

What lies beneath

New AMG 53 lineup bears remarkable new advanced engine and power management technology at its core

BY JOE SAGE

German engineering has long been “a thing,” and when you want to see the latest in German automotive engineer, AMG has long been a great place to start. Once an independent firm, though always heavily intertwined with Mercedes-Benz parent company Daimler AG, Mercedes-AMG GmbH came in-house as a fully owned subsidiary about a decade and a half ago. For the past several years, a handful of Mercedes-Benz AMG vehicles have morphed into “Mercedes-AMG”-badged vehicles—and no shortage of them.

Whatever your favorite niche in the Mercedes lineup, you can now certainly find an AMG version of it—or, looked at from the point of view of Mercedes-AMG, you can find any type of vehicle you’d like within the AMG lineup, currently boasting fully 47 different models and variants. You may think you need

a scorecard, but you really just need a favorite—or two or three, from compact roadsters up to the mighty G-Class. “This many AMGs is a good thing, trust me,” says Mercedes-Benz USA director of communications Rob Moran. AMG sales were already up by 27 percent in the US as of the first quarter, and there are more new models in the pipeline for this year.

The magic has not stopped with model expansion. As powertrains evolve, becoming ever more powerful, while also becoming smaller, lighter, cleaner and thriftier, AMG has been well ahead of the curve.

As with many other brands, as displacement drops but model lineups once based on cc’s are well established, AMG has evolved a numeric system that is now part heritage and part new. AMG 65 models are still V12-powered, 63 models still V8. In 2013 (for model year 2014), the new CLA45 AMG (a prior alphanumeric scheme) bore the first four-cylinder AMG engine, then and still the most powerful four-cylinder in the world (355 hp). AMG 45 and also 35 2.0L models continue to this day, but were joined two years ago by three-liter models—both inline-6 turbo and V6 biturbo engines, with power higher than the 35 and 45, but nonetheless badged as AMG 43.

Meet the first AMG 53 models

There is no replacement for displacement, motor-heads have long said. But “we are replacing displacement with intelligence,” says Moran. Less than 20 years ago, it took a V8 to achieve 369 hp. Always busy, the clever engineers at AMG have now introduced a 53 lineup, powered by a new inline-6 turbo with more output still, 429 hp.

(Still busy, the AMG team will soon introduce a 1000-hp engine of just 1.6 liters, Moran tells us.)

We flew to Northern California to try out the 53 lineup’s first applications, in the full AMG E-Class (sedan, coupe and cabriolet), as well as the CLS, the original “four-door coupe,” which shares many of its bones with the E-Class Sedan (while the E Coupe and Sedan share a slightly shorter wheelbase). All have the same engine. Their weights range by over 200 pounds, and their aerodynamics vary (though all are maximized), but they all hit zero-to-60 in the same 4.4 seconds (except the E Coupe, which is one tenth quicker), while their fuel mileage is all within a point or two.

The Cabriolet is the heaviest, as convertibles always are: it takes a lot of frame strength to make up for the structural rigidity of a lighter-weight roof, but no-one who likes to drop the top would quibble with that. A little may be attributed to its weather-beating features—AirCap, AirSarf and wind block—which significantly extend convertible season, and no-one who likes to drop the top would quibble with that, either.

As fate would have it—whether in Tennessee and North Carolina (for those features’ original

launch drive), in Arizona (where we’ve had the Cabriolet a few times) and now in Napa Wine Country (where when it wasn’t raining, it was likely to start again at any moment)—we have always had the E Class Cabriolet in chilly, wet weather. For some, that might seem like bum luck, but you really couldn’t have planned it better.

As fate would have it, our most recent in Arizona was the new E 53 Cabriolet, also for a wet and chilly week, a general shakedown drive even before learning all the finer points of its clever new powertrain from the engineers themselves.

But we rounded that out in Napa.

The heart of the AMG 53

An inline-six, the new AMG-enhanced three-liter turbo weighs less than a V6 and inherently runs more smoothly, but length would normally preclude its use in cars this size—were it not for the engine’s beltless construction. In a vehicle lineup full of high tech and neat tricks, meet the neatest trick of all: the EQ Boost Integrated Starter Generator (ISG), utilizing the cars’ 48-volt system for an element that also defines the AMG 53 lineup as having electrified drivetrains.

This component—not a turbo, not a supercharger, but an electric auxiliary compressor—adds up to 21 hp and up to 84 lb-ft of torque the moment you step on the pedal, for the immediate kick in the pants provided by an electric motor, whether at startup or other points of quick de-

KEEP RIGHT >>

At left, the Mercedes-AMG CLS 53 Coupe, recognizable by its combination of coupe-like roofline and four door handles. Below, the masterpiece at the heart of the 53 lineup—the Integrated Starter Generator (ISG).



SPECIFICATIONS

Mercedes-AMG E 53 Sedan
Mercedes-AMG E 53 Coupe
Mercedes-AMG E 53 Cabriolet
Mercedes-AMG CLS 53 4-Door Coupe

ENGINE	AMG-enhanced 3.0L alum alloy DOHC 24v inline-6 turbo
COMPRESSION RATIO	10.5:1
HP/TORQUE	429 hp / 384 lb-ft
EQ BOOST	Integrated Starter Generator, up to 21 hp addtl
ENGINE REDLINE	6800 rpm
TRANSMISSION	AMG Speedshift TCT 9G-TRONIC w wheel-mtd shift paddles
DRIVETRAIN	AMG Performance 4MATIC AWD w variable torque distribution
0-60 / TOP	E 53 Sedan 4.4 sec / 130 lim
	E 53 Coupe 4.3 sec / 130 lim
	E 53 Cabriolet 4.4 sec / 130 lim
	CLS 53 Coupe 4.4 sec / 130 lim
SUSPENSION	E 53 (F/R): independent multi-link w air springs
	CLS 53 (F/R): indep multi-link w coil, single-tube shocks, torsion bar
STEERING	speed-dependent electro-mechanical rack & pinion
BRAKES	E 53 Sdn,Cpe,Cabr ... F: 14.6, R: 14.2
	CLS 53 Coupe F: 14.2, R: 14.2
WHEELS / TIRES	E 53: F: 8.0x19, R: 9.0x19
	F: 245/40ZR19, R: 275/35ZR19
	CLS 53: F: 8.0x18, R: 9.0x18
	F: 245/45R18, R: 275/40R18
CHASSIS	Steel unibody, aluminum and steel outer sheet metal
DOORS/SEATS	E 53 Sedan 4/5
	E 53 Coupe, Cabriolet 2/4
	CLS 53 Coupe 4/5
LENGTH / WB	E 53 Sedan 195.2 / 115.7 in
	E 53 Coupe 190.0 / 113.1 in
	E 53 Cabriolet 190.6 / 113.1 in
	CLS 53 Coupe 196.9 / 115.7 in
HEADRM (F/R)	E 53 Sedan 37.3 / 38.2 in
	E 53 Coupe 37.8 / 36.4 in
	E 53 Cabriolet 38.7 / 36.4 in
	CLS 53 Coupe TBA / TBA
LEGRM (F/R)	E 53 Sedan 41.7 / 36.2 in
	E 53 Cpe,Cabr 41.8 / 34.1 in
	CLS 53 Coupe TBA / TBA
TURN CIRC	E 53 Sedan (wall-to-wall) 41.0 ft
	E 53 Cpe,Cabr (") 39.7 ft
	CLS 53 Coupe (") 41.0 ft
GRND CLRNCE	E 53 Sedan 4.5 in
	E 53 Cpe,Cabr 4.7 in
	CLS 53 Coupe 4.7 in
CARGO VOL	E 53 Sedan 13.1 cu.ft
	E 53 Coupe 10.1 cu.ft
	E 53 Cabriolet (est) 9.5 cu.ft
	CLS 53 Coupe 11.9 cu.ft
WEIGHT	E 53 Sedan 4341 lb
	E 53 Coupe 4429 lb
	E 53 Cabriolet 4566 lb
	CLS 53 Coupe 4447 lb
FUEL CAPAC	E 53 Sedan 21.1 gal
	E 53 Cpe,Cabr 17.4 gal
	CLS 53 Coupe 21.1 gal
MPG	E 53 Sedan 21/28/24
	E 53 Coupe 21/28/23
	E 53 Cabriolet 20/26/23
	CLS 53 Coupe 21/27/23 (city/hwy/comb)

BASE PRICE: AMG E 53 SEDAN \$72,550
AMG E 53 COUPE 73,700
AMG E 53 CABRIOLET 80,350
AMG CLS 53 COUPE 79,900

mand. Power can be available without the gasoline engine even fired up, and the system provides recuperative energy back to the battery (for fuel savings that were previously the domain of high-voltage hybrid technology).

The EQ Boost ISG is non-parasitic, meaning it does not tap power from the engine as turbos or superchargers do. It also eliminates the need for a starter, while being faster and smoother.

Its smoothness comes not only from its precision engineering, but from uniform distribution of its charge around the circumference, rather than a more common three-pole solution.

Inside and underneath the AMG 53

The interior is defined by a pair of horizontal 12.3-inch screens comprising digital instruments and infotainment beneath a continuous sheet of glass—reimagining the common traditional combination of horizontal dash, vertical center stack and various binnacle shapes as one clean horizontal stretch that redefines the style, function, and overall look and feel of the entire cabin. Burmeister surround sound audio is standard, as are a sport-oriented flat-bottomed steering wheel and firmly but comfortably bolstered seats.

Underpinning the drive experience is AMG Ride Control + (Plus), a body-control sport air suspension system engineered for smooth road feel, neu-

tral cornering and optimum traction. The multi-chamber system applies continuously adjustable damping in response to powertrain parameters and road conditions. All of the above can be tailored through five AMG Dynamic Select drive modes (eco, comfort, sport, sport+ or your individualized combination of various elements thereof).

These are drivers' vehicles, but even some driver-drivers desire assistance tech (and all may benefit from its safety aspects). The AMG 53 cars include a full range of latest-gen Advanced Driver Assistance (enhanced intelligent hands-off detection) on a par with formerly just the line-topping Mercedes-Benz S-Class—including distance assist DISTRONIC, active steering assist, emergency stop assist; active lane keep, lane change, speed limit, evasive steering, blind spot and brake assist (with cross-traffic function); even route-based speed adaptation based on deep data on road oddities, toll booths, exits and the like.

All this wisdom hits the pavement through the showpiece AMG 9G-Tronic transmission feeding an up-spec'd AMG Performance 4MATIC+ all-wheel-drive system ranging from full rear-wheel drive to a 50/50 front/rear allocation of power.

One more safety feature, in case the car senses the worst seems imminent, is Pre-Safe Sound, which emits a quick interference signal that triggers a human response protective against the ear-

damaging noise of a crash.

But the focus is the engine.

Our AMG 53 cars and drives

We were already in Sacramento for another program and scheduled for a simple hop to arrive at San Francisco airport by midmorning, but record heavy rains had turned our 40-minute flight into about a six-hour adventure. Nonetheless, our first car—or choice of first car—was patiently waiting.

With four models to ultimately check out, we selected the AMG CLS 53 (4-door) Coupe as our first, the only CLS model, developing a plan to experience its particular attributes on leg one, then various E Class models in succession. The CLS has many fundamentals similar to the E 53 Sedan (door count, passenger count, wheelbase, turning circle and such), but different wheels, brakes, suspension (compare specifications on prior page), as well as certainly its overall style and character.

Our flight delays had delivered us into Bay Area rush hour traffic. There were two of us in the car, but three occupants are required in order to use HOV lanes in much of the region. We made our way up US 101 to the Bay Bridge (notable as the western end of transcontinental I-80), crossed San Francisco Bay to Oakland, took the freeway (also I-80) north on the East Bay side through Richmond and Vallejo, then a succession of four- and two-

lane highways and country roads to our Napa Valley operations base—about 80 miles total.

We were running tight, but had just enough headroom on the clock before dinner to take a spin through wine country. There had been four well-planned drive loops in the original plan—three about 90 minutes each, one about an hour long—with five hours allocated to enjoy several of them. For those of us affected by weather-related air travel delays, our hosts had already scoped out a plan, recommending one route about a third of the way up, incorporating a set of the most scenic and challenging twists and climbs through local woods and vineyards, maybe 40 or 50 miles total.

For this, we chose the E 53 Cabriolet, a car we had already been among the first to drive, for a week in Arizona (see our March/April issue). In that sense it was a repeat, but this was a great time to choose it out of the four—the rain had let up, for who knows how long, the sun was setting soon, and it was cooling off fast—a chance to utilize its chill-beating AirCap, AirScarf and windblock features. (As noted earlier, despite living in the Valley of the Sun, we seem to consistently experience these clever drop-tops during cool and/or wet weather, a great demo, though someday we hope to satisfy our curiosity as to what some of the features might do to mitigate really hot weather.)

The next day provided our longest time behind

the wheel, about three and a half hours of driving, plus photo and snack breaks. We would be heading back to the San Francisco airport through the best of what Napa, Sonoma and Marin Counties, the coastal hills and Highway One have to offer. For this, we chose an E 53 Sedan.

Speaking of cool and/or wet weather, we had intense stretches of rain this day. The comfy cabin (with the added plus of cranking that Burmeister surround sound) and 4MATIC all-wheel drive made it a driver's dream, both engaging and a breeze.

Rather than the Golden Gate, we took the Richmond-San Rafael Bridge back to the East Bay side, then the Bay Bridge into San Francisco for a lunch stop before it was time to head to the airport.

Our world class two-lane routes suited the cars' power, handling and creature comforts perfectly, and assist features are well matched to the freeway stretches. The E 53 Coupe, which itself has a lot in common with the Cabriolet (also see specs on the prior page), was left undriven for now.

If you want to keep track of your accomplishments, an optional AMG Track Pace COMAND App lets you record a range of vehicle and performance data, so you can review and improve. Or you can just press the pedal and drive, confident at the end that this drivetrain package has aced the day.

All four of the new AMG 53 models we drove in California are on sale in Arizona now. ■

Red, white and blue, not necessarily in that order—left to right, the Mercedes-AMG E 53 Cabriolet, Coupe and Sedan. Having driven the CLS the day before, and one of us the E 53 Coupe, the other the Cabriolet the night before, we took the E 53 Sedan for our longest leg, not only to round out the set, but also to gobble up all our luggage in its larger trunk, along with the video gear of our co-driver, Andre Smirnov of *TFLcar.com*. The weather could go either way, but we had 4MATIC AWD.



A WEEK WITH: 2019 MERCEDES-AMG E 53 CABRIOLET

Powerful weather beater
Convertible with innovative new powertrain also extends top-down season

SPECIFICATIONS

CLASS	Midsize convertible
PRICE	\$72,550 (base)
MPG	24/34
0-60	4.9 sec
TOP SPEED	155 mph
WARRANTY	4 yr/50,000 mi

BASE PRICE \$72,550

EXTRAS \$10,000

TESTING \$10,000

TOTAL \$92,550

PACKAGES

- Sun Protection Pkg (800)
- Exterior Lighting Pkg (800)
- Warmth & Comfort Pkg (1050)
- AMG Night Pkg (650)
- Parking Assistance Pkg (1290)
- Driver Assistance Pkg (2250)
- plus destination (995).....TOTAL: \$97,590

OPTIONS & PRICING AS TESTED

AMG CLS 53 COUPEBASE: \$79,900

- OPTIONS: Obsidian Black Metallic (720), AMG 2-tone Nappa leather (2990), metal weave (600), AMG Nappa/Dinamica Performance steering wheel (500), 20" AMG twin 5-spoke wheels (750), AMG Performance exhaust (1250), 115v AC power outlet (115), AMG Track Pace app (250), heated/vented front seats (450), active multicontour front seats w massage (1320), heads-up display (990), power rear window shade (440), 3-zone climate (760), Dinamica headliner (1600), Burmeister 3D surround sound (4550), heated rear seats (580), soft-close doors (550);
- PACKAGES:
- AMG Exterior Carbon Fiber Pkg (1750)
 - Acoustic Comfort Pkg (1100)
 - Exterior Lighting Pkg (900)
 - Warmth & Comfort Pkg (1050)
 - Energizing (air) Comfort Pkg (550)
 - AMG Night Pkg (650)
 - Parking Assistance Pkg (500)
 - Driver Assistance Pkg (2250);
 - plus destination (995)TOTAL: \$108,060

AMG E 53 CABRIOLETBASE: \$80,350

- OPTIONS: Iridium Silver Metallic (720), dark blue soft top (nc), metal weave (600), AMG Nappa/Dinamica Performance steering wheel (500), 20" AMG twin 5-spoke wheels (750), AMG illum doorsills (350), AMG Performance exhaust (1250), AMG Track Pace app (250), multicontour front seats w massage (950), heated/vented front seats (450), heads-up display (990), soft-close doors (550);
- PACKAGES:
- AMG Exterior Carbon Fiber Pkg (1750)
 - Design Black/Titanium Grey Pearl Nappa Leather Interior Pkg (4200)
 - Exterior Lighting Package (800)
 - Warmth & Comfort Pkg (1050)
 - Energizing (air) Comfort Pkg (550)
 - Parking Assistance Pkg (1290)
 - Driver Assistance Pkg (2250);
 - plus destination (995)TOTAL: \$100,595

AMG E 53 SEDANBASE: \$72,550

- OPTIONS: Polar White (nc), AMG Nut Brown Nappa Leather (2990), natural grain black ash wood (nc), Air Balance cabin air purification and fragrance system (350), 20" AMG twin 5-spoke wheels (750), AMG illum doorsills (350), AMG Performance exhaust (1250), 115v AC power outlet (115), AMG Track Pace app (250), heated/vented front seats (450), panorama sunroof (1000), active multicontour front seats w massage (1320), Dinamica headliner (1600), Burmeister 3D surround sound (4550), heated rear seats (580), soft-close doors (550);
- PACKAGES:
- Acoustic Comfort Pkg (1100)
 - Sun Protection Pkg (800)
 - Exterior Lighting Pkg (800)
 - Warmth & Comfort Pkg (1050)
 - AMG Night Pkg (650)
 - Parking Assistance Pkg (1290)
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