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## Eurotuner Features

### Weekend Warrior

Welcome to the first installment of eurotuner's latest project car series in which, with the help of Turner Motorsport, we'll be building the ultimate weekend warrior. Drive to work on Friday; head to the track on Saturday.

By Greg Emmerson  
Photography: Wes Allison, Doug Mahar

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The problem with enjoying your modified car is that it's possible to raise the performance far beyond what's usable on the street. Hell, most stock cars have more performance than you can use on the streets. If where you live is anything like LA, you simply clear one traffic jam to join the next. That's not our idea of fun -- and most of you agree. Consequently, track days have become increasingly popular as a way to safely enjoy your car without idiots blocking the fast lane, myopic morons pulling out in front of you and cops aiming a radar gun at you.



So we decided to build a track day car of our own. But what to use? Well, there's a school of thought that suggests a rear-wheel-drive chassis can be more fun than a front-wheel-drive one. And since this project is all about having fun, that seemed like a good place to start. We wanted a tunable RWD car, and you don't need to work for NASA to realize a BMW fits that bill better than almost any other Euro.



The problem with magazine project cars is that it's easy to get carried away and throw too many parts at them. You get a decent chassis under the car and do some clever work under the hood, but then it's too tempting to throw in half a ton of stereo and maybe add a body kit as well. To ensure this wouldn't happen to our car, we did two things: We got a four-door E46 to emphasize its practicality and remind us not to delete the rear seat, and we went to Turner Motorsport (TMS).



If you are new to the scene, don't have the Speed Channel on your TV or don't get out much, then you may not have heard of these guys. In addition to being one of the best BMW tuners in the country, they are also the most successful touring car team in recent years, claiming consecutive titles in the SCCA World Challenge. In 2005 the team continues its SCCA campaign with a 325i and is making a determined effort to win the Grand-Am Cup as well.



The Grand-Am series allows fewer mods, so the pair of four-door TMS 330i cars in the ST class are pretty close to what we intend to build. We also know Turner Motorsport's parts work pretty well since the team finished second in the championship last year and would have won if a Lexus hadn't rammed the BMW.

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**DUNLOP TIRES**

We were determined not to build a fancy-schmancy show car, but at the same time, it's no good having a single-minded, weekends-only race car. What we needed was a daily driver that could be competitive on track days. So we challenged TMS to devise something that would allow us to do both. It had to be damn fast on the track but couldn't be compromised on the road.



"Impossible!" you cry, and you may be right. But Turner came up with what it's calling a Motorsport Edition 330i, which borrows heavily from the Grand-Am and World Challenge racers while drawing on the company's years of street tuning experience.



The main thrust of this project has to be the chassis. More than anything else, this is what will make the car special. And TMS really went to town. Admittedly, we were expecting the ride to be a little stiff, but we were also hoping for turn-in and cornering that are leagues above anything else.

We don't want to anticipate next month's article, but the car is everything we hoped for. We've never had so much fun before and have started searching out corners.



What's more, much of what's been applied to this E46 is equally applicable to the E36, and most of the parts are even available for the older E30s. So these articles should have wider appeal than just to 330i owners.

To give you an idea of what's under this car, here are the highlights: race-spec limited-slip diff, H&R RSS coilovers, camber plates, adjustable rear trailing arms, solid bushings, sway bars and a Big Brake conversion from StopTech. We also reinforced the suspension mounting points to withstand the extra stresses of hard cornering.

In keeping with the Grand-Am race cars, we've got BBS wheels at each corner. Since Grand-Am regulations don't restrict us, we were able to use 19" LM wheels, and these are secured to the car using a TMS wheel stud kit.



The kit was developed to aid pit stops since it's easier to locate the wheel on the hub using the new studs and secure them with nuts. Admittedly, we don't have air guns, but it'll make a puncture in the rain quicker to change.

Our BBS wheels are fitted with Michelin rubber, rather than semi-slick Hoosiers. We chose the Pilot Sport PS2s after they won our tire test last year thanks to the best compromise of wet and dry grip. So far, they've kept us glued to the asphalt, and we have no complaints.



Propelling this Motorsport Edition from corner to corner is a combination of engine parts including Schrick cams, TMS software, Supersprint headers, cats and full system, as well as a Conforti intake and TMS underdrive pulleys. The motor sounds glorious, and combined with the shorter gearing from the new LSD, the car has some real poke.

There are a slew of other parts, but we'll get to them in detail over the coming months. First up, in the July issue we'll deal with the reality of driving a car like this on the road and looking at what it means in the real world - good and bad. The following month we'll examine all the chassis mods, explaining what we used and how they work. The September issue will detail all the motor mods, and finally, in October, we'll bring it all together on track with Will Turner at the wheel to show you what all this adds up to.



What's great about the car is that we know every component works. How? Well, it's been tested on track under the most severe conditions and found to do the job. That is the beauty of a company like TMS that's able to do its R&D on the race track. The team literally goes out and tests every part harder than you or I could ever expect to.

However, it's not just a matter of having the right parts. As we found out, it's how they're fitted that makes the difference. Anybody can bolt parts to a car, but it's Turner's knowledge that makes the difference - where to set the ride height, what setting to run the dampers, how much camber to dial-in. These details can make the difference between great and grate.

With the close tie between road and race cars, we visited the team at a round of the Grand-Am Cup at the California Speedway. It gave us our first opportunity to put the cars side by side and compare the DNA. We're pleased to announce our road car may actually be slightly lower than the racer. Can you imagine that? We get extra cool points, surely?



If you're looking for exterior additions on this car, don't. Apart from the tiny M3 blade on the trunk and clear turn signals, it's all stock 330i. We were tempted to mimic the race cars' paint and sticker scheme, but that would've defeated the object of our stealth racer.

## TECH SPECS

Project 330i

### TMS Motorsport Edition

**Engine:** 3.0 I-6 with Schrick cams, TMS software, Conforti intake with carbon heat shield, Supersprint headers, sports cats and exhaust system, TMS underdrive pulleys, carbon engine covers

**Driveline:** Stock six-speed manual with B&M short shifter, race-spec limited-slip differential with 3.64:1 final drive

**Suspension:** H&R RSS coilovers adjustable for ride height, H&R sway bars front and rear, front camber plates, adjustable rear trailing arms, solid bushings, heavy-duty rear shock tower mounts

**Brakes:** StopTech four-piston front calipers with 332x32mm grooved rotors, rear brakes use stock calipers with standard-size grooved rotors

**Wheels & Tires:** 19x8.5" BBS LM three-piece wheels, 235/35-19 Michelin Pilot Sport PS2 tires (street), 235/35-19 Michelin Pilot Sport Cup (track)

**Exterior:** Clear turn signals, TMS billet rear badge, M3 trunk spoiler, rolled fenders to clear tires

**Interior:** Carbon-fiber TMS shift knob

**Contact:** Turner Motorsport, 800/280-6966, [www.turnermotorsport.com](http://www.turnermotorsport.com)





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