

Model 222**Introduction**

In June 2017 the S-Class will be facelifted and this shall be for all variants:

- S-Class Sedan
- S-Class Sedan with extended wheelbase
- S-Class Mercedes-Maybach Sedan

In particular, safety, the driver assistance systems and the telematics have all been updated.

In the powerplant, new engines with the following properties succeed their relevant predecessors:

- Reduced specific fuel consumption
- Higher specific output
- Improved noise, vibration, harshness (NVH) characteristics



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S-Class Sedan with extended wheelbase, exterior with code 950 (AMG Sports Package)

S-Class Sedan with extended wheelbase, exterior with code 950 (AMG Sports Package)



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S-Class Sedan with extended wheelbase, exterior with code 950 (AMG Sports Package)



P00.00-5873-79

S-Class Sedan with extended wheelbase, exterior with code 950 (AMG Sports Package)



P00.00-5874-79

S-Class Mercedes-Maybach Sedan S 560 4MATIC



P00.00-5875-79

S-Class Mercedes-Maybach Sedan S 560 4MATIC

**S-Class Mercedes-Maybach Sedan
S 560 4MATIC**



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P00.00-5877-77

Design

The facelift's package of measures is designed to further develop the status and state-of-the-art level of luxury for the S-Class Sedan model 222. The special exclusiveness of the S-Class Mercedes-Maybach Sedan and the models equipped with the 12-cylinder engine have been taken into consideration here.

Exterior

Front view of S-Class Sedan and S-Class Sedan with extended wheelbase

- Adoption of radiator grille concept previously reserved for S 600 with three double slats for all engine line-ups
- Vertical rods in radiator grille in high-gloss black (for 6 and 8-cylinder engines)
- Vertical rods in chrome in radiator grille for S-Class Sedan with extended wheelbase with 12-cylinder engine
- LED High Performance headlamps with fiber-optic cable as standard equipment
- MULTIBEAM LED with three fiber-optic cables as special equipment
- COMING HOME illumination in fiber-optic cable blue. Blue then changes after 3 s to white.

Dimensional drawing

The facelift measures undertaken mean that on all S-Class Sedan models the overhang length at the front are extended and therefore the standard vehicle length increased by 9 mm compared with the predecessor model.

In the S-Class Sedan with extended wheelbase, the headlamps, in particular, along with the 12-cylinder variant, ensure that the visual differentiation is a striking one.

In the S-Class Mercedes-Maybach Sedan, the additional use of chrome-plated trim elements in the front and rear bumpers is the most significant differentiation feature.

- MULTIBEAM LED with three fiber-optic cables as special equipment
- COMING HOME illumination in fiber-optic cable blue. Blue then changes after 3 s to white.
- Lower section of front bumper with slender chrome wing and sporty air outlet

Rear view of S-Class Sedan and S-Class Sedan with extended wheelbase

- Redesigned lower section of rear bumper
- Transition of center section to lower section of rear bumper in high-gloss black
- Tailpipe trim elements integrated into the bumper at left and right for all engine variants
- Framing of tailpipe trim elements by chrome-plated trim elements over entire width of rear bumper

- Lower section of front bumper with slender chrome wing and sporty air outlet

Front view of S-Class Mercedes-Maybach Sedan

- Vertical rods in radiator grille in chrome
- Maybach lettering between slats of radiator grille on driver's side
- LED High Performance headlamps with fiber-optic cable as standard equipment

Interior

The instrument panel is characterized by the latest generation of high-resolution displays. The two displays blend visually behind a common glass cover to form the Widescreen Cockpit.

For the interior lighting, only long-lasting, energy-saving LED technology is used. This also applies for the standard ambient lighting. New is the code 891 (Premium ambiance illumination) with 64 different colors and 10 color moods. They influence the lighting in the following areas:

- On the trim elements
- In the central display

- Tailpipe trim elements with vertical bar for models with 12-cylinder engine

Rear view of S-Class Mercedes-Maybach Sedan

- Chrome-plate trim elements between reflectors on lower section of rear bumper
- Tailpipe trim elements with vertical bar

- On the handle recess shells in the doors
- In footwell at front and rear
- On the overhead console
- On the tweeters vehicles equipped with code 811 (Advanced Sound-System)

With optionally-available code P72 (ENERGIZING comfort control) the fragrances, colors, tones and massages are combined in an intelligent manner. Small pulses vitalize or relieve the driver, boost his performance capability.



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Aerodynamics

S-Class Sedans in combination with certain engines are equipped with the active air regulation system for the first time. This enables the following improvements to be achieved:

- Reduction in aerodynamic drag

Drive

The following engines are available for S-Class Sedans:

- New 6-cylinder spark-ignition engine M256
- 6-cylinder spark-ignition engine M276 (Hybrid vehicles)
- 8-cylinder spark-ignition engine M176
- 8-cylinder spark-ignition engine M177 AMG
- 12-cylinder spark-ignition engine M277
- 12-cylinder spark-ignition engine M279
- New 6-cylinder diesel engine OM656

6-cylinder spark-ignition engine M256

The 6-cylinder spark-ignition engine M276 with cylinders in a V arrangement is discontinued as part of the facelift, except in hybrid vehicles, by the 6-cylinder spark-ignition engine M256 with in-line design. The new engine is now available in combination with the 48 V on-board electrical system. The most important technical features include:

- Timing assembly on transmission side
- CAMTRONIC valve lift adjustment
- Integrated starter alternator (ISA)
- Electric additional compressor
- Electrically-powered coolant pump
- Electrically-powered refrigerant compressor
- Discontinuation of belt drive

Charging

Instead of two exhaust gas turbochargers such as for the M276, the M256 has an exhaust gas turbocharger and an electrically-powered additional compressor. This enables the engine's air supply to be markedly improved and sufficient boost pressure to be achieved even at low engine speeds. The electric additional compressor is self-regulating and it has a response time of approx. 300 ms. The exhaust gas turbocharger can be supported in two ways by compressing the additional compressor's air:

- Three times within one minute for a period of 2 s
- One time within one minute for a period of 15 s

If the additional compressor is not required, the intake air is routed around the additional compressor to keep the pressure losses as low as possible.

Thermal management

The coolant circuit consists of a high-temperature circuit and a low-temperature circuit divided into two sections. The internal combustion engine is cooled through the high-temperature circuit.

- Reduction of fuel consumption
- Reduction of emissions

The system also prevents parts of the emission control system in the engine compartment cooling down too quickly when the vehicle is at a standstill. Consequently, the necessary heat-up period before restarting is reduced.

The ISA enables the torque from the internal combustion engine to be overlaid with the torque from the electric machine. This so-called E-Boost improves the vehicle's response/acceleration characteristics. The control strategy is designed in such a way that the best possible driving performance is always achieved with the lowest possible energy consumption by means of intelligent energy distribution between the electric additional compressor and the ISA. When starting off at low combustion engine speeds, the ISA supports the internal combustion engine due to its rpm/torque characteristics and thus increases responsiveness.

Recuperation is used to convert the kinetic energy of the vehicle into energy which can be stored electrically. In overrun mode, the ISA overlays the deceleration torque of the internal combustion engine with an electrical torque. Under braking the ISA generates the required proportional braking torque.

i More detailed information is available in the "Technology Guide for 48 V On-Board Electrical System".

8-cylinder spark ignition engine M176

The engine M176 is a newly-developed V8 gasoline engine. The engine is equipped with a direct injection with twofold exhaust-gas turbocharging and a separate low-temperature circuit for the charge air cooling.

Overview of important features of M176:

- Two exhaust gas turbochargers located in engine's "V" area
- Separated low-temperature circuit
- Spray guided gasoline direct injection with piezo injectors
- Friction power optimization through NANOSLIDE® twin-wire arc sprayed (TWAS) coating
- Chain driven coolant pump
- Chill cast aluminum crankcase maximum possible pressure of up to 140 bar
- CAMTRONIC (CSO)

i Further information is available in the Introduction into Service Manual "Overview of new products/features/modifications, Introduction of New V-Engines M176".

6-cylinder diesel engine OM656

The new six-cylinder in-line engine OM656 as successor to the V6 diesel engine OM642 will be available at the model facelift in two output variants with 210 kW and 250 kW.

The new engine generation is characterized by the following components and systems:

The low-temperature circuit 1 supplies the following components with coolant:

- ISA including power electronics
- Charge air cooling
- Transmission oil heat exchanger
- Electric additional compressor

Low-temperature circuit 2 supplies the 48 V battery and the DC/DC converter with coolant.

ISA

The ISA system contains the following components:

- Electric machine with power electronics
- DC/DC converter
- 48 V lithium ion battery

The power electronics are located in the installation space of the pinion starter, which is no longer installed. The electric machine bolted permanently to the crankshaft and located between the engine and the automatic transmission. It generates a maximum output of 15 kW and a torque of 220 Nm.

The internal combustion engine can be automatically switched off to match the vehicle speed and then immediately set at idle speed without any noise and smoothly, when the driver presses the accelerator pedal. To do so, the crankshaft is moved into a favorable position for starting the internal combustion engine.

Suspension, steering and brakes

CURVE function

If equipped with code 487 (MAGIC BODY CONTROL) the ABC suspension system is now augmented for the first time with the CURVE function. The innovative suspension system recognizes curves with the aid of the stereo multifunction camera located behind the windshield, which detects the curvature of the road. A lateral acceleration sensor is used to determine the centrifugal forces and the control unit uses an algorithm to calculate the incline angle. Depending on the road curvature and the vehicle speed involved, the vehicle is automatically inclined in fractions of a second into the curve. This all happens up to an inverse/negative roll angle of 2.65 degrees. The CURVE function can be selected through the DYNAMIC SELECT menu and it is active at a vehicle speed of 15 to 180 km/h.

DYNAMIC SELECT

The DYNAMIC SELECT system is a package of functions and systems for adjusting the handling characteristics. The following transmission modes are available:

- ECO

Steering wheel

The facelift for the S-Class Sedan includes the introduction of a new steering wheel generation. The control elements for the driver assistance systems cruise control/limiter and the Distance Pilot DISTRONIC have been moved from the steering column switch module into the multifunction steering wheel.

- An oil pump integrated into the crankcase
- Gearwheel drive in combination with a timing chain on the flywheel side for driving the high-pressure pump, oil pump, balance shafts and the two camshafts
- Optimized heat management
- Two-stage exhaust gas recirculation (EGR) with coolant-cooled pre-cooler and exhaust gas recirculation cooler with switchable bypass duct
- Cylinder head with 2-piece water jacket
- Rapid glowing system with glow output stage
- Load-level controlled preinjection and post injection
- Fuel injectors with piezo valves
- ATL with 2-stage charging with electronic boost pressure regulator
- Combined emission control system close to engine
- CAMTRONIC on exhaust valves

i Further information is available in the Introduction into Service Manual "Overview of New Products/Features/Modifications, Introduction of New Inline Engine OM656".

Hybrid vehicle

The S 560 e model facelift includes the 3rd generation plug-in hybrid. The internal combustion engine is provided in the form of the familiar 6-cylinder spark-ignition engine M276. As with all spark-ignition engine, this is equipped with a gasoline particulate filter for reduction of particulate emissions.

The 3rd generation plug-in hybrid makes use of tried-and-tested elements and the following new hybrid components developed:

- Power electronics
- High voltage wiring harness including adapter plate
- Mounting of high-voltage battery
- High-voltage battery with approx. 50 % higher energy content
- Automatic transmission 9G-TRONIC adapted for hybrid mode

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- Comfort
 - CURVE (new)
 - Sport
 - Individual

In the ECO drive program the gliding function supports the active fuel reduction process. If the driver takes his foot off the accelerator pedal, the internal combustion engine is decoupled from the powerplant and it runs on in idle speed. The vehicle runs on further here than would be the case if measured in deceleration mode.

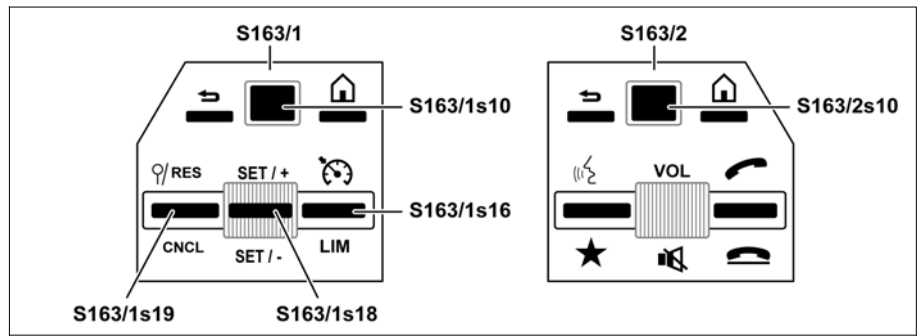
The drive program is selected by operating the DYNAMIC SELECT switch. The CURVE function can be selected as drive program or as a parameter in the "Individual" drive program.



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Multifunction steering wheel button groups for standard equipment with cruise control/limiter

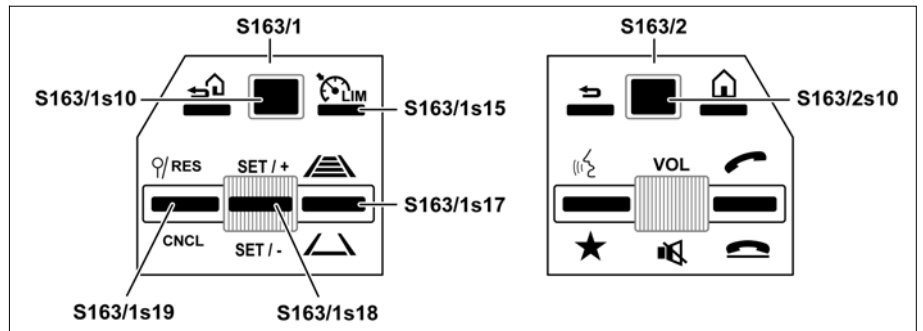
- S163/1 Instrument cluster multifunction steering wheel button group
- S163/1s10 Instrument cluster finger navigation pad
- S163/1s16 Variable speed limiter and Distance-Pilot switch
- S163/1s18 Cruise control switch
- S163/1s19 Cruise control resume switch
- S163/2 Head unit multifunction steering wheel button group
- S163/2s10 Head unit finger navigation pad



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Multifunction steering wheel button groups with code 23P (Driving Assistance Package)

- S163/1 Instrument cluster multifunction steering wheel button group
- S163/1s10 Instrument cluster finger navigation pad
- S163/1s15 Variable speed limiter and Distance-Pilot button
- S163/1s17 Distance-Pilot switch
- S163/1s18 Cruise control switch
- S163/1s19 Cruise control resume switch
- S163/2 Head unit multifunction steering wheel button group
- S163/2s10 Head unit finger navigation pad



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The two finger navigation pads on the steering wheel have had acoustic control feedback added to them. The feedback sound is emitted through a speaker in the vehicle.

Safety and driver assistance systems

Code 23P (Driving Assistance Package) is available for the S-Class Sedan. It is based on the Driving Assistance Package, Generation 4.5 of the E-Class, model 213. The subsystems have had the following added to them.

Active Lane Keeping Assist

- Status indication in instrument cluster
- Recognition of multi-lane roadways using map data

Active Emergency Stop Assist

- Sends out an emergency call
- Automatic unlocking sequence

DISTRONIC Distance-Pilot

- Operation using steering wheel buttons
- Activation of glide function in ECO drive program (in combination with 6-cylinder engine M256)
- Adaptation of vehicle speed before route events (curves, roundabouts, toll stations, T-intersections) as well as when turning off/exiting freeways/expressways.

Speed Limit Pilot

- Anticipatory response to any change in a speed limit
- Automatic acceleration when on clear freeway/expressway to set speed or recommended speed

Emergency guide

The emergency guide is an internal new Mercedes-Benz development and available as standard equipment. When a breakdown or an accident is detected the emergency guide is automatically available to assist vehicle occupants and provide them with visual safety information.

With code 443 (Steering wheel heater), next to the leather covered parts the wood trim elements are also heated.

The emergency guide displays safety information for the vehicle occupants on the central display indicating how they should proceed further if one of the following events occur:

- Activation of a protective systems (e.g. seat belt tensioner and airbag)
- Sending of an emergency call or service call
- Recognition of a vehicle breakdown

The signals for a detected breakdown or accident situation are also sent to Car-to-X communication and to the Mercedes-Benz Service Center (Mercedes me or Service Call). This enables a warning to be issued of vehicles involved in an accident or about vehicles that have broken down. The driver is also automatically offered an option to contact the MB Service Center.

Traffic Sign Assist

Available as special equipment, code 513 (Traffic Sign Assist) is the Traffic Sign Assist with traffic sign recognition. The Traffic Sign Assist can provide assistance in suitable environmental conditions to ensure that valid traffic signs on the stretch of road are not inadvertently overlooked. Traffic Sign Assist can also help to prevent the driver driving onto a feeder road for a freeway in the wrong direction. When exceeding a maximum permissible speed the Traffic Sign Assist can also issue a warning. Traffic Sign Assist is always available. It can no longer be deactivated in the Assistance menu.

The following equipment-specific systems are now used for the first time in the S-Class Sedans as from the facelift:

- Active Brake Assist with intersection function
- Evasive Steering Assist
- Car-to-X Communication
- Parking Pilot with the latest generation reversing camera
- Parking Pilot with 360° Camera
- Remote Parking Pilot
- PRE-SAFE® protection concept
- PRE-SAFE® Sound

Communication, information and multimedia systems

This facelift introduces the telematics generation 5.5 to the S-Class Sedans. The objectives of the new telematics generation are as follows:

- Improvement to displays
- Extension to operation through voice control, gestures and touch
- New or extended functions and their realization.

Widescreen display

The two displays combined behind a common glass cover have a screen diagonal of 12.3 inches/31.2 cm and a resolution of 1920x720 pixels.

Touchpad with controller

The touchpad in the center console become part of the standard equipment with this facelift. New is the acoustic control feedback that is emitted through a speaker in the vehicle. The feedback volume can be individually set.

Code P46 (Rear Seat Entertainment Package)

The rear passengers now have more functions available to them than before. These functions can be individually selected and they can be shown on the two displays with 25.9 cm screen diagonals. The sound is emitted through a speaker or the two wireless headphones for the rear passengers. The Rear Seat Entertainment System includes the following:

- Two displays
- Two wireless headphones
- One remote control
- One Blue-Ray drive
- USB and AUX connection
- HDMI support

The Rear Seat Entertainment System functions also include the following :

- Access to radio, TV and DVD
- Sending and receiving SMS messages and emails in combination with compatible mobile phone
- Navigation
- Access to services

Body

Locking systems

A new key generation is introduced with the facelift. The new key is available for ordering in three different key housing variants.

- Key in bright luster black frame in bright luster chrome (standard equipment)
- Code B66 (Vehicle key in bright luster white with matt chrome trim frame)
- Code B68 (Vehicle key in bright luster white with bright luster chrome trim frame)

- Access to global media
- Web browser
- Settings of functions for seat comfort package in rear passenger compartment

The additional functions for telephony in the rear include:

- Use of a second mobile phone connected at the same time to the vehicle telematics
- Call transfer between front and rear passengers in both directions

Messaging

The improved messaging feature provides the following functions for the front and rear passengers:

- Send SMS
- Receiving SMS
- SMS forwarding
- Dictation feature using voice input
- Reusing telephone numbers from message text
- Use of embedded URLs

The messages appear as pop-up messages on the right side of the Widescreen Cockpit.

New is the message per SMS, if the vehicle is involved in a parking dent. The vehicle sensors recognize such a situation and authorize the sending of an SMS to a preconfigured telephone number of a mobile phone.

Sound system

The special equipment, code 811 (Advanced Sound-System) now includes the following components:

- A speaker in the overhead control panel
- Die "center station" in the roof lining (adopted from model 213)
- Two additional speakers at side

The speakers are illuminated by the ambient lighting.

Code 896 (Vehicle access and drive authorization via mobile phone)

The so-called digital key enables the vehicle to be locked/unlocked using a mobile phone and to receive drive authorization. The following requirements must be fulfilled by the customer for this:

- Registration and configuration through Mercedes-Benz Connect
- Near field communication (NFC) compatible mobile phone
- NFC-compatible SIM card

Exterior lights



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The S-Class Sedan models are equipped as standard with LED High Performance headlamps. New is the offered special equipment, code P35 (MULTIBEAM LED) with Intelligent Light System and Adaptive Highbeam Assist Plus.

For visual differentiation of the S-Class Sedan from the E-Class Sedan the S-Class Sedan now comes with 3 instead of 2 fiber-optic cables for the following functions:

- Direction indicator lamp

Interior illumination

Instead of the standard equipment ambient lighting, the special equipment covered by code 891 (Premium Ambiance Illumination) can also be selected. The innovations include:

- 64 colors

- COMING HOME with alternating colors
- Position lights
- Daytime running lamps

- 10 color values
- 2 effects
- Integration of Widescreen Cockpit with three display styles into ambient lighting

Model overview

Model	Vehicle	Motor	Rated output	Automatic transmission
S-Class Sedan				
S 350 d	222.020	656.929	210 kW	725.001
S 400 d	222.034	656.929	250 kW	725.001
S 400 e	222.058	256.930	270 kW	725.001
S 400 e 4MATIC	222.059	256.930	270 kW	725.041
S 500	222.060	256.930	320 kW	725.015
S 560	222.083	176.980	345 kW	725.001
S-Class Sedan with extended wheelbase				
S 350 d	222.120	656.929	210 kW	725.001
S 400 d	222.134	656.929	250 kW	725.001
S 450 e	222.158	256.930	270 kW	725.001
S 450 e 4MATIC	222.159	256.930	270 kW	725.041
S 450	222.166	276.824	270 kW	722.904
S 450 4MATIC	222.164	276.824	270 kW	725.011
S 500	222.160	256.930	320 kW	725.015
S 500 4MATIC	222.169	256.930	320 kW	725.045
S 560 e	222.173	276.824	360 kW	724.204
S 560	222.183	176.980	345 kW	725.001
S 560 4MATIC	222.186	176.980	345 kW	725.041
S 600	222.176	277.980	390 kW	722.932
AMG S 63	222.187	177.980	450 kW	725.062
AMG S 63 4MATIC	222.188	177.980	450 kW	752.062
S-Class Mercedes-Maybach Sedan				
S 450 4MATIC	222.964	276.824	270 kW	725.048
S 500 4MATIC	222.969	256.930	320 kW	725.045
S 650	222.980	279.980	463 kW	722.932
S 560	222.983	176.980	345 kW	725.001
S 560 4MATIC	222.986	176.980	345 kW	725.041
S 600	222.976	277.980	390 kW	722.932