



Press Information

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Mercedes-AMG SL 43: New entry to SL model range with innovative engine technology

- Electric exhaust gas turbocharger derived directly from Formula 1™
- New AMG SL model available exclusively with rear-wheel drive
- Exterior design features unique front fascia, rear apron and tailpipe trim accents

Affalterbach/Atlanta. Mercedes-AMG presents the SL 43, a technically innovative new entry model for the AMG SL roadster, arriving in U.S. dealerships in summer 2023, starting from \$109,900¹. Under the hood of the open-top 2+2-seater is a Handcrafted AMG 2.0-liter turbocharged M139 engine featuring an electric exhaust gas turbocharger. This technology is a direct derivative of the development successfully used by the Mercedes-AMG Petronas F1 Team. The new form of turbocharging guarantees spontaneous throttle response across the entire rpm range to deliver an even more dynamic driving experience. The turbocharger is operated via the 48-volt electrical system, which also feeds the belt-driven starter-generator (RSG). As a result, the SL 43 has an output of 375 hp and a maximum torque of 354 lb-ft.

The 2023 Mercedes-AMG SL 43 roadster also shines with extensive standard equipment. In addition, numerous options provide customers with a wide range of possibilities for individualization.

In the 70 years of its development history, the SL experienced the transformation from a thoroughbred racing car to an open-top luxury sports car – and has long enjoyed legendary status. The new Mercedes-AMG SL now marks another milestone in the model's history. It combines the distinct sportiness of the original SL with the unique luxury and technological excellence that characterize modern Mercedes-AMG models. The SL 43 exemplifies this with its innovative electric exhaust gas turbocharger. This technology comes directly from Formula 1™ and solves the trade-off between a small, responsive turbocharger yielding a lower total output and a large turbocharger capable of high peak power with less responsiveness. With its combination of a comparatively lightweight Handcrafted AMG 2.0-liter four-cylinder engine and rear-wheel drive, the SL 43 displays impressive handling characteristics.

“The electric exhaust gas turbocharger is a fascinating example of the extensive transfer between Formula 1 technology and the development of production vehicles. In implementing this in conjunction with our powerful M139 four-cylinder, we were also able to draw on the enormous wealth of experience of our colleagues at Mercedes-AMG High Performance Powertrains. The technology increases agility and thus driving fun, while at the same time improving the efficiency of the drive system. We are pursuing ambitious goals with

¹ Above pricing excludes \$1,150 destination and delivery charge.

a view to our electrified future. Innovative components such as the electric exhaust gas turbocharger help us to achieve this," says Jochen Hermann, Chief Technical Officer of Mercedes-AMG GmbH.

Electric exhaust gas turbocharger improves responsiveness

The operating principle of the electric exhaust gas turbocharger is based on the same technology used by the Mercedes-AMG Petronas F1 Team. An electric motor around 1.6 inches (4 cm) is integrated directly on the turbocharger shaft between the turbine wheel on the exhaust side and the compressor wheel on the intake side. Electronically controlled, this drives the shaft of the turbocharger directly and thus accelerates the compressor wheel before the exhaust gas flow takes over the drive in a conventional manner.

This significantly improves immediate response from idle and across the entire rpm range. The combustion engine responds even more spontaneously to accelerator pedal input, while the overall driving experience is more dynamic. In addition, the electrification of the turbocharger enables higher torque at low rpms. This also increases agility and optimizes acceleration from a standstill. Even when the driver takes their foot off the accelerator or applies the brakes, the innovative technology is able to maintain the boost pressure at all times to ensure a continuously direct response.

The turbocharger, which is operated via the 48-volt on-board electrical system, works at speeds of up to 170,000 rpm, which enables a very high airflow rate. The turbocharger, electric motor and power electronics are connected to the combustion engine's cooling circuit to create an optimal temperature environment at all times. In combination with the Handcrafted AMG M139 engine, the innovative technology in the AMG SL 43 produces an output of 375 hp at 6,750 rpm. The 354 lb-ft of torque is available between 3,250 rpm and 5,000 rpm.

The second-generation RSG also functions as a mild hybrid in the 48-volt on-board electrical system enabling functions such as gliding and recuperation to maximize efficiency. The 48-volt technology also increases comfort, as the transitions between the start-stop function and gliding mode function are almost imperceptible.

AMG SPEEDSHIFT® MCT 9G transmission with wet start-off clutch and rear-wheel drive

The M139 engine is positioned longitudinally in the AMG SL 43. In this exclusively rear-wheel drive model, it is combined with the AMG SPEEDSHIFT® MCT 9G transmission (MCT = Multi-Clutch Transmission), in which a wet start-off clutch replaces the torque converter. This reduces weight and, thanks to its lower inertia, optimizes the response to accelerator pedal input, especially during spurts and load changes. The elaborately calibrated software ensures extremely short shift times as well as fast multiple downshifts as required. In addition, the intermediate throttle function in the "Sport" and "Sport+" driving modes delivers an emotionally appealing gearshift experience.

The AMG SL 43 accelerates from 0 to 60 mph in just 4.8 seconds on its way to an electronically limited 170 mph top speed.

Roadster architecture with aluminum composite structure for AMG Driving Performance

The new SL model range is based on a completely new vehicle architecture developed by Mercedes-AMG. The new, highly sophisticated dimensional concept allows a 2+2 seating configuration for the first time since 1989 (Mercedes SL model series R129). This makes the new SL even more versatile with increased space and usability. If the extra seating is not needed, a removable wind deflector behind the rear seats can protect front-seat occupants from draughts on the back of their necks. Or the second row of seats can be used as additional stowage space and can accommodate a golf bag, for example.

Constructed from lightweight aluminum composite, the chassis consists of an aluminum space frame with a self-supporting structure. The design offers maximum rigidity and the basis for precise driving dynamics, high comfort, optimal packaging and sporty body proportions. The aim of the body shell architecture is to realize

the driving performance typical of the Mercedes-AMG brand with a focus on lateral and longitudinal dynamics, while also meeting high standards for comfort and safety.

The intelligent material mix enables the highest possible rigidity at a low weight. The materials used include aluminum, magnesium, fiber composites and steel, from which the windshield frame is made. This serves as roll-over protection in conjunction with the roll-bar system behind the rear seats, which pops up when needed.

Compared to the previous model series, the torsional rigidity of the body shell structure is increased by 18 percent. The transverse rigidity is 50 percent higher than the already outstanding value of the AMG GT Roadster, while the longitudinal rigidity is 40 percent higher. The weight of the body shell without doors, hood and trunk lid is approximately 595 lbs (270 kg). Together with the low center of gravity, the systematic lightweight construction ensures optimal driving dynamics.

Subtle distinguishing exterior design features

The exterior design of the AMG SL 43 is differentiated from the AMG SL 55 and AMG SL 63 with its unique front fascia and rear apron, as well as round instead of angular double tailpipe trim accents.

The defining features of the SL body design include the long wheelbase, short overhangs, long hood, passenger compartment set back with a steeply raked windshield and powerful rear end. This results in the classic SL proportions. They give the roadster its powerful, dynamic appearance – together with the voluminously sculpted wheel arches and large alloy wheels flush with the outer skin.

The AMG SL 43 is fitted standard with 19-inch alloy wheels. Aerodynamically optimized 20- and 21-inch alloy wheels, which reduce air resistance through low turbulence, are optionally available. Particularly sophisticated are the available 20-inch wheels with “aero rings” that save additional weight.

Active aerodynamics to increase dynamics and efficiency

A technical highlight for improving aerodynamics is the AIRPANEL active air control system.

Normally all louvers are closed, even at top speed, to reduce air resistance. Only when predefined components have reached certain temperatures and the demand for cooling air is particularly high do the louvers open and allow the maximum amount of cooling air to flow to the heat exchangers.

Another active aerodynamic component is the retractable rear spoiler seamlessly integrated into the deck lid. It changes its position depending on the driving status. In doing so, the control software takes into account numerous parameters. It factors the driving speed, longitudinal and lateral acceleration, and steering speed into the calculation. The spoiler assumes five different angle settings from 50 mph to either optimize handling stability or reduce drag.

Fabric soft top for less weight and lower center of gravity

The sportier positioning of the new SL also suggested the decision for an electric soft top instead of the previous metal vario roof. The 46 lb (21 kg) reduction in weight and the resulting lower center of gravity have a positive effect on driving dynamics and handling. The Z-fold design saves space and weight, and makes it possible to dispense with a conventional soft top compartment cover. The front header bow ensures that the open soft top is flush in its final position. The developers were also faced with the task of maintaining the high suitability for everyday use and the exemplary noise comfort. The three-layer design consists of a tightly stretched outer shell, precisely crafted roof liner and an acoustic mat made of high-quality 450 g/m² PES fleece inserted in between.

Opening and closing only takes about 15 seconds and is possible up to a speed of 37 mph. The soft top is

operated using the switch panel in the center console and the central multimedia touchscreen, on which an animation shows how the process is progressing.

Interior with "hyper analog" cockpit and standard luxury seats

The interior of the Mercedes-AMG SL 43 also features an exciting combination of analog geometry and the digital world - known as "hyper analog." This is exemplified by the fully digital instrument cluster, which is integrated into a three-dimensional visor. The standard MBUX infotainment system offers a choice of several specific display styles and different modes.

The symmetrical instrument panel is designed as a sculptural, powerful wing and structured into an upper and lower section. Among the visual highlights are four galvanized turbine air nozzles of the climate control system. Their surfaces merge into the instrument panel in the form of power domes. The lower section of the instrument panel evolves fluidly from the center console, seamlessly connecting the two elements.

Despite symmetry, the cockpit design creates a clear focus on the driver. The high-resolution 12.3-inch LCD screen of the instrument cluster is not designed to be free-standing but integrated into a high-tech visor to help prevent reflections caused by sunlight. The tilt of the 11.9-inch central touchscreen can also be electrically adjusted from 12 degrees to 32 degrees.

The latest generation MBUX (Mercedes-Benz User Experience) is intuitive to operate and capable of learning. It offers a host of functional content and the operating structure of the second-generation MBUX system, which debuted in the Mercedes-Benz S-Class. In the SL, extensive AMG-specific content in five display styles is added. Exclusive menu items such as "AMG Performance" or the optional "AMG TRACK PACE" also emphasize the sporty character.

The AMG SL 43 is equipped standard with electrically adjustable, heated and cooled multicontour seats in Nappa leather. Customers can choose from standard Black Nappa leather, as well as six optionally available colors.

In addition to standard Black Piano Lacquer, the interior trim elements and center console are also available in AMG Aluminum, AMG Carbon Fiber and AMG Dark Chrome. The AMG Performance steering wheel is available in Nappa leather, Nappa leather/microfiber or microfiber with a carbon fiber design.

Newly developed chassis with multi-link front axle and innovative lightweight construction measures

The SL 43 features AMG suspension standard and can be optionally fitted with the newly developed AMG RIDE CONTROL suspension with particularly powerful aluminum shock absorbers and lightweight coil springs. The new SL model series is the first production vehicle ever from Mercedes-AMG to feature a multi-link front axle with five links arranged entirely within the rim. This significantly improves the kinematics. At the rear axle, a five-link design also controls the wheels.

To reduce unsprung weight, all suspension links, steering knuckles and wheel carriers on the front and rear axles are made of forged aluminum. The multi-link concept controls each wheel with the least amount of elastic movement. The high camber and track stability not only enables high cornering speeds, it also provides the driver with optimal road contact at the high cornering limit. This is reflected in excellent lateral dynamics and driving stability at high speeds as well as in the good-natured reaction to external influences such as crosswinds, bumps or jumps in friction coefficients.

The lightweight coil springs feature special tempering to allow its weight to be lowered without reducing performance. In the manufacturing process, the spring pad is glued onto the spring for the first time. This firm connection prevents wear and tear caused by dirt and debris over the course of a vehicle's life. The spring

does not corrode over the life cycle, and the maximum component load can consequently be increased with less weight. This saves around 0.4 lb (0.2 kg) per spring.

Another lightweight construction measure concerns the torsion bar stabilizers on the front and rear axles of the AMG SL 43. Thanks to a variable wall thickness, their weight can be reduced. The maximum wall thickness is now only used where it is required due to the maximum load, in this case in the area of the rubber mounts.

The latest generation of AMG adaptive adjustable damping is available as an option for the AMG SL 43. The suspension control unit uses data analysis, including acceleration and wheel travel sensors, to adjust the damping force for each wheel in a few milliseconds to suit the situation. The driver can pre-select the basic setup via the AMG DYNAMIC SELECT driving modes: at the touch of a button, the handling characteristics change, for example, from full dynamics in "Sport+" mode to smooth cruising in the "Comfort" setting. In addition, the tuning can be adjusted in three stages independently of the driving modes via a dedicated button.

AMG high-performance composite brake system

The high-performance composite brake system provides excellent deceleration values and precise control. It impresses with short braking distances, sensitive response and high stability and durability – even under extreme stress.

The composite brake discs are particularly light. Driving dynamics and turn-in behavior benefit from the reduced unsprung weight. The brake disc (made of cast steel) and brake disc pot (made of aluminum) are connected with special pins. This design saves space, which is used for even better brake cooling. The directional perforation on the brake discs is also new. In addition to the weight saving and better heat dissipation, this solution scores points with a faster response in wet conditions as well as better pad cleaning after braking.

Among the vehicle's comfort features are Hill Start Assist as well as priming and dry braking in wet conditions. When the ignition is switched off and the vehicle is stationary, the transmission automatically selects the parking position "P." When starting off from a standstill, the electric parking brake automatically releases.

Five driving modes and AMG DYNAMICS: from comfortable to dynamic

The five AMG DYNAMIC SELECT driving modes "Slippery", "Comfort", "Sport", "Sport +" and "Individual" enable a wide spread of vehicle characteristics from comfortable to dynamic. The distinct driving modes offer an individual driving experience, precisely tailored to different driving conditions. As a feature of the AMG DYNAMIC SELECT driving modes, the SL models also feature AMG DYNAMICS. This integrated vehicle dynamics control expands the stabilizing functions of ESP® with interventions that enhance agility in the steering characteristic and in ESP® additional functions. For example, when cornering at speed brief braking intervention at the inner rear wheel generates a defined yawing moment around the vertical axis for responsive and precise turn-in.

Exterior design: numerous opportunities for individualization

With extensive standard equipment as well as many additional options available, the Mercedes-AMG SL 43 offers a broad spectrum of individualization possibilities to tailor cars to a wide range of customer tastes and preferences – from sporty and dynamic to luxuriously elegant. This includes twelve paint finishes, three soft top color variants and several new wheel designs.

Three exterior design packages are available to sharpen the look of the vehicle and make it more elegant or more dynamic:

- The AMG Exterior Chrome Package features elegant high-gloss chrome accents on the front fascia, side sill panel and rear apron.

- With the AMG Night Package, select exterior elements are finished in high-gloss black, such as the front splitter, side sill trims, mirror caps and trim element in the rear diffuser. Added to this are darkened tailpipe trims. Depending on the chosen paint finish, this results in striking contrasts or flowing transitions.
- The AMG Night Package II showcases additional elements in high-gloss black, including the radiator grille, badging and Mercedes star at the rear of the vehicle.

Driving assistance systems and MBUX: intelligent helpers in the background

With the help of numerous sensors, cameras and radar, the driving assistance systems observe the traffic and surroundings of the new AMG SL 43. If necessary, the intelligent systems can intervene at lightning speed. As in the current generations of the Mercedes C-Class and S-Class, the driver is supported by numerous systems in everyday situations, for example, by assistance for speed adaptation, distance control, steering and lane changes. When an impending collision is detected, the assistance systems are able to respond as the situation demands. The functioning of the systems is visualized by a new display concept in the instrument cluster.

The new assistance display in the instrument cluster shows comprehensibly and transparently how the driving assistance systems work in a full-screen view. The driver can see their car, lanes, lane markings and other road users such as cars, trucks and motorcycles in an abstracted 3D way there. The system status and operation of the assistants are visualized in this depiction of the surroundings. The animated assistance display is based on a 3D scene generated in real time. This dynamic, high-quality representation makes the operation of the driving assistance systems transparent as an augmented reality driving experience.

Numerous connectivity services available

The MBUX infotainment system enables extensive operating options and many digital services from Mercedes me connect. Its strengths include the intuitive operating concept via touchscreen or touch control buttons on the steering wheel, Apple CarPlay and Android Auto smartphone integration, hands-free system via Bluetooth connection and HD Radio. In conjunction with MBUX, customers already have access to connectivity services such as Live Traffic Information. With Mercedes me connect, the SL becomes even more intelligent with additional functions that can be used before, after or during a journey. All that is required is to link the vehicle to a Mercedes me account in the Mercedes me Portal and accept the Terms of Use. Thanks to navigation with Live Traffic Information and Car-to-X communication, the customer drives with real-time traffic data. This way, traffic jams can be avoided efficiently and valuable time can be saved. Car-to-X communication enables connected vehicles to exchange information about traffic events.

Technical data

Mercedes-AMG SL 43

Engine		
Number of cylinders/arrangement		4/Inline
Displacement	cc	1,991
Rated output	hp	375
at engine speed	rpm	6,750
Rated torque	lb-ft	354
at engine speed	rpm	3,250-5,000
Compression ratio		10.0:1
Mixture formation		Combined direct gasoline injection and intake manifold injection, turbocharging by means of electrically assisted exhaust gas turbocharger
Power transmission		
Drive system layout		Rear-wheel drive
Transmission		AMG SPEEDSHIFT® MCT 9G (automatic transmission with wet multi-disc start-off clutch)
Gear ratios		
1st/2nd/3rd/4th/5th/6th/7th/8th/9th gear		5.35/3.24/2.25/1.64/1.21/1.00/0.87/0.72/0.60
Reverse		4.80
Chassis		
Front axle	AMG multi-link suspension	
Rear axle	AMG multi-link suspension	
Brake system	Hydraulic dual-circuit brake system; 15.4 in (390 mm) composite brake discs at front, vented and perforated, 6-piston aluminum fixed caliper; 14.2 in (360 mm) composite brake discs at rear, vented and perforated, 1-piston aluminum floating caliper; electric parking brake, ABS, Brake Assist, 3-stage ESP®	
Steering	Electromechanical speed-sensitive power steering with rack and pinion, variable steering ratio (12.8:1 at dead center) and variable power assistance	
Standard wheel size	front: 9.5 J x 19; rear: 11 J x 19	
Standard tire size	front: 255/45 ZR 19; rear: 285/40 ZR 19	
Dimensions and weights		
Wheelbase	in	106.3
Front/rear track	in	65.6/64.1
Length/height/width	in	185.2/53.5/75.4
Turning circle	ft	42.1
Cargo capacity	cu-ft	7.5-8.5
Weight	lbs	TBA
Performance		
Acceleration 0-60 mph	s	4.8 (est.)
Top speed	mph	170 (electronically limited)

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About Mercedes-Benz

Mercedes-Benz USA (MBUSA), headquartered in Atlanta, is responsible for the distribution, marketing and customer service for all Mercedes-Benz products in the United States. MBUSA offers drivers the most diverse lineup in the luxury segment with 18 model lines ranging from the sporty GLA SUV to the flagship S-Class and the dynamic all-electric Mercedes-EQ family. MBUSA is also responsible for Mercedes-Benz Vans in the U.S. More information on MBUSA and its products can be found at www.mbusa.com and www.mbvans.com.

Accredited journalists can visit our media site at media.mbusa.com.

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