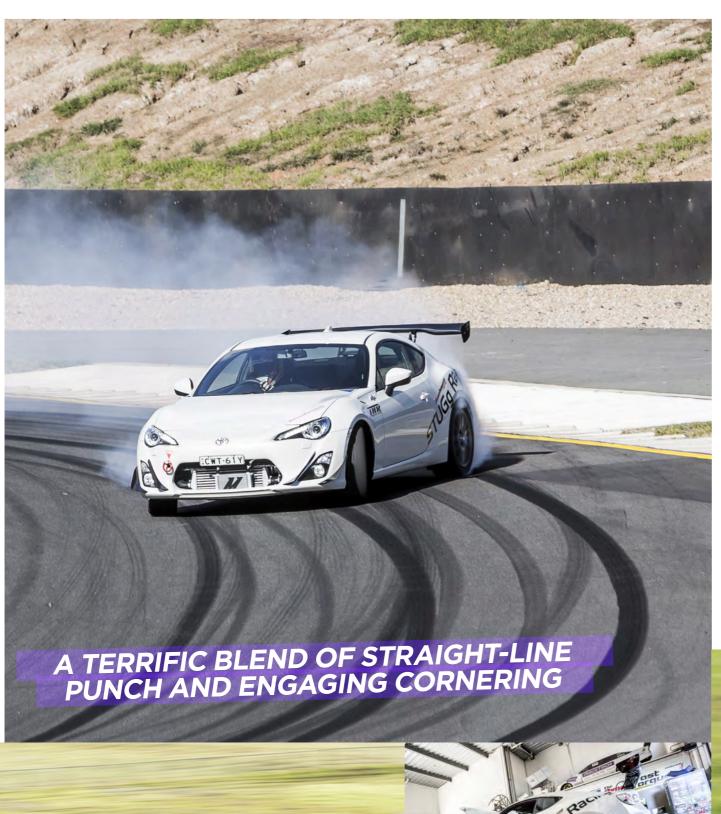
100-0KM/H



TRACK







ar girlfriend likes this.



n the dragstrip, the Tunehouse 86 knocked out a 13.9-second run, which is clearly below the car's potential. And here's why. Even with just 16psi in the rear tyres – to improve traction off the start line – when 247rwkW teased the tarmac, Luffy found the only way to quell wheelspin was to feather the clutch, even after four or five practice launches and burnouts to warm the tyres.

Thankfully the car didn't suffer badly from axle tramp that can, at best, add to the car's time or, at worst, break a diff or axle.

With the technique sorted and Luffy's left foot up and right foot down, those of us watching from track-side could see that the car was burnin' its treads for the remainder of first and most of second gear, and it emitted a decent squawk into third. Yep, wheelspin.

Don't take that as criticism. The 182km/h top-end speed means this thing is hauling, and as anyone who has tried to build themselves a daily driver/ drag-racer/track all-'rounder will know,

ticking all those boxes with a single suspension tune is a difficult, nighon impossible task, even with quality hardware such as the MCA Suspension hardware under this car. Getting a car to hook-up is hard work and to make this car a straight-line warrior, rather than an all-rounder, would probably see a full second sliced from its quarter-mile time.

Already a respected drivers' car from the showroom, the tweaked Toybaru impressed in the roundy-roundies. Its Australian-made MCA Suspension Pack consists of springs and dampers both ends and camber plates and a strut brace up front. They're time-honoured and typical hardware upgrades for a front-engine, rear-drive car but often, overzealous spring and damper rates can upset handling.

Not here. I only had three laps in the little warrior – hardly time for me to settle-in to the seat and driving position - but even in those few short laps around the circuit, the car was a terrific blend of straight-line punch and engaging, feelsome cornering.

There's good balance to the chassis;

progressiveness of the wicked-up engine's power delivery meant there wasn't any stepping-out at the rear due to the boosted torque overwhelming the grip as the throttle was squeezed. Nor was there any understeer – something else that can afflict a power-heavy car with a mismatch of front-to-rear grip.

The extra performance from the DBA/ AP tweaked brakes put a big cheesy grin on my face with great initial bite and a high but sensitive pedal that inspired confidence. On-track or off, few things take the fun from a good fang than a brake pedal that's long when trodden on.

Thumbs up for the on-track capability and it's a big gold star for the low/ normal-speed driveability, too. Enginewise, there's no grumpiness or bucking around, as is sometimes the case with cars that have been enhanced with big power but scant regard for running around-town.

The ride is firm without being harsh and the overall package is something you would be happy to drive to work each day... with Friday on your mind. Top result. - GT

Traction is strong, but those Federal 595RSRs can be still torched thanks to









0-400M



100-0KM/H





LUFFY SAYS



out there. We know the 86 i great platform to start with akes it to that next level. You can take it and use it as an everyday track car, but still have a fantastic road car. Th engine's really driveable and not one part of the car that' been left untouched and everything has been done



vents protrude from the carbonfibre bonnet to maximise air flow



stock car.

t's with a strong sense of trepidation driver's bucket seat, the surroundings that I approach the ROH Wheels are familiar, but the swell of turbo Toyota 86, helmet in hand. Y'see, torque that arrives as we leave pit during our previous acquaintance at lane is not. By 3000rpm it's already Sydney Motorsport Park the car proved propelling you rapidly down the track, mind-scramblingly fast, yet also one and it's accompanied by a soundtrack of the most challenging cars I've ever that's both harder and deeper than driven, seemingly capable of power the stock car, overlaid by all sorts of whistles from the turbo. oversteering in every gear. And John Healey of V-Sport says it has even more The ROH 86 wears fairly aggressive power now. Help! rubber by road-car standards, and the initial laps are spent building

In fact, on the Mainline Dyno it growled, hissed and popped its way to an impressive 286.6kW at the wheels - almost 300 per cent more than stock straining against the tie downs as it came on boost. With the Sydney Dragway surface having been swept clean during recent heavy rains, this mammoth power meant grip was at a premium and constant wheelspin in the first three gears limited Luffy's best efforts to 0-100km/h in 6.39sec and a 13.64sec quarter mile.

Those numbers are significantly quicker than you'll achieve in a stock 86, but far from a true reflection of the car's performance. For a more accurate picture, check out its terminal speed - at 181.12km/h, the ROH Wheels car is more than 30km/h faster at the end of 400 metres than the stocker. It's fair to say that on a sticky track, mid-12s would be there for the taking.

Back on track, sitting snug in the Velo

changes – holy mother of God this car is fast! When on full song, the turbo sounds like it's inhaling the road in front of it, the power of forced induction picking the car up and flicking it towards the next corner at such a rate that it's a good thing those monster DBA rotors have been installed.

tyre temperature, the rears fizzing in

second as the boost arrives. At this

relaxed speed, it feels very much like

a regular 86. There's much less roll

courtesy of the stiffer suspension, but

the brakes have a reassuring firmness

and the steering's weighting and rate of

response are easily identifiable from the

It's when throttle meets carpet for the

first time in third gear that the game

Before, the brakes felt to have far more performance than the tyres, but with wider rubber on the front (now 265mm)

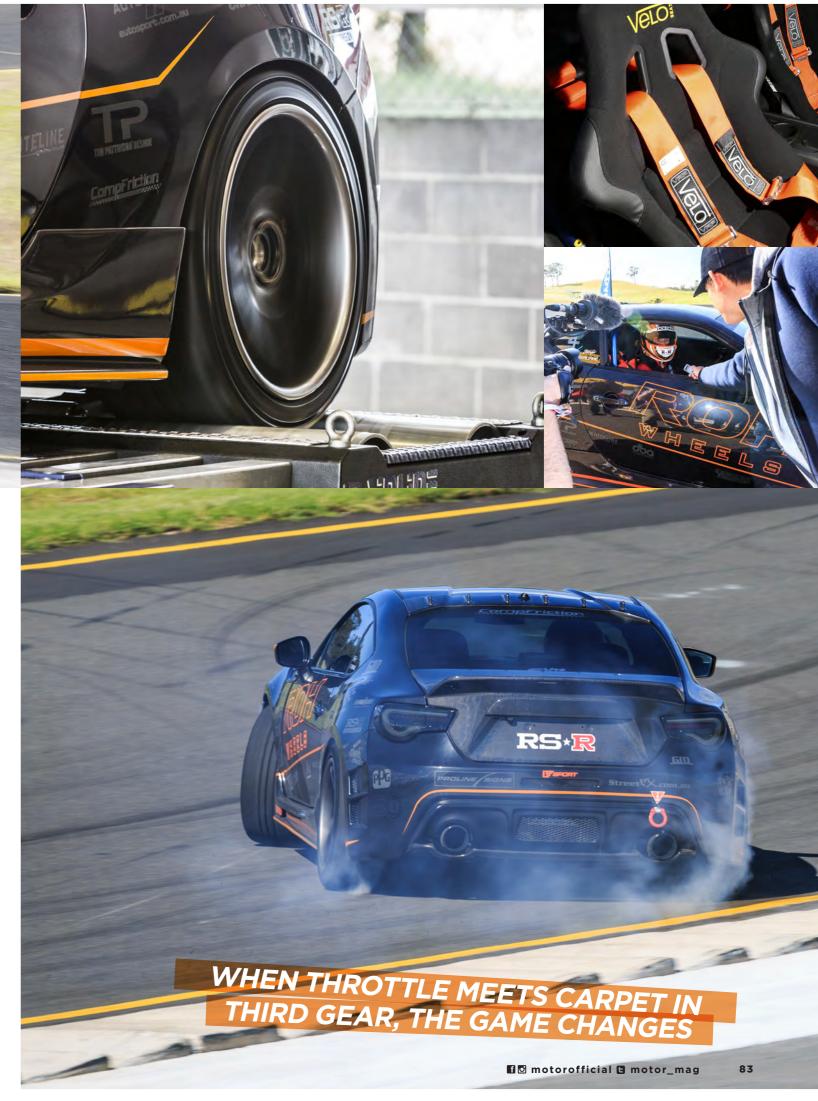
you can use more of the impressive

stopping power (pulling up from 100km/h takes just 35.60m).

Initially the power is intimidating, but as confidence builds you realise that the inherent 86 balance is still present, only at massively higher speeds. However, with over 450 horsepower on tap, breaking traction in the slower corners is only a flex of the right ankle away. Heavily turbocharged cars can often be a right handful to slide smoothly, but the ROH's smooth powerband makes it a hell of a lot of fun.

In fact, Luffy was full of praise for the engine's response. And, combined with its impressive cornering capabilities, the ROH car clocked the fastest lap time of the event, a scorching 61.4sec lap pipping the Tunehouse 86 by a mere tenth. To put that in perspective, last year the Tekno Performance Aventador was less than a second quicker, at more than 10 times the price! In fact, Luffy even stayed out for an extra lap because he was enjoying himself so much.

It may no longer have the headlinegrabbing twin-charge system, but the ROH Wheels 86 is a far more enjoyable and resolved car in its current iteration. It's reasonably well-mannered, looks superb and while 50 large is a hell of a lot to spend on a \$30K car, it would simply destroy any standard production car of a similar value. And that's nothing to be scared of. – SN





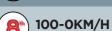


HI-TORQUE CLUBSPORT

Mild-mannered on the outside, psychotic under the bonnet













LUFFY SAYS



"THIS car is all about the engine. It feels like if HSV decided to bring out the Clubsport with 700hp at the treads, this is how it would come. Look, it's got a massive amount of power and you can turn the tyres in any gear, but it still feels like what you would expect to buy it from the manufacturer. The work that's gone into making it as driveable and liveable as what it is, is a credit to Hi-Torque Performance."

y now you should have seen the video on MOTOR's Facebook page with Luffy hanging the Clubsport sideways at well over 100km/h around the back of the Sydney Motorsport Park South Circuit. The wall of smoke that was pumped out was equal to anything you'd see at a D1 drift comp... or the

Now, while I've driven plenty of overpowered street cars, I didn't have the stones to attempt such a move in someone else's borrowed car at that particular location. At least, that's my excuse and I'm sticking to it.

Summernats burnout finals!

The fact of the matter is that Hi-Torque built a car that drives around on part-throttle like any other near-new Gen-F HSV. It's quiet and while the clutch is particularly brutal (a necessary evil due to the strains of two straight days of performance testing) there are no other signs you're piloting a machine with more horsepower at the treads than

a V8 Supercar has at the flywheel.

Sitting in the pits it's a civilised, refined and thoroughly comfortable large family sedan. All the features work and it's quite tame and comfortable to drive when you're not trying to peel bitumen off the face of NSW terra firma. Everything works like a factory-built car and there isn't much of a hint of the violence lurking within, apart from a bit of a cammy vibe at idle and that brutal clutch.

Plenty of tuners talk a big game about making hypercar power from a family car, but in practice they get the balance of race and street weighted too far towards the race side. We had a man at Hot Tuner with first-hand experience in a V8 Supercar, so everyone was keen to hear Luffy's thoughts on the HTP brute.

He came in from his lap wide-eyed but beaming with praise for what Kent and the HTP boys had done. "If Holden built a car with 700hp that is how I'd expect it to drive," exhaled Wazza. While it has recorded a best time on the strip of 11.5 seconds, the best Luffy could do was a 12.35, which he ice-skated to the top of the Hot Tuner tree. The sight of the Clubby spinning the tyres through fourth gear on the drag strip was awesome, though it hurt it in the 0-100km/h discipline, recording a 4.89sec time for a fifth-place finish.

The standard brakes and tyres, combined with a huge kerb weight, also saw it finish eighth in the 100-0km/h test with a 38.49m stop. Luffy also brought the big beast home in eighth on the track thanks to a 66.30sec lap time.

Still, it obliterated the competition on the dyno with a 517rwkW run, making 396.2kW more than the Fiesta! It was enough to see the Clubby finish fifth overall. But the scorecard doesn't tell the real success story of this car.

Part of the reason the package works so well together is that Dalton has the experience to know when to stop with the mods. Sometimes, as other cars also proved at Hot Tuner, you need to know when just enough is required, otherwise one area of the car can overpower others.

That might seem like an illogical thing to say about a car which can bake the rear tyres at will in any gear, but the fact is this isn't a machine you drive at full throttle, or steer as hard as you can go. It's an exercise in restraint and moderation, using the huge response in the mid-throttle area to move the car in a smooth, seamless way rather than blasting on maximum attack.

Shockingly, there aren't rattles or strange vibrations. And it didn't get hot after a couple of punishing laps from Warren, or idling for extended periods in the pits. If you'd told someone 15 years ago that you could have a car as powerful as the Hi-Torque Clubsport with impeccable manners, they'd have had you locked up.

If power corrupts and absolute power corrupts, then I'm now as bent as a dog's hind leg. – *IK*









ERROD XR8

ust in case you somehow

introductory comments of the

Herrod XR8 on page 65 as

mistakenly took the

some kind of message that it isn't fit

345kW at the Continentals probably

or, indeed, fast, think again. See, those

equate to something like 430 or 440kW

at the crankshaft. And that, as anybody

who has ever piloted something with

that sort of poke will tell you, is not

through the bars of its cage.

something to be prodding with a stick

True, the XR8 ain't no racecar and, on

road tyres and a slush 'box, it wouldn't

be our first choice of track-day weapon

either. It is sharper than a stock XR8,

suspension package that took up many

though, and that's all down to the

hours in the Herrod workshop. The

engineers made sure the spring and

damper rates were not only spot on in

their own right, but also a harmonious

partnership when plonked under the

It works, too. The end result is not

only sharper than a stock XR8, it

actually rides better, too, and will

FG's bodyshell.

No track star, but a better XR8 in every area

0-100KM/H



100-0KM/H



DYNO



TRACK

LUFFY SAYS



THIS is a really fun car. The engine modifications have given it that little bit more power, so it's got really goo low-down torque. It doesn't hurt the driveability off the corner or anything like that and it's still got plenty of traction. It's got so much more torque and it's there hroughout the whole rev ange. Herrod has tightened up the whole package and made it that bit more

secondary bounce into the show. Actually, this ability to behave more

sharply but still ride well is possibly the most unlikely aspect of the car, but also possibly the one that you'll come to appreciate most as the months and kilometres roll on by.

There are, of course, limits imposed by the laws of physics. That limit is reached when the front tyres can no longer deal with the combination of the steering angle dialled up by the driver and the sheer mass of everything south of the front axle that's attempting to drive the whole plot in a straight line. Not surprisingly, the straight-line thing will eventually win out.

It's also fair to say that the XR8 never really loses the feeling of being big and heavy. This is because it is big and also heavy. Again, no surprises there.

This physics stuff manifests in a laptime of 64.4sec – hardly up the pointy end of things, but again, this is not a track car by any stretch. And to call once again on the comparison with the Hi-Torque Performance Clubsport, with which the XR8 most closely matches on weight and wheelbase, the Henry was

track, despite all those extra kilowatts under the HSV Clubbie's lid.

So a racecar it isn't, but the way the grunt comes on hot and strong, and the long wheelbase of the Falcon package, means this would be an awesome drift car. The combination of fairly benign reactions and huge wallop means you can pile into just about any corner – no, any corner now I think about it – and dial in the amount of oversteer you want just by regulating how much clog you throw into the mix. From there, you can fine-tune the angle of lunacy with a very intuitive combination of tiller and gas.

It's one thing to try this yourself, but another altogether to watch Luffy do it at high speed. The Ochre One would loom into view before the South Circuit's main straight, hammer down past the post and then drift the XR8 into a glorious, smoking, long range, low-flying strip of wrongness, leaving two black lines and a haze of rubber smoke to mark his passing.

This is also why the Herrod XR8 started losing chunks of its rear ContiSports about three laps into proceedings. - DM



















LUFFY SAYS



"IT feels like a bit of a caged lion because it's got so much potential and the tight confines of the circuit don't really allow you to explore the true potential of the car. But it's such a fun car to drive on the limit. It's so responsive to everything you do. The work that's been done helps to sharpen it and make it more responsive. And the engine in these things is just so good. Take it onto the full circuit here and this thing would really show some people up."





CPC BMW M4

Wheelspin hinders the M4's title shot

he M4 was a seriously fancied contender for outright honours at Hot Tuner, and it didn't disappoint. It struggled with grip during straight-line testing and its immense speed was cruelled by the South Circuit's tight layout, yet it still came third outright against far more nimble, harder-tuned opponents.

A 37.15m result in the 100-0km/h braking test was its worst performance, while the 4.8 second 0-100km/h acceleration run was plagued by chronic wheelspin on a very green Western Sydney Dragstrip surface. Luffy was

often deep into third before the big coupe hooked up and gripped!

The big six's lap time said more about how tight the Sydney Motorsport Park South Circuit is, with a 62.40 second lap good enough for third. The lightly fettled M4 showed its true potential in the 0-400m and dyno disciplines, wheelspinning its way to a 12.44 ET and punching 321kW at the treads with ease. These results were good enough for second and third outright, respectively.

On the circuit you could feel the M4's considerable size. While the steering and transmission were typical high-quality

BMW, albeit with the flash-tune on the shifting software, the huge top-end rush of the turbocharged motor felt like too much in the concrete confines of the South Circuit. Without Luff-level skills behind the wheel, I didn't have confidence to really stand on the throttle and wind it out.

That said, under brakes and through the corners, the M4 was a revelation at how you could drive quite lazily and it would still power around the track like it was hoovering up miles on a freeway.

A huge amount of work goes into the black magic of tuning a car's ECU, and

A slippery Western Sydney meant putting the CPC M4's immense power down was a constant struggle



I drove the car in every mode, and even in Comfort the M4 was rewarding, fast and entertaining. It's all too easy to get caught up tuning cars to be as hardcore as possible, but the real art to building a better street car comes in how it responds to part-throttle loads, rough roads and all the crappy stuff we have to deal with away from perfect racetracks.

It also sounds like complete aural pornography, too. The Akrapovic exhaust might cost a shade under \$9500, but it gave everyone who heard it tingles up their spines. After all, a good exhaust note is an intrinsic part of the appeal of modified cars.

Still, we couldn't get away from the fact the CPC M4 was a big, powerful, fast car on a tight race track and Luffy

The massive amount of midrange grunt, that makes the car so devastatingly fast on the road, also hindered it at SMSP's South Circuit as it would start really moving just in time for yet another tight turn.

With its fantastic grand-touring potential and ability to demolish in-gear acceleration runs, it's probably the perfect contemporary coupe to take from Melbourne to Brisbane via the outback, yet its pin-sharp steering and fantastic poise means it would also be incredible fun on the Oxley Highway.

Couple in the fact the M4's build quality and interior spec level are
A-grade — and the CPC mods make it a real visual stunner — this BMW is a jack-of-all-trades, and master of plenty. — *IK*















LUFFY SAYS



"SUCH an easy car to drive on the limit. The grip levels and the dynamics of the car are just so high that on each lap you just keep pushing harder and harder and it still just wants more. It's very forgiving in the way it handles and the way it does everything. It's a great overall package. It goes to show you don't have to spend silly money to make an improvement that makes a much better car."



Our own experiments with Michelin rubber and an A45 proved the two are a match made for speed



V-SPORT A45

The AMG puts on the hurt with an all-round approach

raking know-how runs in V-Sport's veins, and the meagre distance covered by its A45 after Luffy stomped its middle pedal proves that point.

Not only does the accomplishment of coming to a complete stop in 33.8m crown the V-Sport-fettled AMG as this year's most efficient braker, it's a figure that squashes any braking test we've completed with a stock A45.

But its wheels aren't stuffed full of race-grade hardware. In fact, all V-Sport has done is slip a pad between its four-pot fixed caliper and slotted disc, which proves refining, rather than renovating, an already good product can be key to real gains. "To be honest the standard caliper and disc [AMG is] offering are a really good package," Healey says.

When asked where its Endless pads differ to the stock ones, we're told it's about control and durability – two elements you're going to need when slicing up a track.

"It's just a high-temperature rating; more feel, and more control," Healey tells. "The standard pad's biggest thing is, 'I don't want noise driving around the street', so we're trying to get the best of both worlds that you can have on the road and take to the track as well."

He's not kidding, either. Out on Sydney Motorsport Park, the descent before turn 11's hairpin presents the opportunity to assess the brakes. A concentrated squeeze reveals a precise relationship between pedal force and bite, helping you roll off the brake with millimetre accuracy to free the front tyres for turn-in. Whether that's more the system complementing the pads or the other way around we don't know, but it works.

And if brakes are only as good as the tyres providing them with grip, V-Sport gave the A45's brakes some of the best street stuff available: Michelin's Pilot Sport Cup 2, the dry-grip specialist at the *MOTOR* tyre test this year.

As the South Circuit's abundance of low-speed corners rewards agility and

acceleration, it's here the Mercedes-AMG's firm suspension set-up and new high-grip boots should seize their chance to shine. The A45 devours each corner at a frightening pace; the bald shoulders of the Michelins force it to lean hard with alarming tenacity.

As the circuit straightens, we're given the chance to discover what Healey means when he describes the car's torque curve as "punchy" and concentrated on "low-end grunt". Despite passing on the event's control E85 fuel for regular 98 – which hurts its overall power figure – a committed heave on the throttle from a standstill uncorks an explosive mid-range from the mildly-tuned M133 four-cylinder engine. There's no scream from a protesting rear end or chatter from a hopping front axle; the front-to-even split all-wheel drive system simply turns the swollen midrange in to a surge of acceleration.

As the surge tapers off in the upper rev range of each gear, though, the experience falls into a more usual one. Each upshift shoots a satisfying blat out of the tailpipes, and as *MOTOR*'s drive turns to a cruise around the pits to cool the brakes, it hums around at low-speed without fuss, just like a factory car. Nothing about this car advertises it's modified in a big way. Instead, our performance tests reveal layers of slight improvement in different areas.

"You don't have to spend a pile of money to have a really good package," is Healey's mantra for the A45, and the numbers prove him right. Despite having one of the lowest modification costs of this field, the A45 snatches two top-three category finishes.

And while V-Sport won't be able to brag about its power figure or quartermile time, its sharper braking, stronger acceleration, and improved grip combine for a decent lap time. It's the fastest A45 at SMSP in Hot Tuner history, and it's on street rubber. Like we said: refining a good product, rather than renovating it, can be the key to real gains. – *LC*





THE NUMBERS

s you'll no doubt have deduced by now, our chosen test venues for Hot Tuner were Sydney Motorsport Park's South Circuit and Sydney dragway, with our dyno results taken using the Mainline dyno at Fast Torque Engineering.

We feel the combination of these three venues gives a good balance between rewarding the traction and agility of the littlies and the brute horsepower of the larger, V8-powered machinery.

With torrential recent rain having left the Sydney Dragway surface greener than a solar-powered wind farm, traction was at a premium, with even the — even with wheelspin in the first four

Harding Performance Golf R suffering wheelspin off the line. It still nailed a cracking 4.31sec from 0-100km/h, a decent margin ahead of the V-Sport A45 AMG with 4.57sec.

Over the quarter mile, though, Hi-Torque's ballistic Clubsport was king. Its time of 12.35sec might have only been 0.09sec faster than second-best (in fact the top four were only separated by 0.16sec) but its terminal speed was an outrageous 214.56km/h.

Put it this way, from 100km/h to the end of the quarter, the HP Golf R piled on 80.01km/h in 8.19sec, whereas the Clubby took 7.46sec to add 114.56km/h

gears it's absolutely one of the fastest cars we've ever tested.

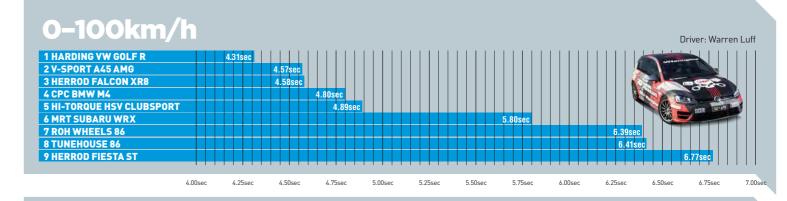
Around the tortuous confines of SMSP's South Circuit, the lithe responses of the 86 twins won out, the pair separated by just 0.1sec in favour of the ROH car, with City Performance Centre's BMW M4 a second back.

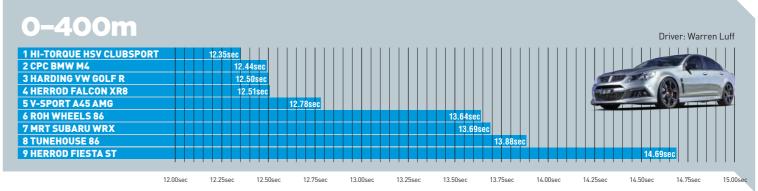
Further down the field, a balanced approach gained the upper hand over bulk power with the Herrod XR8 beating the Hi-Torque Clubby around the track by almost two seconds.

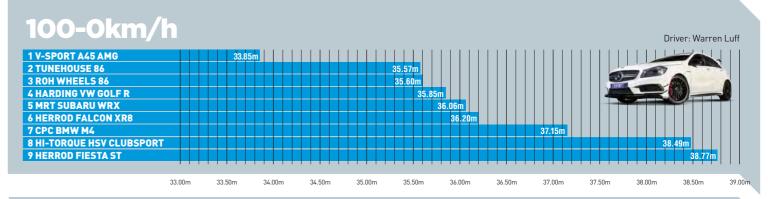
Such tight results prove that while this year's Hot Tuner field may be smaller than previous years, the quality had never been higher.

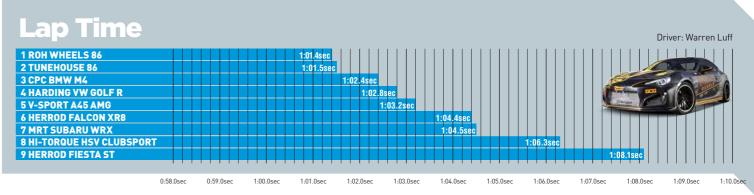
might be short, but it's crests and corners are a stern test of a car's power, handling and

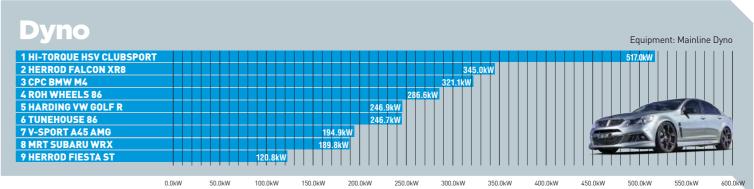












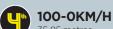
















LUFFY SAYS



guys. They've taken the base of the Golf R and really brought it to life with the little bit stiff for this tight little circuit, but it would be really well suited to the full up. It's still nice and lively through all the tight and twisty stuff. And the engine upgrades bring that fantastic



as easy as pie, while other more fancied machines struggled with wheelspin.

Driving the R was a no-mess, no-fuss experience in speed. Get in, put it in the drive mode you want and you'd either go fast or go really, really fast – adjusted via the aggressiveness you took to the throttle. While the springs felt a bit too stiff, it cornered and braked well, and was generally a big ball of fun on the tight, demanding Sydney Motorsport Park South Circuit.

It's a credit to Harding Performance that they've created a comfortable, quiet street car that becomes a rapid, exhilarating turbo monster with a stab of happy pedal. Yet it retains all the factory niceties modern turbo Golfs are famous (and well-loved) for.

After topping the list for 0-100km/h times and coming second on the 0-400m times (by 0.15 seconds, to a car with more than double its horsepower at the wheels), it placed fourth in the 100-0km/h braking test with a 35.85m and fifth at the dyno after running a peak of 246.9kW. And this was enough to give it the win at Hot Tuner 2015.

§ 90₹APR

After reeling off a 62.80sec for the fourth fastest time around the South Circuit, Luffy was beaming. "It's a testament to the HP guys because they've taken the base Golf R and really brought it to life with the modifications they've done," he enthused. While it was cracking hot on the short track,

everyone agreed that the faster full circuit would have suited it even more as the suspension could get real load fed into it and the heavy-hitting motor could stretch its legs.

Punters experienced with turbo Japanese cars of the past are used to swapping weedy stock turbochargers out for bigger aftermarket offerings, but they're in for a rude shock with the APR Golf. On the dyno it ran back-to-back passes, making between 240.4kW and 246.9kW at all four wheels on the stock turbocharger!

Interestingly, while it still has the addictive top-end rush typical of a traditional tuned turbo car, you're not left with a laggy, unresponsive dunger





APR Stage 2 R could pass as any other

five-door hatch on a metropolitan street.

It's just that it's also capable of mid-12-

second quarter-miles, was fourth on the

circuit by a super-slim margin and did

repeated 4.31 second 0-100km/h runs



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at part-throttle or down low. The R was never left wanting for grunt or boost as there is 500Nm on tap from 2000rpm. And Guy Harding reckons they'll have plenty more available soon.

"We achieved 350kW out of a MkVI on a legal, street-driven kit, and we're hoping to hit at least that," he says. "We do have a huge advantage of increased fuel potential and dual valve lift on this car, which are our big advantages straight up. It's why this car is making

so much power out of the box."

"A lot of people are buying these because they're a quality, all 'round good car in a great package they can make very fast very easily. It's something new for us to have something here with so few mods, but it's early in the MkVII's cycle so next year we should be considerably faster."

We can't wait. Congratulations Harding Performance and APR, winners of *MOTOR's* Hot Tuner 2015. – *IK*

