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## Dinan's blown M3

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## SPECIALTY FILE

# DINAN SUPERCHARGED S3-R M3

BY BARRY WINFIELD

PHOTOGRAPHY BY MORGAN J. SEGAL

Steve Dinan has been modifying and upgrading BMWs for so long and so successfully that his services and products are available nationwide at select BMW dealers. We admire his work for the way in which it amplifies the essential flavor of the cars. We like BMWs, and the stronger they are, the better we like 'em.

Which makes this M3 conversion an exceedingly tasty concoction, because the stock product was so closely focused on sporty attributes in the first place. When skillfully enhanced with more power, better handling, stronger brakes, and a more forceful sound, it is a heady cocktail.

And like most strong cocktails, the price is steep. The intercooled supercharger system Dinan developed for the M3 is listed at a fairly breathtaking \$17,999, and that doesn't include the free-flow exhaust system (\$1699) or high-flow throttle bodies (\$1199).

Dinan defends the price structure by explaining that the development exercise for a car of this caliber is a long, difficult, and expensive process, one that must be repeated each time BMW brings out a new model.

Considering just the electronic side of the project, here are some of the things that have to be recalibrated: the top-speed governor, the throttle-by-wire system, the Double VANOS cam timing, the intake-air temperature, the ignition timing, and the air-fuel ratio. Many of those variables require calibration at nearly every conceivable combination of rpm and load points. Among the important hardware additions of this conversion is a Vortech supercharger that produces 5.5 pounds of boost through a large air-to-air intercooler.

A cold-air intake system and larger-capacity fuel injectors join the team to increase engine output from the car's stock 333 horsepower to a

claimed 462. Torque rises from 262 pound-feet at 4900 rpm to 328 at 5500 rpm, says Dinan. These are increases you can feel at the seat of your pants at virtually any engine speed, and they put the M3 in the same league as Audi's RS 4 Quattro and Mercedes-Benz's C55 AMG when it comes to throttle response.

We all know the BMW home office has a new M3 in the works, based on the excellent 3-series we've recently sampled (*C/D*, September 2005), and the general expectation is that it'll be powered by a V-8 engine to match those of the aforementioned competitors. In the meantime, Dinan can offer comparable performance with the current six-cylinder car.

To reconcile these higher power levels to the car's handling, the S3-R M3 chassis has been retuned with Dinan/JRZ adjustable shocks, performance springs, an adjustable front anti-roll bar, negative camber plates,

and toe-deflection-limiting bushings. The result is a car with tenacious road-holding, instant responses, progressive breakaway characteristics, and taut ride-motion control.

We drove this car along our favorite canyon road at speeds that approached race pace, and at no time did the car ever feel close to the ragged edge. Surprisingly, the ride comfort is, if anything, better than in the stock car. Only on high-frequency surfaces did the Dinan undercarriage utter a skateboard-like resonance. Everywhere else it swallowed surface imperfections with well-mannered gulps. That's quite an achievement on 19-inch Michelin PS2s with 30-percent aspect ratios mounted on lightweight forged alloy wheels that helped the S3-R pull 0.92 g on the skidpad, 0.05 g better than the stock car.

To match the rest of the car's expanded performance envelopes, Dinan fits 15-inch Brembo rotors behind the front wheels, clamped by four-piston calipers using Ferodo pads, and pressurized by stainless-steel brake lines. The rear wheels get 13.6-inch rotors but are otherwise similarly equipped. As one might expect with this hardware, braking is strong and fade-free, with a firm and communicative pedal feel.

This is a fabulous car to drive, in every way, and our only regret is that



the day we tested it, the ambient temperature was 100 degrees at 8 a.m. We use elaborate weather-correction disciplines, of course, but the S3-R M3 has an air-to-air intercooler that wasn't very effective at removing intake-air temperature when it had 100-degree ambient air blowing by it. Consequently, we don't think the Dinan was making full power. It ran to 60 mph in only 4.4 seconds (stock: 4.8 seconds) and through the quarter in 12.9 seconds at 112 mph (stock: 13.6 at 105). Those numbers are worthwhile improvements, but we think the S3-R would be quicker on a cooler day.

Acceleration statistics tell only a part of the story. The Dinan feels like a 462-hp car in all driving conditions, with ample torque throughout the engine speed range. Throttle response is vigorous, providing strong passing performance without a downshift in almost every situation. Part of the car's bright response is due to the blower-boosted torque, but the S3-R also wears shorter final-drive gearing. A 3.91:1 limited-slip differential replaces the stock 3.46:1 unit. Because of the shorter overall gearing, Dinan raised the rev limit to avoid a second-to-third shift before 60 mph to hasten that benchmark achievement.

Dinan's retuned exhaust system has eliminated the strangely tinny

tones that afflict the standard car at some engine speeds, replacing them with a melodious baritone that is emphatic without being overbearingly loud. This car's voice is now as authoritative as its performance. Although that performance may not come cheap—our test car rang in at almost \$100,000—the S3-R is exclusive, fast, and fulfilling. ■

*Dinan, 865 Jarvis Drive, Morgan Hill, California 95037; 408-779-8584; [www.dinancars.com](http://www.dinancars.com).*

**Vehicle type:** front-engine, rear-wheel-drive, 5-passenger, 2-door coupe

**Price as tested:** \$98,713 (base price\*: \$98,563)

**Engine type:** supercharged and intercooled DOHC 24-valve inline-6, iron block and aluminum head, port fuel injection

Displacement	198 cu in, 3246cc
Power (mfr's claim)	462 bhp @ 8000 rpm
Torque (mfr's claim)	328 lb-ft @ 5500 rpm
Transmission	6-speed manual
Wheelbase	107.5 in
Length/width/height	176.9/70.1/53.0 in
Curb weight	3440 lb
Zero to 60 mph	4.4 sec
Zero to 100 mph	10.6 sec
Zero to 130 mph	17.8 sec
Street start, 5–60 mph	5.1 sec
Standing 1/4-mile	12.9 sec @ 112 mph
Top speed (mfr's claim, drag limited)	189 mph
Braking, 70–0 mph	162 ft
Roadholding, 300-ft-dia skidpad	0.92 g
EPA fuel economy, city driving	16 mpg
C/D-observed fuel economy	17 mpg

\*Base price includes all performance-enhancing options.

