

# R COMPOUND REQUIRED

Dinan finally unveils its supercharged E39 M5

By Jay Chen

Photography by Robert Hallstrom



## FEATURED

**W**e should all thank Steve Dinan for the cars he's built for us over the years. Some of them are good, some ludicrously so. Whatever it is, Dinan consistently comes out with bulletproof performance daily drivers for the masses. (The well-funded masses at least.) What we should all thank him for today is his new S3 package for the E39 M5. There's now a faster and arguably more aesthetically pleasing option to the forthcoming E60 M5.



The S3 is a supercharged step up from Dinan's tuned NA S2 package. By adding a single centrifugal blower, owners will be able to claim a net 114 bhp advantage over the new V10 M5 which we drove just over a year ago in Munich. This makes the S3 a seriously fast car, probably the second fastest car I've ever driven, beaten only by the Carrera GT.

In typical Dinan fashion, this excess of power is all made to be very usable and reliable. This isn't just some supercharger hastily bolted on to pressurize the intake tract. The S3 conversion is a piece of engineering that impresses even me. It stays true to M division's concept of high-revving performance and feels almost as streetable as the V10, but with much more bite.

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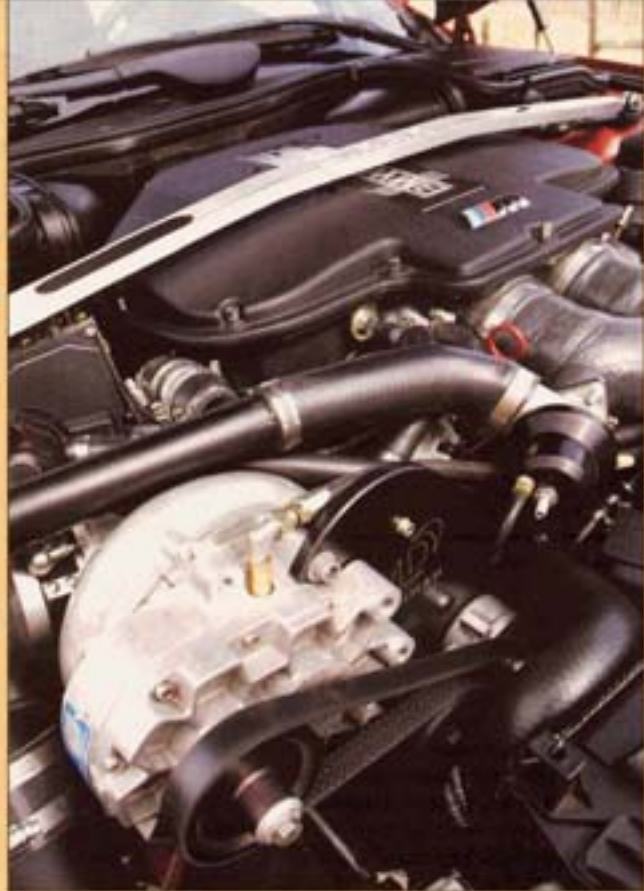
But what does 621 bhp or 550 whp really mean to the driver that's not obsessed with numbers or stats? It's literally like nirvana, a state where one forgets about need or desire. It gives you everything you need. There is always more power,

for passing space, no need to wait for power, just instant gratification. All you need is to remember to save a little room to slow down. This car made driving in our AMG CLS 55 chase car feel like a letdown. Since Editor Bidrawn forbade me

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more acceleration and endless thrill. A godlike omnipotence permeates your being when behind the wheel of this car. It does just about anything one can desire. Your conventional sense of distance, time and speed get blown out the window and you need to recalibrate your senses to meet the demands this M5 makes. You even need to shift faster and earlier than normal because the car pegs the limiter so easily and quickly. There's no need

from geeking out on the technical merits of the S3 system, I can only touch lightly on the highlights of what makes the S3 so special. This car really deserves another article on the amount of engineering and development that went into it. The core of the S3 is a Vortech V-2 T-Trim Centrifugal supercharger, blowing 7 psi of boost through an air-to-air intercooler mounted behind the driver's side headlight and bumper scoop. That's how you





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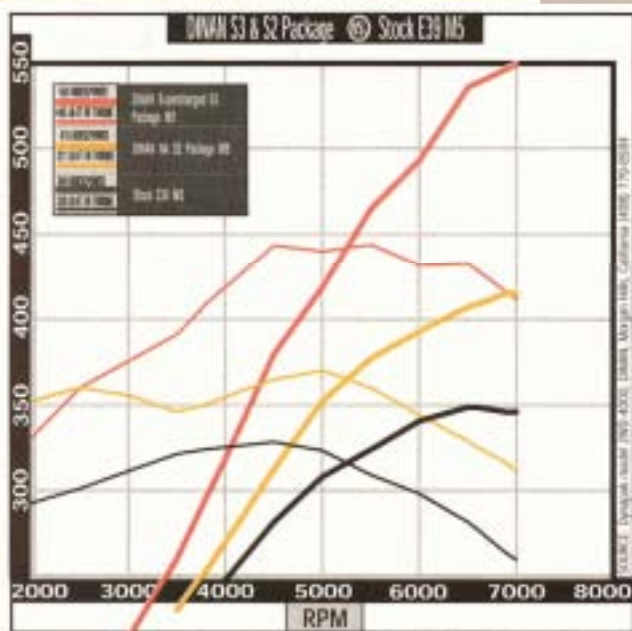
can tell if a M5 with a Dinan badge is S3 equipped; the foglights are removed from the bumper.) All this is built on top of the S2 package hardware which includes intake, exhaust, headers, high-flow throttle bodies and velocity stacks and ECU remapping.

It's not really hard to stuff a supercharger and intercooler into a car though, other companies have already done it. Dinan's total air bypass system used in conjunction with the S3 supercharger is what really makes this package stand out. The bypass system uses an

additional large electronic throttle body before the supercharger as well as a blow-off valve and reed valve to better control the pressurized airflow. This system is necessary to expel a large volume of excess boost pressure within the intake plenum if the M5's eight indi-

suspension do its job in most street traction conditions.

One major factor behind the long wait for this kit is the time it took Dinan to develop its own clutch to hold the power of the S3. After many failed prototypes from various clutch suppliers, Dinan decided to



Although Dinan prefers to present its horsepower figures as flywheel horsepower, we converted it back to our convention of using whp based on Dinan's calculated 13% drivetrain loss for the E39 M5. Dyno data is courtesy of Dinan on its Dynapack dyno.

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vidual throttle bodies are suddenly snapped closed, in addition to providing faster engine response. All this adds up to a supercharger system that still feels very much like a NA car and maintains the smooth linear power delivery.

There's cornering capabilities to match all this power. Don't be fooled by Dinan's use of conventional shocks and springs. They are really dialed in and all you would really need on the street and weekend track session. There's enough suspension compliance to make the ride comfortable and let the

build its own single-plate street clutch that can hold 502 lb-ft of torque all day long without causing leg cramps or ankle injuries you'll only begin to realize in your old age.

The bottom line is how driveable the S3 is. When you get in and start it up, there's no indication of the beast you've awakened. Even in aggressive driving, it only puts out what you ask of it and never bites you back. Dinan's M5 is only one step behind the V10 M5 in refinement and two steps ahead of it in speed. Just remember to turn off the DSC when you get in, since any

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little throttle movement will wind the engine up so fast and violently that DSC will cut the power and make smooth spirited driving impossible.



What's the cost? Try \$57,309 in parts and \$12,075 in labor. Not bad for a super-sedan that has no rival. And if you're thinking about saving a penny or two on the brake upgrades or R compound tires, Steve will personally call you to convince you otherwise

### CONTACT

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## DINAN S3 M5

### Drivetrain

Longitudinal front engine, rear-wheel drive

### Engine

4.9-liter V8, four overhead cams, four valves per cylinder, supercharged and intercooled. Dinan S3-M5 inter-cooled supercharger system, 4-2-1 stainless steel headers, high-flow throttle bodies and velocity stacks, free-flow exhaust

### Transmission

Six-speed manual  
Mods: S3 high-performance clutch, lightweight flywheel, 3.45 limited-slip differential

### Suspension

Dinan J/RZ Stage-3 springs and shocks, subframe reinforcements; 28mm adjustable anti-roll bar, camber plates, strut tower brace (f); 17mm adjustable anti-roll bar, shock tower brace (r)

### Brakes

Dinan/Brembo performance brakes

### Wheels and Tires

Spread Forged Performance wheels, 9.5x18  
Toyo Proxes RA1, 275/35-18

### Performance

Peak Power: 621 bhp  
@7000 rpm  
Peak torque: 502 lb-ft  
@4500 rpm  
Top Speed: 191 mph

