



Mercedes-Benz



The new 2018 Mercedes-AMG E63 S Sedan

**Press Information**

## **The most powerful E-Class of all time**

October 25, 2016

Affalterbach. Mercedes-AMG is redefining the performance sedan. The brand is turning the most intelligent executive sedan into the most powerful E-Class of all time with the next generation of the E63. Mercedes-AMG is also setting new benchmarks in this market segment with its innovative technologies. The intelligent drive strategy raises the limits of the performance sedan's vehicle dynamics to a completely new level. Delivering superior acceleration, the 4.0L V8 biturbo engine generates up to 603 hp, making this the most powerful engine to have ever been installed in an E-Class. At the same time it is even more efficient thanks to a cylinder deactivation system fitted as standard. With zero to 60 mph acceleration of just 3.3 seconds in the E63 S, the new sedan is at the top of its class. The AMG SPEEDSHIFT MCT (Multi Clutch Technology) nine-speed sport transmission is combined with a wet start-off clutch for the first time, enabling more agile response times to be achieved. Another highlight is the completely new AMG Performance 4MATIC+ all-wheel drive system. It combines the advantages of various drive configurations. Torque distribution on the front and rear axles, which until now was strongly rear-biased, is fully variable for the first time. This ensures optimum traction right up to the physical limit, no matter the road conditions. The expressive exterior design, featuring a new radiator grille and coupe-style inset hood, underlines the performance figures. The next generation of the E63 thus offers a completely new level of sportiness and comfort.

The latest generation of the E63 sees Mercedes-AMG introducing a number of new developments that redefine the performance sedan. Innovative powertrain engineering and maximum performance are combined with distinctive design, exclusive equipment and the latest infotainment features for comprehensive, connected multimedia applications.

"The new E63 S represents the biggest step forward we've ever taken from one generation to the next. Vehicle dynamics were especially important to us. At the start of the development process, we opted for a fully variable all-wheel drive system which, when combined with the advanced performance of the 4.0-liter V8 biturbo engine, reaffirms our brand's "Driving Performance" claim," explains Tobias Moers, Chairman of the Board of Management of Mercedes-AMG GmbH.

#### Technical data at a glance:

|                             | Mercedes-AMG E63 S   |
|-----------------------------|--|
| Engine                      | 4.0L V8 biturbo  |
| Displacement                | 3,982 cc   |
| Output                      | 603 hp at 5,750 – 6,500 rpm  |
| Peak torque                 | 627 lb-ft at 2,500–4,500 rpm   |
| Drive system                | AMG Performance 4MATIC+ permanent all-wheel drive with variable torque distribution and drift mode |
| Transmission                | AMG SPEEDSHIFT MCT 9-speed sport transmission  |
| Acceleration 0–60 mph (sec) | 3.3  |
| Top speed                   | 186 mph (electronically limited)   |

#### A unique front: the exterior design

Every detail of the exterior and interior is designed to enable AMG Driving Performance to be experienced at first hand. The expressive exterior design is all about sinuous edges and defined muscles. With a completely distinctive design forward of the A-pillar, the sporty front also demonstrates the effort that Mercedes-AMG has put into the styling. For the first time on an AMG sedan, the hood is inset between the fenders and bumper like on a coupe, thus exhibiting an entirely new, more dynamic approach to exterior sculpting. More powerful-looking and .67-inches wider, the wheel arches accommodate greater track width and larger wheels on the front axle.

The new radiator grille with twin louvers in silver chrome, vertical black struts and "AMG" lettering likewise emphasizes the distinctive look. A wide front bumper inspired by the design of a jet wing, with flics in black and a large front splitter, impressively epitomizes the power of the new models. It also showcases the sophisticated cooling technology – a feature common to motorsports and another visual reference to the powerful engine. The two louvers in the outer cooling-air

intakes also help in this regard—their targeted wing profile directs air to the wheel arch coolers.

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Overall, the front section exudes exceptional power and thus conveys the strong forwards thrust of the new performance sedan at first glance.

### **Elongated side view and muscular rear**

The side view of the E63 S Sedan reinforces this impression by way of numerous, carefully matched elements. One special detail is the arrow-shaped wing signet in silver chrome bearing three-dimensional "V8 BITURBO 4MATIC+" lettering – an eye-catching way to highlight the drive system. The side sill panels make the sedan appear to sit even lower on the road and elongate the overall line. Inserts in silver chrome differentiate the E63 S from the base E63.

As standard, the E63 S runs on tires of sizes 265/35 ZR 20 (front) and 295/30 ZR 20 (rear) mounted on 9.5 J x 20 (front) and 10 J x 20 (rear) 5-twin-spoke light-alloy wheels, painted matte titanium grey with a high-sheen finish. A new design of 20-inch cross-spoke forged wheel, which looks as though it is centrally locked, is available as an option.

The muscular rear end provides the finishing touch in conjunction with the clearly defined spoiler lip in the color of the vehicle on the trunk lid, rear bumper with diffuser-look insert, and bright chrome-plated twin tailpipe trim elements on the selectable sport exhaust system. The E63 S also features a trim strip in silver chrome on the rear bumper.

### **Performance-oriented lift balance**

Designers and aerodynamics experts worked together to develop the E63. Their insights not only resulted in the striking AMG bodystyling but also the performance-oriented lift balance – for agile handling characteristics on country roads and optimum driving stability at high speeds on the motorway. The developers also placed great importance on achieving a low level of wind noise, minimal aerodynamic drag for low fuel consumption, and thermal robustness for all systems. Adapted to the sedan's airflow, the clearly defined rear spoiler reduces lift on the rear axle.

## **New peak of performance: 4.0L V8 biturbo engine with twin-scroll turbochargers**

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The versatile AMG 4.0L V8 biturbo engine in the E63 S takes peak performance to a new level with 603 hp and 627 lb-ft of torque, available from 2,500 to 4,500 rpm. A sprint from zero to 60 mph takes only 3.3 seconds, and this dynamic acceleration only ends at the governed top speed of 186 mph.

The advanced AMG 4.0L V8 biturbo engine utilizes well-proven twin turbocharging, with the two chargers not located outside on the cylinder banks, but rather between them in the V of the cylinders. The advantages of the "hot inner V" are a compact engine design, an immediate response from the twin-scroll turbochargers and low exhaust gas emissions thanks to optimum air flow for the close-coupled catalytic converters.

Two twin-scroll turbochargers are deployed for the first time to boost performance and improve responsiveness further. The housing is divided into two parallel flow passages. Combined with two separate exhaust ducts in the exhaust manifold, this makes it possible to control the exhaust gases on the turbine wheel separately. The exhaust gas from the first and fourth cylinders of the cylinder bank is fed into one duct and exhaust gas from the second and third cylinders to the other duct. The aim is to prevent the individual cylinders from having mutually adverse effects on the exhaust gas cycle. This reduces the exhaust gas back pressure and improves gas exchange. This results in increased output due to improved cylinder charge, more torque at low revs and immediate throttle response times.

Other engine measures include new pistons, an optimized air intake and charge air cooling, as well as extensive software developments. Spray-guided direct petrol injection with piezo injectors, all-aluminum crankcase, four-valve-per-cylinder design with camshaft adjustment, air-water charge air cooling, alternator management, ECO start/stop function and gliding mode have all been retained. To sum up, the eight-cylinder engine thrills with its exceptional power delivery and powerful acceleration in all engine speed ranges combined with maximum efficiency for low consumption and emission values.

### **AMG Cylinder Management**

For maximum efficiency, Mercedes-AMG has equipped the V8 engine with the AMG Cylinder Management cylinder deactivation system. This already helped the SLK55 to achieve impressively low consumption and emission values and is now being

used with a turbocharged engine from the high-performance sports car brand for the first time. In the partial-load range cylinders two, three, five and eight are deactivated, which crucially lowers fuel consumption.

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When the driver has selected the "Comfort" transmission drive program, the cylinder deactivation system is available in the wide engine speed range from 1,000 to 3,250 rpm. The AMG main menu on the instrument cluster informs the driver whether the cylinder deactivation system is in use and whether the engine is presently operating in the partial or full-load range. The transition from four to eight-cylinder operation is immediate and imperceptible, so that the passengers do not experience any loss of comfort.

### **Valves closed, fuel supply and ignition deactivated**

This is made possible by intelligent interaction between the high-performance engine management system and CAMTRONIC valve lift adjustment, which is familiar in a similar configuration from the four-cylinder engines. There are eight dual actuators involved in half-engine mode, which operate the axially sliding cam units of the intake and exhaust camshafts via a shift gate. Half-engine operation is achieved by shutting off the relevant intake and exhaust valves of cylinders two, three, five and eight. This not only enables the load-change losses of the four deactivated cylinders to be reduced, but also increases the efficiency of the four remaining cylinders. The reason for this is to shift the operating point to higher loads.

### **AMG Performance 4MATIC+ variable all-wheel drive**

The E63 S is exclusively available with the innovative AMG Performance 4MATIC+ all-wheel drive system. This newly engineered, intelligent system brings together the advantages of various drive configurations. Torque distribution on the front and rear axles, which is fully variable for the first time, ensures optimum traction right up to the physical traction limit. The driver is also able to rely on high driving stability and handling safety under all road conditions, whether dry, wet or snow-covered. The transition from rear-wheel to all-wheel drive and back again is seamless, because intelligent control is integrated into the vehicle system architecture as a whole.

An electromechanically controlled coupling connects the permanently driven rear axle variably to the front axle. The best possible torque distribution is calculated continuously according to the driving conditions and driver's input. The

performance sedan can thus be driven in a continuously variable way from traction-oriented all-wheel drive to purely rear-wheel drive. Transitions are seamless and based on an elaborate matrix. In addition to traction and lateral dynamics, the all-wheel drive system also improves longitudinal dynamics for even more powerful acceleration.

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It is still possible to drift thanks to fully variable torque distribution. This is where drift mode, part of the standard specification for the E63 S, comes into its own. This can be activated in the "Race" drive program using the shift paddles, provided that ESP® is deactivated and the transmission is in manual mode. When drift mode is activated, the E63 S becomes a purely rear-wheel drive vehicle. Drift mode remains engaged until the driver deactivates it again.

### **Short shift times, high efficiency: the AMG SPEEDSHIFT MCT nine-speed sport transmission**

The AMG SPEEDSHIFT MCT nine-speed sport transmission is specially tuned to requirements in the new E63 S. This involved re-engineering hardware and software alike.

A special software development enables extremely short shift times, fast multiple downshifts and a double-clutching function, making for highly emotional gear shifting experience. A wet start-off clutch replaces the torque converter. This saves weight and optimizes the response time to the driver's accelerator pedal input, particularly when accelerating and during load changes.

### **For a personalized experience: AMG DYNAMIC SELECT drive programs**

The four different AMG DYNAMIC SELECT drive programs "Comfort," "Sport," "Sport Plus" and "Individual" allow the driver to extensively influence the characteristics of the E63 S. Key parameters are modified such as the response of the engine, transmission, suspension, steering, ESP® and all-wheel drive system. Independently of the DYNAMIC SELECT drive programs, the driver has the option of pressing the "M" button to switch directly to manual mode, in which gearshifts are executed exclusively using the shift paddles on the steering wheel. The suspension set-ups can also be selected if desired.

"Comfort" is the well-balanced drive program with a comfort-oriented suspension and steering set-up, as well as a fuel-efficient powertrain configuration and early upshifts – including smooth gear changes and a discreet engine sound. Cylinder

deactivation, ECO start/stop function and gliding mode are on. When the driver releases the accelerator in a speed range between 37 and 99 mph, the clutch of the MCT transmission opens and the engine is decoupled from the powertrain. The electronics reduce the engine speed to idle level, and the motion resistance is reduced by the compression and frictional forces of the engine in overrun mode.

The DYNAMIC SELECT "Sport" and "Sport Plus" drive programs are designed for high vehicle dynamics. This results from an agile accelerator pedal characteristic with direct set-up and emotively appealing shift operations with shortened shift times and double-clutching function on downshifts. The increased idle speed in "Sport Plus" mode additionally enables the vehicle to move off particularly quickly while ensuring faster acceleration from rest. The E63 S also comes with the "RACE" drive program for highly dynamic driving on closed race circuits. Here all parameters are designed for maximum performance.

### **RACESTART even simpler**

The control logic for the RACESTART function is new and has been simplified considerably. In the Sport, Sport Plus or RACE drive programs, all the driver has to do is press the brake pedal forcefully with their left foot and simultaneously fully depress the accelerator pedal with their right foot.

The on-board electronics will now set the optimum engine speed. Depending on requirements or the road surface conditions, the engine speed can be increased or lowered in either direction by activating the shift paddles. If the driver now takes their foot off the brake pedal, the E63 S will accelerate from rest with optimal traction, completing a 0 to 60 mph sprint in just 3.3 seconds.

### **Specially developed suspension for maximum lateral and longitudinal dynamics**

Increased agility and high cornering speed of the new E63 S results from the completely re-engineered AMG sport suspension. It is based on the AIR BODY CONTROL fully supporting multi-chamber air suspension and affords very high camber stability. The vehicle dynamics and steering precision are also combined with a high level of comfort.

A four-link front axle design uses forged aluminum components with wishbones, strut rod and spring link. The suspension strut supports the vehicle weight via the supporting link across from the body. Independent wheel control and wheel

suspension parts combined with the increased track width enable higher lateral acceleration, and minimal torque steer.

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Likewise model-specific, the entirely re-engineered rear axle was adapted specifically to the new performance sedan's increased vehicle dynamics. The multi-link concept impresses with highly precise wheel control and increased stiffness. The AMG-specific rear axle carrier makes the wider track possible, with the contact surfaces of the wheel bearings having been moved out compared with the Mercedes-Benz E-Class sedan. Other measures include AMG-specific wheel carriers, elastokinematic tuning optimized for vehicle dynamics and higher negative camber. Newly developed elastokinematics guarantee the comfort expected from the E-Class combined with high precision and vehicle dynamics.

The rear axle differential has a new mount to improve the NVH (noise, vibration, harshness) characteristics. Additional bracing measures and welds also make a contribution in this regard. As on the AMG GT R, an anti-roll bar made of tubular material reduces the weight of the rear axle. It has been adapted to the increased vehicle dynamics of the new performance sedans.

The radial brake connection has been derived from motorsport. It helps to make handling more agile and precise because it provides increased rigidity to counter the vibrations and forces that the suspension produces. Due to the special rubber bushes on the axles and new elastokinematics, it was possible to improve camber stability by 30 percent compared to the previous E63 model.

### **Personalized driving experience thanks to three-chamber air suspension system**

The air suspension system, with three chambers, a sporty spring damper set-up and continuously adjustable damping also takes the ability to individually tailor the driving experience to a new level. It combines exemplary vehicle dynamics with good road roar and tire vibration characteristics. The rigidity of the air springs can be fine-tuned by activating or deactivating individual air chambers. This results in a tangible increase in comfort, as well as improved handling.

By carrying out extended series of trials and test drives, the developers at AMG have defined three spring tuning settings depending on the selected drive program and actual driving conditions. During sudden load changes, fast cornering, heavy acceleration or hard braking, the spring rate is also automatically made harder on



the front or rear axle. This reduces roll and pitching effectively and stabilizes the performance sedan.

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In the "Comfort" program, the suspension is heavily oriented towards providing a comfortable ride. Irregularities in the road surface are absorbed and the E63 S travels smoothly. In "Sport" mode, the E63 S can handle significantly more dynamically with reduced roll thanks to a harder spring rate. "Sport Plus" mode delivers further enhanced agility and cornering ability because the front and rear axles have an even more rigid suspension.

What is more, the customer can set the adaptive damping in three stages – "Comfort," "Sport" and "Sport Plus" – to choose between relaxed comfort on long journeys and maximum sportiness. The rebound and compression levels are adjusted independently of each other and the freely programmable characteristics map permits a wide spread between the minimum and maximum damper force. The difference between the comfortable and sporty suspension setting is thus more refined and is even more perceptible depending on the particular driving situation.

The complete package is compelling: The AMG E63 S Sedan combines steering precision and the highest level of longitudinal and lateral dynamics with maximum traction, while at the same time boosting ride comfort.

### **Rear differential lock: optimal traction, including on the racetrack**

To improve traction and vehicle dynamics the E63 S has an electronically controlled rear differential lock. Both differentials reduce the slip on the inside wheel when cornering without control interventions in the braking system. This ensures that the driver is able to accelerate out of corners earlier and with more power thanks to improved traction. The car remains more stable when braking from high speeds, and the limited-slip differential also improves traction when accelerating. The greatest benefit of the electronic rear-axle limited-slip differential is the even more sensitive and proactive control, which pushes the thresholds higher and makes it even easier to drive at the vehicle's limits. To deliver optimum cooling, the housing of the limited-slip differential has additional cooling fins.

The three-stage ESP® with "ESP ON", "ESP SPORT Handling Mode" and "ESP OFF" settings works in perfect unison with the rear-axle limited-slip differential and AMG 4MATIC+ all-wheel drive system, and is optimally tuned for outstanding dynamics.

Uniquely in this segment, the E63 S is fitted with dynamic engine mounts. These help to solve the conflicting goals of achieving as soft a connection as possible to the powertrain for high comfort and as rigid a connection as possible for optimum vehicle dynamics. The dynamic mounts are instantly and variably able to adapt their stiffness to the driving conditions and requirements. These measures enhance the vehicle's precision when driven dynamically. The steering response and steering feedback, for example, are thus even more direct. When cornering the ride feels more precise and the driver needs to make fewer corrections because movement of the major assemblies is minimized. On the racetrack there is no compromise on the rigidity of the mounts, which further reduces the major assemblies' propensity to inertia, and thus helps to improve lap times. Conversely, softer mounts noticeably enhance comfort on stretches of rough road, for example. In the case of undulating surfaces, increased damping steadies the powertrain as quickly as possible.

**Direct and with clear feedback: AMG Sport speed-sensitive steering**

The electromechanical speed-sensitive sport steering features a variable ratio on the E63 S. It stands out thanks to the AMG-specific rack-and-pinion ratio with its precise feedback. Steering power assistance is variably adjusted in the stages "Comfort," "Sport" or "Sport Plus." The relevant characteristics are automatically activated depending on the selected DYNAMIC SELECT drive program or can be personalized in "Individual" mode. At low speeds the driver only needs to provide minimal steering input. At high speed he or she is able to rely on solid straight-line stability. The clearly defined center bearing and authentic feedback likewise contribute to the optimum steering feel.

**Good sensitivity and fade-resistant: the AMG high-performance braking system**

The large-sized high-performance braking system decelerates the performance sedan reliably and quickly and is fade-resistant even under high loads. The E63 S is fitted with 15.4" x 1.4" compound brake discs on the front axle. For the more powerful variant, the AMG Carbon Ceramic braking system is available as an option with 15.8" x 1.5" brake discs on the front axle and 14.2" x 1.3" on the rear.

The three-stage ESP® allows significantly higher vehicle dynamics and driving enjoyment in ESP® Sport Handling Mode and with the ESP® OFF setting. The

specific traction logic is active at all times—when a driven wheel starts to lose traction, ESP® applies the brakes in a targeted way for optimum transfer of the engine output to the road.

In this way, the three-stage ESP® provides additional safety and more fun to suit requirements.

- ESP® ON: for a high level of safety by adapting to the sporty character of the car
- ESP® Sport Handling Mode: allows wider yaw angles before system intervention for a sporty driving style
- ESP® OFF: system deactivated for a sporty driving style on closed circuits. During hard braking ESP® is switched back on temporarily.

#### **Additional struts: reinforced bodywork structure**

The new performance sedans have a rigid bodywork structure, which forms the foundation for maximum vehicle dynamics, comfortable handling even on stretches of rough road, and a solid feeling of quality. There are also four struts to additionally reinforce the bodysell: two front struts are even stiffer than on the E43 and the Mercedes-AMG E63 S exclusively gains two rear struts.

#### **Sporty characteristics: the interior design**

The interior reinforces the consistently dynamic bias with numerous specially designed details. Ideal for a sporty driving style, the performance sport steering wheel in black leather features a flattened bottom section, Touch Control and electroplated shift paddles, as well as a steering wheel bezel with the AMG logo.

The driver and front passenger enjoy a secure position in the front sport seats even when driving at speed thanks to improved lateral support. There is a distinctive seat upholstery layout in black nappa leather/DINAMICA microfiber, nut brown nappa leather or macchiato nappa leather. The door center panels match the seat design. AMG Performance seats with integral head restraints can be ordered as an option. Aluminum trim elements with a unique pattern highlight sportiness.

In the E63 S, the interior has been further refined. Highlights include a nappa leather covering for the instrument panel and beltlines, sport steering wheel with a crystal grey 12 o'clock marking and contrast topstitching, an AMG crest in the

front head restraints, crystal grey seat piping, IWC-designed analogue clock and seat belts in crystal grey.

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The AMG-specific instrument cluster places all important information in the driver's field of vision. Dials in a checkered-flag look lend the large, clearly legible displays an especially sporty touch. Customers with a passion for motorsport will be pleased to note the inclusion of a RACETIMER system for recording lap times on closed-off tracks.

### **New AMG TRACK PACE app (availability TBA)**

To supplement the RACETIMER, Mercedes-AMG has developed the new Mercedes me connect AMG TRACK PACE app. Customers can use it to analyze and improve their track driving style and to share this with other AMG drivers via Facebook, Vimeo, YouTube or the AMG Private Lounge. This app for Apple iPhones® is connected to the on-board race app in the head unit via wifi or Bluetooth®. The COMAND Online infotainment system transmits all vehicle data – including speed, gear, steering angle, time, position and temperature – to the app in real time. The smartphone app can also be connected with GoPro cameras so that the driver can obtain an interactive video of their racing experience featuring all the related data.

### **Intelligent Drive**

For the E63 S sedan, all connectivity, Intelligent Drive functions and options which make the Mercedes-Benz E-Class the most intelligent business sedan are available. This includes semi-automated driving with the DRIVE PILOT driver assistance system, which can support the driver during routine tasks such as driving in heavy traffic.

### **Numerous options for personalization**

Anyone wishing to personalize their E63 S even further is able to order from a wide selection of options. The Night Package, attractive wheel alternatives and carbon-fiber elements can be used to customize the exterior specification. In the interior the AMG Performance Steering Wheel in nappa leather/DINAMICA microfiber and AMG Performance Seats, which are available for the first time, reinforce the sporty character. Carbon-fiber trim parts or glass-fiber elements in matte silver round off the possibilities.

## **Even more exclusivity: the E63 S "Edition 1"**

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Available for around a year after the market launch, the E63 S "Edition 1" is an exceptionally exclusive and distinctive offering. Complementing the paint finish in *designo* Night Black Magno, dynamic stripes on the side sill panels emphasize the elongated side view and underline the forward thrust of the AMG E63 S sedan. Added to this are new AMG 20-inch forged wheels in matte black with high-gloss polished rim flange and the Night package.

AMG Performance seats in black nappa leather with yellow topstitching create an exceptionally sporty ambience in the interior. Also color-matched are the AMG Performance sport steering wheel, door armrests, center console, AMG floor mats and IWC-designed analogue clock with yellow topstitching or accents. The sport steering wheel in black DINAMICA microfiber features "Edition 1" lettering and a 12 o'clock marking in black. Carbon-fiber trim elements further enhance the exciting contrast of colors and materials.

## **World premiere and market launch**

The new performance sedan celebrated its world premiere as an "Edition 1" on November 16, 2016 at the Los Angeles Auto Show. US dealer launch is planned in the summer of 2017.

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