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SP240 - Roadster re-invented

Tuning cars is easy, we all do it, we all know what's best. More power Sir? NA, bolt on a turbo, easy. Already has a turbo, no problem, bolt on a bigger one, then just turn up the boost until something breaks, then make that bit stronger.

The fuelling will be all over the place, you will compromise driveability and reliability, but that's the price you pay for performance, right? Chassis tuning is just as easy, you have a bit more power, so fit bigger wheels, 2 inch bigger and an inch wider, with the fattest rubber you can fit, put on some nice stiff springs and lower it a little, it will corner like its on rails then eh? It will ride like something from the Flintstones, bump steer and tramline like a pig, have weird steering and snap into oversteer at the very sight of a wet manhole cover, but that's the price you pay for a chassis that can handle the power, right?

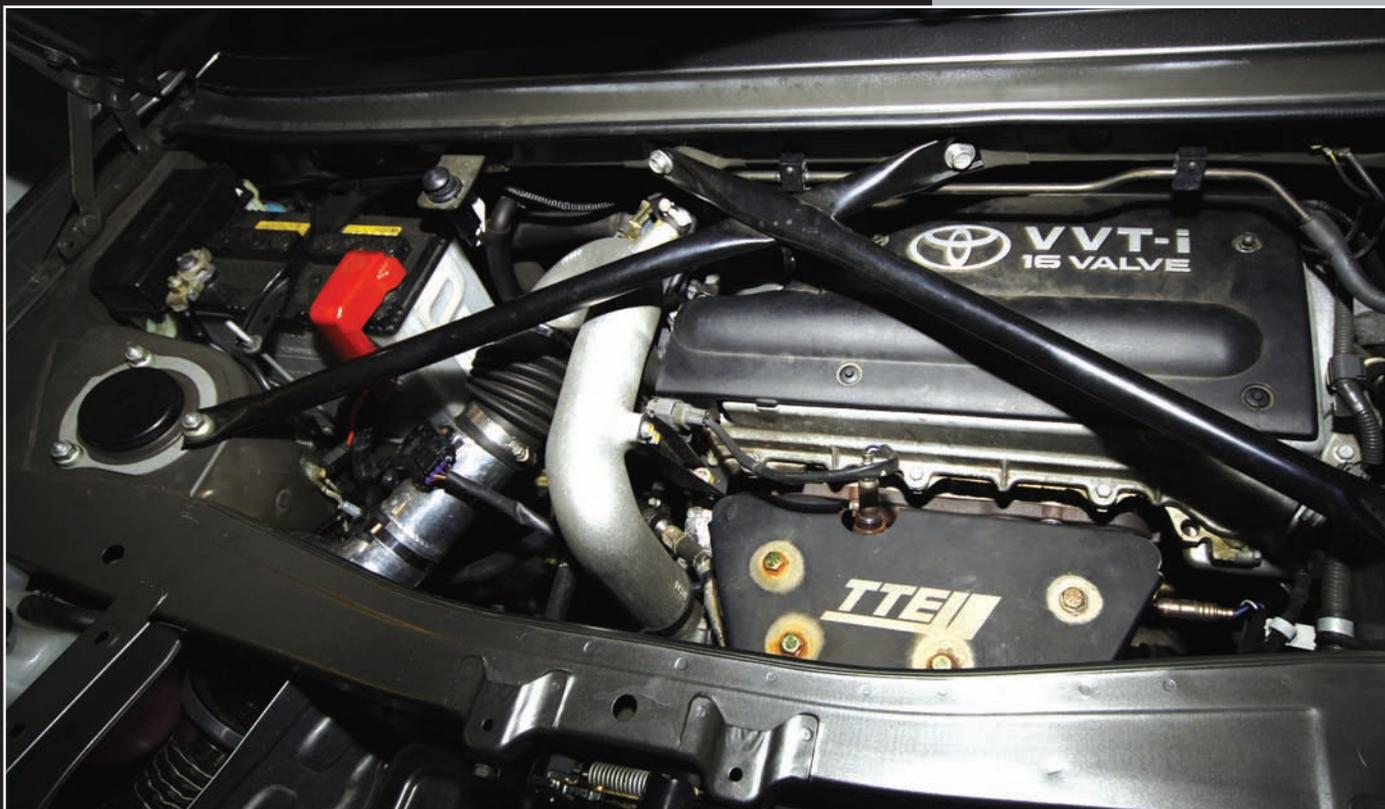
There are plenty of 'tuning' companies out there willing to take your hard earned in exchange for this approach, based on no engineering knowledge or experience its unlikely to make your car any quicker on the

road (or track for that matter) but will look great parked outside McDonalds.

Introducing the SP240

Myself and Steve were invited to drive the new stage 2 turbo instillation from Silverstone Performance called the SP240, (yes, that stands for 240bhp and 240lb/ft of torque), and talking to Phil and Matt (who developed the car) prior to our drive its quite clear that they have a very different attitude. Trying to improve something like a Roadster was always going to be a tough task, not necessarily the power, 148bhp is a relatively low target to start with, but to make something that has such finely balanced handling and superb steering feel capable of handling twice the torque and nearly twice the power without destroying that car as a whole is, lets face it, not easy. What Silverstone Performance have done is develop the car over time, without losing





sight of the qualities they started with in the Roadster. If something didn't work they didn't use it, even if customers wanted it, weight was always a factor in achieving this, as was reliability and usability.

Lightweight

A relatively modest size of turbo was used, boosting at 0.5 bar, this meant quick spool up, and is more than capable of giving the car the required performance, whilst helping to keep the weight down, an air to air intercooler is mounted low to help keep the charged air cool, a charge cooler was deemed unnecessarily complicated, heavy and costly for a road application. A lightweight silencer and de-cat (the pre-cat remains, which is good enough come MoT time) was used to gain back some of the weight added by the turbocharger and intercooler, over all the car is the same weight as a standard car, under 1000kg.

The fuel system was also tweaked to allow the turbo to spool more boost without running lean, all being controlled by a piggy back ECU.

Finely balanced

To help keep this extra grunt in check the chassis has also had some SP attention. This is the area where something as finely balanced as the Roadster could be severely upset. The lads at SP are on top of things with the use of an underbrace (to help

“Initial feel is impressive, the car telling me exactly what's going on at the road surface without that nasty feel of an overtired, badly set-up car getting confused during the transition from grip to slip.”

torsional rigidity), 30mm lower Eibach springs to SP's own specification and most importantly 17 inch wheels shod with 245 section rear tyres and 205's up front. The wheels are lightweight items to keep unsprung mass and rotational inertia to a minimum. It's for this reason that SP did not use larger brake discs, which are unnecessary for road use anyway.

The car is then set-up using SP's own geometry settings, something which is often overlooked by other 'tuning' companies, instead of opting for standard settings which simply wouldn't work as well with larger wheels and shorter springs.

Out on the road

Behind the wheel at last and I nearly stall the thing pulling out of SP's garage. Phil forgot to mention the cera-metallic clutch fitted, not because of the extra power but because of the abuse this press/development car has, a more user friendly clutch would be fitted to customers car and be more than good enough for the job in hand.

Once aware of the clutch the engine is tractable and pulls cleanly, without any hesitation, dips or snatchiness from the modified fuel map, a good start! Pulling up almost immediately a traffic island for some cornering shots and without time to get a feel for the car at all I circumnavigated the island, building up speed gradually, in the rain, for the camera you understand, dump valve chirping away behind my ear as I feather the throttle, not intrusively, just enough to remind you you're in something a little special. Initial feel is impressive, the car telling me exactly what's going on at the road surface without that nasty feel of an overtired, badly set-up car getting confused during the



MR2 TTET = MR2 Roadster plus TTE turbo (182bhp-ish)

MR2 SP Turbo = TTET + SP exhaust (197bhp/210lb ft)

MR2 SP240 = TTET + SP Exhaust + SP induction/fuel/ECU (240bhp/240lb ft)





transition from grip to slip. Getting a little more confident after a couple of 'laps' and feeding in the power a bit more aggressively to test the limits and the rear tyres let go, overwhelmed easily by the torque in this flyweight car, catching me a little by surprise and almost reaching the lockstops on opposite lock its still easily controlled due to the reflexes of the chassis. The next lap I was expecting a telling off from Phil for these antics, instead I was greeted by him on one knee and a camera in his hand! A couple more laps of the island show how easy it is to tickle the limit with this car, find the grip available from the tyres and play in that zone between grip and slip, it seems in this sense the SP240 has lost little (if anything) over the standard car.

Driving out onto the roads around Silverstone we can push the car a lot harder, working the engine in all 6 gears and using all the revs. While you can tell there is a turbo under the rear bonnet there is no turbo

"I feather the throttle, not intrusively, just enough to remind you you're in something a little special"

lag worth talking about, instead there is a smooth delivery of torque pushing you along, the close gears, impressive midrange and lightweight ensure there is always enough of a shove to see off all but the quickest traffic. Flexing the engine along the dual carriage way in an attempt to keep up with Phil in his Mercedes the SP240 gathers speed in an undramatic but rapid manner, no fuss just a relentless rise in speed that suggests a well sorted engine, snicking into 6th and glancing at the speedo you realise that getting caught during this quick blast could land you in jail, forget points and fines, do not pass go, do not collect £200, it really is that quick. To get an idea of the outright speed this car has been timed with a VBox with a time of 0-60 in 4.9 seconds, where was that Boxster again?

And its on to the B-roads the Roadster natural habitat

Leaving the high speed temptation that is the dual carriageway we head for the B-roads, the standard cars natural habitat, I however have my reservations as we head at speed along some soaking wet, twisty, bumpy B-roads barely wide enough for 2 cars and with standing water in a car this light with this much power, its in these situations that you find most modified cars, even well done ones significantly slower than their standard siblings. I needn't have worried, as while you cannot use the full power like you could on the faster roads what SP have managed to do is maintain the standard cars reflexes and increase grip without the expense of stability. The bump steer and tramlining that ruin most modified cars chassis in these conditions simply isn't present. You still know exactly what's going on underneath you but SP have kept the chassis on the entertaining side of stable, which to me is a sign of their capability as a tuning company.



TVR Sagaris

Experience through Motorsport...



Phil on track



Bespoke Boss Cerbera in action

Matt and Phil from SP have a lot of experience in the auto industry with vehicle manufacturers which is why there is a strong "OE" feel to their tuning projects. Phil raced in the TVR Tuscan Challenge from 1997 to 2004. He recently came 3rd at Spa Francorchamps in a 700bhp Cobra in Oct 06. Phil also briefly worked for TVR (head of marketing) - and launched the Sagaris back in 2005. And just for fun, I've attached a photo of the bespoke Boss Cerbera in action. Their motorsport background is very much evident in the development of the SP240



Swapping seats with Steve to gather my thoughts and make sure I'm not getting carried away he finds exactly the same things as me, superb power and power delivery, more grip and the same superb agility and stability. Almost without noticing on the cruise back to SP at more normal speeds we find ourselves chatting in as much comfort as any Roadster.

Summary

This more than anything manages to sum up this car, it has enough outright speed to trouble virtually any road car cross country, yet manages to remain entertaining (in a good way!) and moreover simply does not feel like a tuned car. The SP240 conversion isn't a low budget option at nearly £10k with the suspension, underbrace and wheels (which are vital with this much power) but what you have is a car that feels like it was



put together by Toyota, not an aftermarket company. It will be bought by the more discerning Roadster owner, someone who wants a bit more (well, a lot more!) than Toyota were prepared to offer without losing the qualities that they were.

As we were leaving Phil asked us if we 'got it', oh yes, we got it.

For more details or to contact Silverstone Performance visit <http://www.silverstoneperformance.biz>

MR2 SP Turbo

The "Full SP" for the Toyota MR2 SP Turbo comprises:

- TTE turbocharger & intercooler - £4299.00
- SP sports exhaust system - from £538.00 to £846.00
- SP sports clutch - £649.00
- SP12 17" wheel and tyre upgrade - from £599.00
- SP sports air filter - £56.95
- Braided brake hose and fluid upgrade - from £160.75
- TTE floorpan reinforcement brace - £299.00
- SP front strut brace - £176.25
- TTE anti-roll bars - £293.00
- TTE lowering springs - £302.00
- SP Quickshift - £208.75
- SP geometry settings - £59.00

The sum of these upgrades is an MR2 Roadster with 197bhp and 210lb/ft and significantly greater grip ...yet it retains the low weight and legendary balance of the original car. The MR2's capabilities have all been raised, in harmony, to a higher plane. Compare the power/torque outputs and 980kg weight with other sports cars and you may be surprised to see how the MR2 SP Turbo compares... How about greater torque-to-weight than the current V8-engined Audi RS4?

All this in a car with Toyota's legendary reliability and affordable running costs. With all this performance wrapped up in the discreet, pretty MR2 body there is plenty of fun to be had with an SP Turbo. And if you'd like to go further still, take a look at Stage Two: the SP 240...

MR2 SP240 (Stage two)

SP TURBO STAGE ONE

The SP240 is based on the Toyota SP Turbo. The following upgrades are needed to execute Stage Two, the remainder are strongly recommended due to the considerable performance increase of the engine:

- TTE turbocharger & intercooler - REQUIRED
- SP sports exhaust system - REQUIRED
- SP sports clutch - REQUIRED
- SP12 17" wheel and tyre upgrade
- SP sports air filter - REPLACED
- Braided brake hose and fluid upgrade
- TTE floorpan reinforcement brace
- SP front strut brace
- TTE anti-roll bars
- TTE lowering springs
- SP Quickshift
- SP geometry settings

The SP240 generates 240bhp and 240lb/ft - 100bhp more than the original MR2 and almost double the torque.

The induction and exhaust notes are more aggressive and the engine pulls strongly and cleanly to its limiter. The SP240 remains docile around town so loses none of the MR2's usability in day to day driving ...but find an open road or a race circuit to fully appreciate just how fast the SP240 is!

The SP240 upgrade comprises:

- SP high-flow fuel injectors
- SP ECU
- SP fuel pressure regulator
- SP induction kit
- SP bespoke engine mapping
- SP decals