



**Z3 BUYER'S GUIDE**

THE MAGAZINE ABOUT BMW

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# BMW M6



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**DRIFTING THE M3**  
EASIER THAN YOU THINK

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BMW BUILDS A 2002 *tii*



# DRIIFT DAY DREAM



## Properly set up, an E46 M3 makes an excellent platform for drift competition, as demonstrated by racer Townsend Bell in Fontana.

By Eric Eikenberry Photography by Eric Eikenberry

**I**n the sport of drifting, rear-wheel drive is as essential as the power-slide. That means a BMW M3 should be as suitable to drifting competition as the Nissan Silvias and Mazda RX-7s that dominate the sport in Japan, where it originated, or the Ford Mustangs and Dodge Vipers that tend to do well 'round these parts. With 333 hp and rear-wheel drive, a BMW M3 should make an ideal drift car, at least in theory.

Theories need to be tested, however. To find out how well-suited said BMW actually is, we enlisted Sander Brouwers and his finely-fettled, track-prepared 2002 E46 M3 to serve as test subjects. For control purposes, we also brought along former IRL driver Townsend Bell to provide unbiased evaluations from behind the wheel. Our laboratory was the extremely large parking lot at California Speedway in Fontana, where the Drift Association has been holding Drift Days and teaching the art of drifting since 2002.

First and foremost, we must note that drifting is not about hooliganism, even though it involves wheelspin and tire smoke. It's mainly about car control, and the techniques involved are the same ones that represent a major part of any World Rally Championship driver's skill set: the "clutch kick," the e-brake turn, the very tricky "weight transfer" method (which involves higher speeds and has two different sub-categories), and the "feint" or "reverse Scandinavian Flick." Other techniques are available, but the ones listed above will adequately serve a novice. (None of these, by the way, should ever be used on a public road. They're strictly for closed-course competition.)

If you're thinking, as we were, that drifting really shouldn't be all that difficult, it isn't—at least for one corner. Drift competition, however, is about linking several corners together with style and control, and your first attempts to keep the car within the chalk lines are likely to be fairly comical. The balancing act of controlling a significant portion of the car's mass as it swings from left to right then back to the left again becomes exponentially harder as successive turns are added. The term "fishtailing wildly" is a perfect description for getting it all wrong.

Thankfully, the course at a Drift Day event is laid out in an extremely safe manner, without obstacles or barriers in harm's way. Killing orange cones, while not encouraged, is generally taken in stride by the instructors. As one very experienced Formula D driver told us, "We all start at the same point."

### Setting 'er up to drift

As far as the car is concerned, any rear wheel drive BMW, even an old 2002 or 320i, can be drifted—provided a few simple changes are made. First, negative camber must be increased to aid the front tires' bite on the pavement during drift initiation. It also helps to run a soft front anti-roll bar, and to stiffen the rear bar where possible.

Softening the front suspension adds grip, while stiffening the rear makes the back easier to slide. Raising rear tire pressure by 15 psi or more will have a similar effect. Where rear camber is adjustable, it should be brought as close to zero as possible. This doesn't aid traction but ensures that your tires will last longer by wearing evenly across the contact patch instead of riding on the inside edge.

A working limited-slip differential is also essential. Doing one-wheel burnouts is not only uncool, it also makes drifting extremely difficult. When the outside wheel refuses to rotate and the inside one vaporizes its tire, the car will slow dramatically and reduce the amount of weight transfer necessary to remain sideways. As the driver's skill progresses, it's possible to retune the car to a more neutral configuration—adding grip at the rear by softening the suspension will increase the overall speed.

We took full advantage of the adjustability of the Ground Control suspension on Brouwers' M3 to effect the changes mentioned, and for its rear wheels we also purchased two Falken Azenis Sport ST-115 tires. Engineered to drift well, they're actually high-performance all-season street tires (DOT-legal tires are required at all drift events, as are two spare "get me home" tires and a helmet) made with a rubber compound that can handle extremely high temperatures without separating from the carcass.



**Big slip angles and lots of tire smoke give (middle, from left) Townsend Bell, Alex Pfeiffer and Sander Brouwers a good chuckle.**

First into the fray was 2001 Indy Lights champion Townsend Bell, with noted Formula D driver/judge Alex Pfeiffer riding along and coaching. By his third lap through the course, Bell had a clear understanding of what he needed to make the car do to drift. "It was tough to find the balance point (during the) first outing, but then it started to come together," Bell reported. "We used to get in trouble for this when I was an instructor for a racing school, so it took a few runs to get comfortable that nobody was going to throw me out. I found myself laughing more than I think you're supposed to—is that bad?"

As Bell gained more experience and speed, his superior driving skills saw him carrying wide, smoky drifts from apex to

apex as fluidly as Alex Pfeiffer had done for our photos. So what did he think of the M3? "It's already one of the finest handling all-around cars available so it makes for a very nice, relatively forgiving drift package."

Pfeiffer agreed, noting that he could probably enter Brouwers' M3 as-is in any Formula D competition in the country. That it works so well should come as no surprise, especially when handled by two very talented drivers. But how would it fare in the hands of its owner?

### Overcoming instincts

Though Brouwers is also a talented driver, to say that his drifting skills were as polished as those of Bell and Pfeiffer would be a bit of a stretch. Part of the issue turned out to be his familiarity with the car. As we'd requested chassis and tire changes beforehand, we'd essentially changed its character

from neutral and balanced to moderately prone to oversteer. Brouwers' reflexes were attuned to the way it used to work, and the car remained a step ahead of him on the drift course for the better part of the afternoon.

"Initiating a drift was pretty easy," he said. "What surprised me was how difficult it was to properly transition between left-hand to right-hand drifts as you end corners."

While he could successfully drift through one corner, his racer's conditioning kept telling him to lift off the throttle during transitions, which resulted in one spin after another. His corner-weighted and balanced M3 was a perfect example of a pendulum in motion: Once the rear started to swing, only a judicious prod on the throttle would transfer enough weight onto the rear tires to convince it to stop.

"Learning to drift can be a lot of fun—and frustrating at the same time," Brouwers said. "The M3 drifted better than I thought it would, and this is where I found the real value in drifting for road racers. By tampering with my road race setup and prepping for Drift Day, I learned more about how changes to my M3's setup affect the car, especially more extreme adjustments. Drifting familiarizes you with your car's behavior beyond the limits of grip, not just at the limits of grip."

Bell expressed a similar view. "I think every driver regardless of category could learn a tremendous amount by drifting. It is the ultimate test of car control and would make anyone more confident driving at the limit."

Mechanically, the M3 performed like a champ. As Brouwers noted, "I think the power steering pump was probably the most overworked part of the car along with the differential, and I would likely add larger coolers for the power steering and differential if I was going to do this on a regular basis."

He'd already modified his M3 with a more robust UUC clutch and lightweight aluminum UUC flywheel, plus Turner Motorsports hard engine and transmission mounts (and weld-in front and rear sub frame reinforcements), all of which aided its ability to drift without difficulty. The Ground Control custom-valved Koni Single-Adjustable Sport shocks were a perfect match for the 550 lb. front springs and 600 lb. rear coils.

The M3's steering angle is such that high-speed third-gear drifts were possible (the more angle from the steering, the faster the car can drift, up to a point), while its 333 horsepower are plenty capable of ensuring that crowd-pleasing tire smoke will come streaming out of the rear wheel arches if you handle it right.

Even better, however, would be the 500 horsepower available from a BMW V10. If anyone wants to bring an M5 or M6 to Fontana and see how well it drifts, we'll be happy to come and watch. 📍