



Press Information

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Generations of Innovation: The Mercedes-Benz S-Class

With every generation throughout its storied history, the Mercedes-Benz S-Class and its predecessor models have consistently set new and previously unimaginable standards in automotive engineering. The following provides an overview of some of the most significant innovations found in the S-Class throughout its highly successful past.

For Mercedes-Benz, the S-Class has always been a car that embodies the absolute best thinking, with engineers consistently developing human-centered innovations that ultimately create a seamless combination of luxurious form and intelligent function, thoughtfully executed down to the smallest detail. This line of flagship models has continued uninterrupted since 1951, with the formal introduction of the first S-Class designation in 1972. Each model in the history of the S-Class made its mark on the automotive landscape. We will recount the generations of the S-Class and its predecessor models along with their related innovation milestones below:

Innovation Milestones: S-Class and predecessor models, since 1951

Mercedes-Benz 220 (W 187, 1951 to 1954)

- Cutting-edge six-cylinder engine with overhead camshaft
- **Conical-pin safety door lock** to prevent doors from bursting open in an accident. This extremely strong door lock was the first of its kind.

Mercedes-Benz 219/220/220 S/220 SE (W 105/W 180/W 128, 1954 to 1959)

- Self-supporting bodyshell
- Brake drums with “turbocooling”
- Mechanically controlled manifold **fuel injection**, 220 SE, from 1958.



Mercedes-Benz 220 to 300 SE (W 111/W 112, 1959 to 1965)

- Known as the “Fintail” models, from the discrete fintails located on the rear fenders
 - Officially these were known as “guide rods”, due to their function as a parking aid
- **Passenger safety cell with crumple zones** front and rear
 - This marked the first time the safety cell with crumple zones was incorporated into a series production model.
- Padded steering wheel and “injury-reducing vehicle interior”
- Disc brakes (300 SE, from 1961)
- Air suspension (300 SE, from 1961)
- Central locking as optional equipment (long-wheelbase 300 SE)

Mercedes-Benz 250 S to 300 SEL 6.3 (W 108/W 109, 1965 to 1972).

- Hydropneumatic compensating springs at the rear axle
- Top-of-the-range 300 SEL 6.3 with 250 hp (184 kW), featuring a large-displacement V8 engine offering sports-car level performance

116 model series Mercedes-Benz S-Class (1972 to 1980)

- *Officially designated the “S-Class” for the first time*
- Fuel tank over the rear axle to provide protection in the event of a collision
- Dirt-resistant rear lights and side windows
- **Anti-lock braking system ABS** as optional equipment from 1978
 - This innovation comprised four-wheel multi-channel anti-lock braking and enabled the driver to retain steering control even during emergency stops. By 1980, ABS is present in all Mercedes-Benz model series.
- Cruise control as optional equipment (from 1975)
- First production car with a turbocharged diesel engine

126 model series Mercedes-Benz S-Class (1979 to 1992)

- Electrically adjustable steering column as optional equipment (from 1985)
- **Driver airbag and belt tensioner for front passenger**, optional from 1981
 - The 126 series featured a driver’s airbag along with a belt tensioner for the front passenger. Since October 1992, a driver-side airbag has been standard equipment in all Mercedes-Benz passenger cars.
- Front passenger airbag as optional equipment (from 1988)
- ASR acceleration skid control optional for V8 models from 1985.

140 model series Mercedes-Benz S-Class (1991 to 1998)

- Low drag coefficient of Cd= 0.31
- First Mercedes-Benz production car with a twelve-cylinder engine, the brand’s most powerful car engine at this point (600 SE, 600 SEL)
- Double-glazed side windows for maximum noise insulation
- Power closing for doors and trunk lid as optional equipment
- **Electronic Stability Program (ESP®)** as standard equipment on the S 600, from 1995, or optional equipment on S 420, S 500, from 1995.
 - Mercedes-Benz is a pioneer in the field of handling safety systems, such as ASR and ESP, both building upon the technology of ABS. ESP can selectively brake individual wheels, counteracting the tendency to skid in critical handling situations and allowing the driver to maintain control of the vehicle.

- **BAS Brake Assist System** from 1996
 - This system aids the driver by shortening the stopping distance during an emergency, applying maximum available brake pressure when the driver applies too gently in a given situation.
- **PARKTRONIC electronic parking aid** on S 600 from 1995, or optional
 - Ultrasonic measuring system for detecting the distance to an obstacle, to assist the driver when parking and maneuvering.
- **CAN-based (Controller Area Network)** multiplex wiring system
- APS Auto Pilot System navigation system as optional equipment (from 1995)
- **LINGUATRONIC voice control system** optional from 1996.
 - First carphone system activated by voice control in series production.
- Xenon headlamps with dynamic headlamp range control as optional equipment (from 1996)

220 model series Mercedes-Benz S-Class (1998 to 2005)

- Drag coefficient of $C_d = 0.27$
- Automatic cylinder shutoff (S 600)
- Electronically controlled **seven-speed automatic** transmission from 2004
- **Active Distance Assist DISTRONIC** as an option.
- KEYLESS GO keyless access and drive authorization system as optional equipment
- PRE-SAFE® preventive occupant protection system (from 2002).
- First S-Class AMG model in official model range (S 55 AMG, 265 kW/360 hp, from 1999; with a supercharger from 2002, 368 kW/500 hp)
- S 65 AMG with 450 kW (612 hp) and 738 lb/ft of torque (from 2003)
- 4MATIC all-wheel drive as optional equipment (from 2002)

221 model series Mercedes-Benz S-Class (2005 to 2013)

- Drag coefficient of $C_d = 0.26$
- Improved Active Distance Assist DISTRONIC PLUS (with braking to standstill) as optional
- PRE-SAFE® Brake with autonomous partial braking (from 2006) and autonomous emergency braking (from 2009) as optional equipment
- Panoramic tilting/sliding roof as optional equipment
- Active Night View Assist as optional equipment
- Lane Keeping Assist as optional (from 2009, from 2010 as Active Lane Keeping Assist)
- **Hybrid drive** and lithium-ion battery on S 400 HYBRID, from 2009

222 model series Mercedes-Benz S-Class (2013 to 2020)

- “Intelligent Drive” with new assistance systems and significantly enhanced functions
- Body with third-generation aluminum hybrid bodysell with 50 percent higher light-alloy design quality rating (torsional rigidity in relation to weight and vehicle size) compared with the predecessor model series.
- **First car entirely without traditional bulbs**, instead featuring almost 500 LEDs in the interior and exterior.
- Thanks to **ROAD SURFACE SCAN** the S-Class is capable of identifying potholes in advance. MAGIC BODY CONTROL adapts the chassis and suspension accordingly.
- New wellness systems, such as ENERGIZING massage applying the hot-stone principle and active seat ventilation with reversing fans to increase seating comfort. From September 2017 ENERGIZING comfort control merges different systems in the vehicle to enable individual set-ups to boost well-being.
- As of 2014, the Mercedes-Maybach S-Class topped the 222 model series with a wheelbase that had been extended by 7.9 in, with additional luxury and exclusive appointments.

223 model series, the New Mercedes-Benz S-Class (2020 to present day)

- The second generation of MBUX (Mercedes-Benz User Experience) debuts. Another milestone as the interface between the driver, passengers and vehicle: there are up to five screens on board, some with OLED technology. At the touch of a button, the new 3D driver display for the first time allows spatial perception of the scene with a real 3D effect thanks to eye-tracking.
- **Active ambient lighting** with around 250 LEDs is now integrated into the driving assistance systems, and is able to reinforce their warnings visually.
- World's first series production available **rear seat airbag**
 - During certain frontal collisions, the optional rear seat airbag can considerably reduce the loads on the head and neck area of the seat-belt-wearing occupants in the outer rear seats.
- Thanks to rear-axle steering (optional), the S-Class is as maneuverable as a compact car in the city. The steering angle on the rear axle is up to ten degrees.
- More than 50 electronic components in the new S-Class can be updated with new software over-the-air (OTA).

Photo and video assets available for download:

[S-Class Historical Range, Immendingen test track](#)

[Classic S-Class Driving and Static Footage](#)

[W 187](#)

[W 180](#)

[W 112](#)

[W 108](#)

[W 116](#)

[W 126](#)

[W 140](#)

[W 220](#)

[W 221](#)

[W 222](#)

[W 223](#)

More information on Classic S-Class generations can be found via our online archives, [link](#).

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About Mercedes-Benz USA

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 15 model lines ranging from the sporty A-Class Sedan to the flagship S-Class and the Mercedes-AMG GT R.

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