

## Technology-Laden S-Class Strong on Safety, Comfort

July 30, 2013



TORONTO – Bristling with state-of-the-art technology, the '14 Mercedes-Benz S-Class stakes its claim to be the best-engineered car in the world without stinting on luxury.

Not least among the achievements of Mercedes engineers is the aerodynamic body of the new flagship S550. Its slippery exterior has a 0.24 drag coefficient, one of the lowest ever for a sedan of this size. Only high-performance sports cars have been so streamlined in the past.

That and the loss of 200 lbs. (440 kg) in chassis weight, thanks to more aluminum construction, helps give the 4,500-lb. (9,900-kg) vehicle better fuel economy.

Luxury-segment cars typically launch new technologies before the features begin to show up in conventional mass-produced vehicles. So it's no surprise the new S-Class is studded with innovations, some of which are among the 20 active safety features in the S550.

The '14 S-Class is the first modern car using no incandescent bulbs, instead boasting about 500 light-emitting diodes, some 300 in the interior alone. The car features eight cameras that provide 360-degree vision, along with an optional third-generation night-vision system.

Two stereoscopic cameras in the rearview mirror produce a 3-dimensional image. They are part of an intelligent-drive system that helps the car determine whether to focus on lane markings or on the car ahead of it to keep a safe interval while cruising on the highway.

Cameras located under the car scan the road on the lookout for potholes, tar strips and other pavement irregularities. Once an anomaly is spotted, the body-control system adjusts the suspension in milliseconds to provide optimum ride characteristics. The optional feature uses an adaptive damping system to ensure a comfortable ride, regardless of road-surface irregularities.

Other cameras improve visibility to make parking easier, help avoid lane changing or avert collisions while backing out of parking spaces.

Also new in the S550 is a third-generation night-vision system developed with [Autoliv](#). This \$2,260 option is capable of detecting not only the heat signatures of other vehicles but also those of pedestrians and even large animals.

Once the system “sees” a pedestrian at distances of up to 525 ft. (160 m), a black-and-white image automatically pops up on a display instantly visible to the driver. Once the vehicle is within 325 ft. (m) a module in the headlamps rapidly flashes a spotlight at the pedestrian to caution them a car is approaching.

Deer and cattle also up to 525 ft. in front of the car can be spotted by the night-vision cameras. However, the spotlight doesn't flash at the animals because it might cause them to flee into the car's path. Both pedestrians and animals are sharply outlined in red to further bring them to the driver's attention.

The night-vision system [Autoliv](#) normally sells to other OEMs (Audi, [BMW](#) and Rolls-Royce in the U.S.) uses one infrared camera, but Mercedes uses two, one located behind the rearview mirror and a second in the grille.

Autoliv software combines the two images to generate the picture the driver sees on the monitor. In a simulated demonstration here, the image is crisp and colorful, unlike earlier-generation black-and-white night-vision images.

Conventional low-beam headlights illuminate up to 50 ft. (15 m) ahead of the vehicle. High beams can project light up to 120 ft. (36.6 m) ahead of the vehicle. The infrared signatures “see” up to 525 ft. (160 m) down the road, easily revealing pedestrians and animals that the driver's normal vision can't see on dark nights, especially in bad weather or in fog.

The '14 S-Class essentially carries over its powertains, albeit with slight power enhancements. Globally, the flagship S550 features four powertrain choices, but U.S. buyers will be offered only a V-8 direct-injection gasoline engine making 455 hp and 516 lb.-ft. (700 Nm) of torque. That's the same torque but 20 hp more than the current model produces.

Also in markets outside the U.S., Mercedes will offer an S300 Bluetec hybrid with a 204-hp diesel engine and a 20-kW (27-hp) electric motor. There also will be a V-6 diesel S-Class that generates 258 hp. In September, an S500 plug-in hybrid will debut at the Frankfurt auto show. Mercedes eventually is expected to offer an AMG S-Class with a 12-cyl. engine.

The auto maker has not yet decided whether to make a diesel engine available in the '14 models for the U.S. market. Gasoline-fueled engines comprise 90% of current S-Class sales, with hybrids and diesels accounting for the remainder. But diesels are chosen by fewer than 5% of buyers here.

However, company insiders hint the hybrid S-Class and plug-in hybrid eventually will find their way to these shores. The AMG probably will arrive here in 2015. [Daimler](#) Management Board Chairman Dieter Zetsche says prices of that model will be in the \$250,000 range and compete with some lower-priced Bentley and Rolls-Royce models now that Maybach is defunct.