Mercedes-Benz Introduces Ninth-Generation E-Class

The all-new 2010 Mercedes-Benz E-Class sedan represents the ninth generation of the highly successful model line, with a total of more than 10 million E-Class vehicles produced over the past 60-plus years. Packed with useful new safety technology, the new-generation E-Class is likely to become another industry trend-setter. The new E-Class sedan line begins with the V6-powered E350 model, which carries a suggested retail price of $49,475, including destination charges.

Edgy Design Uses Cubist Cues

The design of the new E-Class sedan begins with a "cubist" treatment of the trademark Mercedes-Benz twin-headlight face. Two parallelogram lights are recessed into the front fenders, bracketing the three-dimensional frame of the front grille.

The overall body shape features a sophisticated interplay between lines and surfaces. Taut, clearly defined lines help define large concave and convex surfaces. In particular, a graceful line follows each rear wheel well and shapes the muscular contours of the rear fenders. While the car looks futuristic, aficionados might recognize styling cues reminiscent of the famous "Ponton Mercedes" of the 1950s. The E-Class four-door sedan wears a three-pointed star on the front hood above its familiar louvered front grille.

Sport and Luxury Models

The E-Class sedan is available in Sport or Luxury trim that is designed to appeal to a wide range of customer tastes. All Luxury models come with a comfort suspension and can be identified by a four-lamella front grille and a four-spoke steering wheel. Sport models have a three-lamella grille, a three-spoke steering wheel and are fitted with a sport suspension that has stiffer shocks and springs as well as slightly lower ride height.

ATTENTION ASSIST Cautions "Time For A Rest?"

Among the many standard life-saving features on the E-Class is the innovative ATTENTION ASSIST system that can alert the driver to the first signs of drowsiness, a factor that causes more than 100,000 accidents a year in the U.S. A steering sensor is coupled to smart software that uses 70 parameters to establish a unique driver profile during the first 20 minutes of driving. Between 50 and 112 mph, the system identifies the erratic steering corrections drivers make as they begin to get drowsy and triggers an audible warning, and a "Time for a Rest?" message with a coffee cup icon appears in the instrument cluster.

More New Safety Systems Assist the Driver

Other examples of trailblazing innovations include: Lane Keeping Assist, which alerts the driver by simulating rumble strip vibration in the steering wheel if the car drifts from its lane without the turn signals on. At speeds above 37 mph, the system recognizes lane markings, thanks to a small camera in the windshield and a computer that analyzes the video images.

Adaptive Highbeam Assist uses a small video camera to sense both headlights and taillights, then softly and

automatically transitions between high and low beam operation to avoid dazzling other drivers. With this system, the range of the headlights can be varied infinitely from their current 220 feet to up to 1,000 feet.

Night View Assist PLUS can now allow a driver to see pedestrians up to 300 feet earlier than before. When the system recognizes pedestrians, they appear in the display with an outlined frame highlighting each person. In contrast to passive systems that rely on thermal imaging, this active system bathes the road ahead with invisible infra-red light from two beams mounted in the headlights. Extending the driver's ability to see ahead to nearly 500 feet, Night View Assist PLUS uses an infra-red camera in the windshield and displays the reflected images as highly detailed black & white video images in the instrument cluster.

The optional Distronic Plus system now includes Blind Spot Assist, which monitors both blind spots behind the vehicle. Whenever a turn signal is activated with a vehicle in the blind spot, the driver gets visual and audible warnings.

Distronic Plus also incorporates Park Assist, which utilizes six radar sensors mounted behind the front and rear bumpers. At low speeds, the system scans available parking spaces and displays a "P" in the dash if the car will fit in the space. When the car's in reverse, Park Assist displays a pictogram of the steering wheel and provides helpful steering guidance.

PRE-SAFE® Brake Can Automatically Apply 100 Percent Braking in Emergencies

When the E-Class is equipped with optional Distronic Plus, another revolutionary Mercedes-Benz safety feature – PRE-SAFE® brake – can now apply full braking automatically in emergencies, to reduce accident severity. When PRE-SAFE Brake senses an impending collision, the system sounds three warning tones.

About 1.6 seconds before impact is likely, partial braking is automatically initiated, and the PRE-SAFE occupant protection system are activated. If the driver still fails to react, full-power braking is initiated about 0.6 seconds before the collision, reducing the impact and effectively acting as an "electronic crumple zone."

All E-Class models are equipped with "basic" PRE-SAFE – the world's first system that can sense and take protective measures before a crash. The innovative PRE-SAFE system first automatically tensions the seatbelts if the car senses an impending collision. PRE-SAFE uses resettable electric tensioners in addition to the existing pyrotechnic belt tensioners.

In addition, if the front passenger seat is overly reclined or forward, PRE-SAFE automatically moves it to a more favorable crash position. If the seat cushion angle of the front passenger seat is too shallow, it is also re-adjusted to help prevent submarining. If the vehicle skids (often a precursor to rollover), the system closes the sunroof and side windows. If a crash is averted, the electric belt tensioners automatically relax and are ready to deploy again.

If necessary, PRE-SAFE reacts to fishtailing (or oversteer) as well as "plowing" (or understeer) by using existing sensors for ESC stability control to measure steering angle, vehicle yaw and lateral acceleration. Emergency braking can also trigger PRE-SAFE, which monitors sensors for the Brake Assist system as well.

Up to 11 Air Bags for Front and Side Protection

The 2010 E-Class now comes with a new knee air bag for the driver that minimizes leg injuries in frontal collisions, while new pelvic air bags work with the existing curtain and side air bags to provide extra protection for front passengers in dangerous side-impact collisions. With front air bags as well, the E-Class now boasts nine supplemental restraints, and rear side air bags are optionally available.

Agility Control

Standard on E350 sedan, agility control suspension provides the best of both worlds for a conventional coil-spring suspension. A small piston is connected to a bypass port in the hydraulic flow of each shock absorber. Its design provides a softer, quieter ride on normal roads but retains full shock damping over dips and twisty roads when it's really needed.

The World's Most Aerodynamic Luxury Sedan

With an impressive aerodynamic drag coefficient of only 0.25, the base European model of the new E-Class is literally the slickest luxury sedan on the planet. While the wider tires of the U.S. model give it a Cd of 0.27, the car's still slippery profile means even better fuel economy and less wind noise at highway speeds. The new E-Class body is also 30 percent stronger, thanks to intelligent body construction, which includes liberal use of lightweight, high-tensile-strength steel, while the doors, front hood and trunk lid are aluminum.

Luxury Defined

Mercedes-Benz designers paid careful attention to the E-Class sedan interior, to ensure that every surface is appealing in form, color and material. The cockpit features five analog gauges, including two pairs that overlap each other. Standard equipment includes a premium leather-covered steering wheel with integrated multi-function switches and a Direct Select electronic shift lever mounted on the steering column.

Also standard is a new COMAND system featuring a large seven-inch color display screen with a standard in-dash, six-disc CD/DVD changer and a Bluetooth interface that allows a phone still in a pocket or purse to be operated through the car's audio system. Using a console-mounted controller, the central display in the dash can be operated by either the driver or front passenger.

First-Class Seating

Newly designed 14-way adjustable power front seats feature divided stylish seat cushions that cover steel seat frames with integrated suspension. Optional multicontour seats offer impressively variable seat adjustments through a series of air bladders and mechanical bolsters that are integrated into the bottom cushion and seat back. Additional controls for the multicontour seats are tucked between the seat cushions and center console.

To provide extra support during spirited driving, multicontour seats include a Drive-Dynamic feature that inflates the right-side bolster in a left turn (or the left bolster in a right turn). The multi-contour seats are designed to respond to steering input and cornering forces.

In addition to multicontour and heated seats, the E550 and E63 AMG sedans offer Active Ventilated Seats, an option first introduced in the S-Class. Small electric fans inside each of the front seats draw up cool air from the footwell. The air passes through special plastic ducting and permeable fabric to flow evenly from the

perforated leather seat upholstery. Seats that have been warmed up by direct sunlight cool down quickly.

When the Active feature is on, the center lumbar air chamber "breathes," inflating and deflating fully about twice each minute. This slight movement has proven to be an effective orthopedic way to relax the spine and back muscles, making a long trip more relaxing.

The COMAND system can be equipped with an optional iPod/MP3 interface, Sirius satellite radio, HD radio, and an advanced voice control system for audio, navigation and phone systems. The new system can also display maps and directions for the optional GPS navigation system, which can display Sirius real-time traffic information and Zagat restaurant ratings.

Four Versatile Engines For The E-Class

The 2010 E-Class line was launched in the U.S. market in June 2009. The E350 uses the latest four-valve-per-cylinder V6 engine that produces 268 horsepower and 258 lb.-ft. of torque, while the E550 model is powered by a 32-valve 5.5-liter V8 delivering 382 horsepower and 391 lb.-ft. of torque. The E350 BlueTEC comes with an innovative V6 turbodiesel that develops 210 horsepower and 400 lb.-ft. of torque.

The high-performance E63 AMG sedan is fitted with the first engine developed entirely by AMG – a 6.3-liter V8 that makes 518 horsepower and 465 lb.-ft. of torque. One of the most powerful naturally aspirated production V8s ever, the engine boasts a wealth of features derived from AMG's successful racing efforts. Built almost completely from a high-strength silicon-aluminum alloy, the 6.3-liter features four valves per cylinder, variable valve timing, "bucket" followers (rather than rocker arms) and a variable intake manifold.

BlueTEC – A Blueprint For The World's Cleanest Diesels

The E350 BlueTEC is powered by a purpose-built 3.0-liter V6 diesel with 210 horsepower, an astonishing 400 lb.-ft. of torque and 30 percent better fuel economy than a comparable gasoline engine. Using several technologies to minimize diesel exhaust emissions, the E350 BlueTEC begins with a four-valve-per-cylinder diesel featuring centrally located piezo-electric injectors, CDI direct injection, a variable-nozzle turbocharger and exhaust gas recirculation.

Building on this foundation of advanced engine design, the E350 BlueTEC incorporates several modular after-treatment units in the exhaust stream – an oxidizing catalytic converter, a maintenance-free particulate filter, an SCR converter and an NOx storage converter. In the "denox" storage converter, nitrogen oxides are absorbed temporarily, and during brief regeneration pulses of a richer fuel-air mixture, the nitrogen oxides are released, reacting with other exhaust gas to form harmless nitrogen. These regeneration pulses also raise temperatures in the particulate filter, which automatically burns off the deposits.

4MATIC Four-Wheel Drive Sets a Trend

The new-generation E350 and E550 sedans can be equipped with 4MATIC all-wheel drive. As modern all-wheel-drive systems become more refined, they are becoming increasingly popular, especially in the luxury car market. With negligible weight and fuel-efficiency tradeoffs, full-time four-wheel drive provides year-round traction and stability benefits on both wet and dry roads.

The latest Mercedes-Benz 4MATIC system is cleanly integrated into the automatic transmission so it fits right into the standard body and utilizes the existing front suspension. Fuel efficiency has been improved, due to a number of innovative measures that minimize the energy needed to turn the extra gears and shafts.

Award-Winning MCT Sports Transmission – The Best of Both Worlds

The high-performance E63 AMG sedan also features a cutting-edge AMG transmission. With a start-up clutch that replaces the torque converter, the new seven-speed MCT sports transmission provides the direct feedback of a manual transmission with the total convenience of an automatic, offering impressive versatility and even faster shift times. Thanks to its low rotational mass, the start-up clutch helps the transmission respond instantaneously and dynamically, with no slip.

The MCT AMG SPEEDSHIFT PLUS transmission features seven speeds, four shift modes, an automatic rev-matching function and a Race Start mode. With four drive modes: "C" (Comfort), "S" (Sport), "S+" (Sport plus) and "M" (Manual), the MCT provides customized shift control for maximum driving pleasure, and does so with no interruption of power.

In Comfort mode, smooth shifts coupled with a "soft" accelerator response are set up for smooth power transfer. In Sport mode, the engine and transmission interact quicker – upshifts and downshifts take place at higher engine speed. Gearshifts are around 20 percent faster than in Comfort mode. Switching to Sport Plus cuts another 20 percent off shift times, while the most aggressive mode, Manual, reduces shifting times by another 10 percent – a total reduction of 50 percent compared with Comfort mode. In Manual mode, the gearshifts take only 100 milliseconds.

The rev-matching function provides precisely computerized matching of engine speed with every manual or automatic downshift, and is active in the "S" (Sport), "S+" (Sport plus) and "M" (Manual) modes. Not only does this smooth downshifting make driving more fun, but it also minimizes jerking, a special benefit when braking into a curve.

The E63 AMG sedan even comes with a Race Start feature, which helps maintain full-throttle acceleration and optimal traction during race competition. After selecting the Race Start mode, the driver steps on the brake with the left foot and pushes the ESP Sport switch. When confirmation appears in the central display, the driver reconfirms Race Start by pulling the upshift paddle once, flooring the accelerator and releasing the brake. Engine speed is set automatically, and the car launches with full acceleration.