

# Custom-built cabrio

Not content to merely replicate the not-for-U.S. E30 M3 cabriolet, Daynon Lato built a custom hardtop that mates E30 tossability with the power of an E36 M3's S52 six.

By Jay Jones Photography by Jay Jones

**I**f BMW ever built a more nondescript automobile than an E30 cabriolet in white over tan, we don't know what it would be. Yet just because a car starts out as plain-vanilla doesn't mean it can't add a little extra flavor along the way. Consider, for example, Daynon Lato's car, which rolled off the line as a humble 325i but has undergone a two-year transformation to become the S52 six-cylinder powered hot rod you see here.

The project was inspired by the E30 M3 cabriolet, built by BMW M from 1988 to 1991 but never delivered to U.S. enthusiasts. The lack of a U.S. version didn't stop American BMW fans from lusting after this quick little drop-top, though it did force those who wanted one to build their own. Most did so by slotting an S14 four-cylinder into the engine bay, but Lato went one better, installing the later and far more powerful S52 six.

The S52, you may recall, is the four-valve 3.2-liter engine that powered the 1996-1999 versions of the E36 M3. With 240 crankshaft hp at 6,000 rpm and 236 lb-ft of pulling power available from 3,800 rpm, the S52 has a significant advantage over the M42 powerplant that was fitted to the E30 325i convertible: As delivered, that engine makes just 124 hp and 170 lb-ft of torque.

And because this is a project car, not merely a transplant case, Lato didn't leave that S52 stock. With a few subtle tweaks, he got it to pump out around 40 more hp and

another 20 lb-ft compared to stock. At the rear wheels, his engine puts out 229 hp at 6,200 rpm and more than 210 lb-ft. of torque at 4,700 rpm, which equates to about 280-hp and 256 lb-ft at the crankshaft.

In other words, Lato has built one fast little convertible.

## With a hot rod in mind

Unlike most enthusiasts, who modify a car after they've grown bored with its stock performance and/or appearance, Lato bought his E30 cabriolet with the express intention of using it as the basis for a hot rod. He undertook the project in 2004—following some coaxing from Andy Koutsoudis of Bullet Performance in Costa Mesa, California—and finished it last year.

Lato began dismantling the 325i while simultaneously sourcing M3 components and dismantling a wrecked M3 race car. He obtained an E30 M3 front bumper/valence from a race car owned by Mark Amarandos of Split Second, then installed an M-Technic rear spoiler onto a new but still stock E30 cabriolet trunk lid. To the latter, he added a U.S.-spec third brake light, something for which he's been derided. (Most enthusiasts seem to think Lato should have built an M3 clone instead of a unique vehicle. He doesn't particularly care, having wanted to create a car to his own tastes rather than those of other enthusiasts.)

Lato eliminated the E30's standard factory antenna from the rear fender and

replaced it with a short M3 antenna attached to the windshield frame. He filled the antenna hole in the bodywork and at the same time removed the door locks, filling those holes, as well. He now locks and unlocks the doors using the trunk lock.

Lato applied his talents to the car's cabin as well as its bodywork. As the owner of interior company Leather Masters, he was able to remove and re-dye the cabrio's interior leather in silver and black. He also replaced the car's carpeting, floor mats and other wearable items like the M-Technic steering wheel and shifter boot.

Its details sorted out, the cabrio was ready for painting. Granted access to the high-tech paint booth at Prestige Auto Collision in Santa Ana, California, Lato sprayed the car Titanium Silver metallic, an E46 M3 color. He topped off his efforts by installing a brand-new OEM convertible top in black, then turned his attention to the lighting.

He cut new holes in the bodywork to fit 1998 E36 side marker lights and installed Euro HID headlamps with smoked lenses to match the smoked taillights. To match this effect on the fog lights, Lato heated the light housings in an oven to soften the bonding glue, which allowed him to remove the glass from the metal housings. He powdercoated the smoke color onto the back of the glass using his own custom crosshair template, then re-bonded and re-installed the fog lights onto the car.





### Five-lug functionality

Having taken care of the car's appearance, Lato went to work on its functional elements. He started with a set of TÜV-approved Rondell #52 basket-weave wheels. Color-matched to the car, the 17-inch wheels required the use of 5mm spacers as well as a five-lug conversion (four-lug hubs are standard on the E30). Measuring 8.5 inches wide up front and 9 inches wide at the rear, they're shod with Yokohama ES100 tires in 235/40ZR-17 front and 245/40ZR-17 rear sizes.

Since the standard brakes were discarded along with the four-lug hubs, Lato swapped the brake rotors for a set of cross-drilled Brembo items mated to a set of chromed but otherwise standard BMW brake calipers and brackets. Fluid travels through stainless steel lines.

Lato gave the car a hunkered-down look via Ireland Engineering lowering springs and Bilstein Sport dampers. He also installed Ireland anti-roll bars and Ireland front camber plates, plus a Ground Control weld-in adjustable rear suspension. A Racing Dynamics strut brace adds structural integrity and a racy appearance to the engine bay.

Next, it was time for the most dramatic step of all: the installation of the S52 engine. Axiom Tuning's Gregory Lavoie took on the transplant duties, first mating the motor to earlier OBD-I parts (engine management electronics, plenum, intake and valve cover). A lightweight aluminum flywheel replaces the standard dual-mass setup, which has been matched to a heavy-duty clutch with an organic composite friction disc.

José Pulido of JP Performance in Santa Ana fabricated an all-stainless exhaust system that uses ceramic-coated headers and a stock E30 muffler sans resonator. JP also fabricated the car's stainless steel cold air intake tube, which uses a 540i mass air sensor mounted underneath to keep things looking tidy.

It sounds straightforward, but Lato nonetheless encountered a few issues in the car's early operation. Two suck-through electric fans were turned into packing filler when they made contact with the engine during hard deceleration. The lower cross-member developed vibration-induced metal fatigue and cracked; a replacement with welded reinforcements was used along with "green"

motor mounts from a 635CSi, which cured the problem when used in conjunction with an E36 automatic transmission rear mount. Lato also used a driveshaft from an automatic transmission E36, which proved to have the correct length for the swap.

A ZF Type C five-speed was sourced from a 1999 E36 M3 with a 1:1 top gear ratio. It's paired with a Z3 shift linkage for a much nicer feel than usual as well as a shorter stroke.

Lato has experimented with several rear axle ratios, first switching the stock 3.73:1 ratio to a 3.25:1, then a 2.79:1. A 2.93:1 was installed when we tested the car, but Lato would like to return to the taller 2.79:1 ratio for its ideal combination of acceleration and comfortable cruising at warp speed.

Mark Amarandos dialed in the fuel injection curve with a Split Second control unit, here used with a 50 gallon-per-hour fuel pump and 24-lb. fuel injectors. Final tuning was done at Pecora German Cars in Costa Mesa, where the chassis dyno showed engine power peaking at nearly 229 hp at 6,200 rpm and more than 210 lb-ft of torque at 4,700 rpm. On an engine dyno like the



ones used by BMW to measure stock horsepower, that would equate to around 280 hp and 256 lb-ft, given the typical 22% loss of power at the drivetrain thanks to parasitic drag. Heathy figures, indeed.

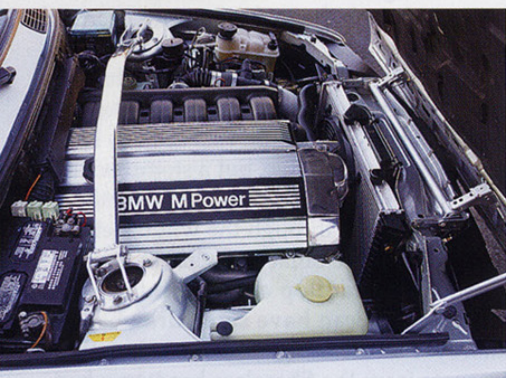
### Hardtop heaven

Even with the car's performance sorted out, the transformation wasn't complete. Axiom found a rare factory removable hardtop, which Lato set about modifying for use on his E30. He stripped off the black vinyl and its adhesive as well as the metal attachment strips that normally run underneath the vinyl, filling these in and leveling the recesses for a smooth appearance. He also removed the sagging OE headliner to use as a template for a replacement he'd make himself in black suede, backed by new foam.

Lato says he invested some 15-20 hours of prep work to obtain the hardtop's glass-smooth finish. That prep included several hours of glass and filler work as well as careful sanding of layer upon layer of primer to produce a flat finish.

Next, he turned his talents to the fabrication of custom M3-style side skirts in fiberglass, which he did by making a master mold on the car itself in order to retain factory details like the v-shaped marks that indicate the recommended jacking points.

**Though the task of stuffing an S52 inline six into an E30 cabrio is hard enough, we're even more impressed by Daynon Lato's stylishly custom—yet still BMW-appropriate—aesthetic mods.**





Before the fiberglass set, Lato embedded studs in the factory clip locations to allow the attachment of ball joints from a radio-controlled model car, a Tamiya 1/10th-scale off-roader.

He first ground down the plastic body clips on the OEM side skirts to make them round, then dabbed them with paint so they'd mark the template for his own side skirts. When he poured the fiberglass for these parts, he pressed in the tiny Allen screws used to capture the Tamiya ball joints, using washers to make them flush. The ball joints pop into the receiver portion of the OE clips and allow fine-tuning of the fit between the fiberglass and the car body.

These unique skirts took some four days apiece to build, and they had to dry on the car before removal to avoid warping. Oh, and if we haven't already mentioned it, a lot of sanding was required in the process!

When the new fiberglass components were ready for painting, Lato decided to make a slight color change to give the car a more brilliant appearance. He selected a 2002 Volkswagen Beetle color called Silver Arrow Pearl Metallic that contains three grains of silver, two grains of blue and one grain of white, then took his car back to the paint booth at Prestige Auto Collision.

By this point, Lato had decided that the two-tone interior was a little too much, so he found heated seats for the front and recovered all of the seats in black leather. He

**Never underestimate what a talented enthusiast can achieve with the right tools and materials. This E30 cabrio is stunning, and it runs well, too!**

wanted to add a BMW M tricolor detail to the edge of the seat centers but found the proper leather colors difficult to locate. He eventually used custom-mixed dye over white leather to achieve the effect himself.

### Running through the gears

After a thorough inspection, it was time to get behind the wheel. It didn't take long before we were reminded why we like these conversions. The S52's acceleration plants you firmly into the seat back, while each upshift through the short Z3 shift linkage works flawlessly to increase speed, all to the tune of a sharply resonant growl that emanates from the custom exhaust.

It's only been mildly tweaked, but this S52 engine still produces enough of its very linear power to push speeds—and revs—well past our comfort zone on the street. Lato says it will pull all the way to 7,500 rpm, which may actually be 7,000 rpm given the tachometer error—it's off by 500 rpm according to the chassis dyno.

Our only drivetrain complaint centered on the clutch, whose pedal takes way too much pressure to depress. Not only does this cause leg strain, it also leads to premature wear on the linkage parts. It's also entirely unnecessary

on a road car with less than 300 horsepower.

That aside, the combination of S52 engine and responsive E30 chassis is a real pleasure. The suspension tuning is comfortable on real-world roads yet stable around corners, which this car handles like a go-kart thanks to those large tires.

Even though the brakes haven't been as heavily upgraded as on some project cars, they still work well enough to keep this car out of danger when absent-minded drivers accidentally cross its path. That actually happened on our test drive, but a stomp on the brake pedal avoided a collision instantly. It nearly sent Lato through the windshield at the same time, but that's another matter.

Making a hardtop cabriolet into a performance car can have some drawbacks, mainly the creaking and moaning that emanate from the fiberglass hardtop when entering driveways at an angle. This is occasionally noticeable on rough road surfaces, too, but the uniqueness of this car is definitely worth the trade-off.

Lato's car is a tough-looking machine that's certainly appealing to enthusiast drivers. This car is definitely for us, and we truly appreciate every effort Lato has made to build it. We're not alone: This E30 M3 cabriolet caused jaws to drop everywhere we drove it, attracting crazy amounts of attention. Perhaps BMW would have done well to bring its own E30 M3 drop-top to the U.S. in the first place! 🍌