

Mercedes-Benz E 63 AMG Estate

Press Information

12 October 2009

Contents	Page
<u>Short version</u>	
High-performance estate with outstanding data	2
<u>Long version</u>	
Engine Powerful, high-revving V8 naturally aspirated engine with lower fuel consumption	10
Power transmission Exclusive driving pleasure courtesy of AMG SPEEDSHIFT MCT 7-speed sports transmission	16
Chassis and braking system Innovative new features for superlative driving dynamics	20
Design and equipment Effortless superiority with decidedly sporty character	26
Technical data	31

High-performance estate with outstanding data

Frankfurt am Main – Pole position for the new E 63 AMG Estate: the high-performance estate develops 386 kW/525 hp, accelerates from 0 to 100 km/h in 4.6 seconds, offers a maximum luggage compartment capacity of 1950 litres – all with a relatively low fuel consumption of 12.8 litres per 100 km (combined, provisional figures). With these dream figures, the new E 63 AMG Estate adds up to an extraordinary combination of driving dynamics, high utility value and superb efficiency.

The top-of-the-line E-Class not only features its own distinctive styling but also the all-new AMG RIDE CONTROL sports suspension including an electronically controlled damping system and a new front axle. A ceramic composite high-performance braking system is available for the first time for the E 63 AMG Estate. The unrivalled combination of groundbreaking driver assistance systems raises the bar in terms of active and passive safety in this vehicle class.

Largest luggage compartment and lowest fuel consumption – the E 63 AMG Estate sets new standards. With a luggage compartment capacity of 695 to 1950 litres and fuel consumption of 12.8 litres of Super Plus per 100 kilometres (NEDC combined), the new high-performance estate from AMG occupies pole position. None of its rivals can match this extraordinary combination of performance, utility value and efficiency. The AMG 6.3-litre V8 engine with its 386 kW/525 hp develops 8 kW/11 hp more than the previous model, yet betters its fuel consumption figures by almost twelve percent.

This improvement has been achieved thanks to a whole raft of efficiency-enhancing measures. The on-demand delivery of fuel and generator management with recuperation of braking energy on the overrun has helped reduce fuel consumption, as has the AMG SPEEDSHIFT MCT 7-speed sports transmission:

a wet start-up clutch that runs in an oil bath replaces the conventional torque converter, while the even more fuel-efficient driving mode "Controlled Efficiency" utilises early upshifts to keep engine speeds as low as possible.

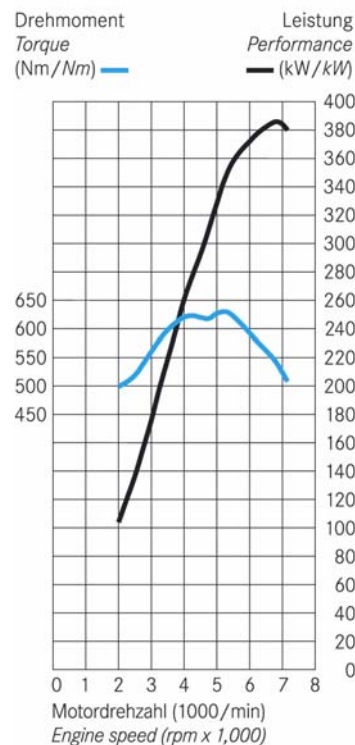
Driving dynamics and ride comfort – the E 63 AMG Estate delivers on both counts

The new E 63 AMG Estate delivers a compelling proposition with its two fundamentally opposed traits: it offers the sedate driving experience of an executive estate suitable for long journeys just as consummately as it delivers outstandingly dynamic performance on the racetrack. The AMG high-revving, naturally aspirated engine with a displacement of 6208 cc and 630 Nm of torque impresses with its agile responsiveness, muscular power delivery and great flexibility. The E 63 AMG Estate reaches 100 km/h in just 4.6 seconds and has a top speed of 250 km/h (electronically limited). The newly composed V8 sound is a thrilling accompaniment for mile after mile, while the smooth-running engine guarantees typical Mercedes ride comfort. A newly designed water cooling system ensures maximum endurance even under enormous stresses.

	Mercedes-Benz E 63 AMG Estate*
Cylinder arrangement/valves per cylinder	V8 4
Displacement	6208 cc
Bore x stroke	102.2 x 94.6 mm
Output	386 kW/525 hp at 6800 rpm
Max. torque	630 Nm at 5200 rpm
Fuel consumption NEDC combined	12.8 l/100 km
CO₂ emissions	299 g/km
Acceleration 0-100 km/h	4.6 s
Top speed	250 km/h**

* provisional figures; ** electronically limited

Mercedes-Benz E 63 AMG
Leistungsdiagramm
Power Output Graph



The AMG SPEEDSHIFT MCT 7-speed sports transmission is able to meet the most disparate driver requirements: the transmission is equipped with four drive modes: "C" (Controlled Efficiency), "S" (Sport), "S+" (Sport plus) and "M" (Manual), which can be selected using a rotary electronic switch in the AMG DRIVE UNIT. In the even more fuel-efficient Controlled Efficiency drive mode, the transmission shifts the gears particularly smoothly, and the transmission control unit is programmed to perform early upshifts to keep engine speeds as low as possible.

In Sport plus and Manual modes, the 7-speed sports transmission allows gearshifts to be performed in 100 milliseconds. Partial suppression of individual cylinders by interrupting ignition and injection briefly during gearshifts under full load leads to considerably faster shift times. Fast, spontaneous multiple

downshifts ensure first-class agility in conjunction with the double-declutching function and the RACE START function: this enables the E 63 AMG driver to call on the maximum acceleration potential automatically.

Like the engine and power transmission, the newly developed AMG RIDE CONTROL sports suspension offers the ultimate in individuality. Outstanding driving dynamics and typical Mercedes long-distance comfort go together as an optimum synthesis in the E 63 AMG Estate. While new steel spring struts are used on the front axle, the rear suspension features AMG-specific air springs. The advantage of this solution is that the front steel springs ensure more sensitive responses while the rear air struts with their automatic level control system keep the vehicle at a constant height irrespective of the load.

A new, electronically controlled damping system automatically varies the damping characteristics according to the driving situation, reducing the roll angle of the body. The result is instant modification to provide the best possible ride comfort together with the greatest possible agility. In addition, the driver is able to choose between the three suspension modes of Comfort, Sport and Sport plus at the touch of a button. The E 63 AMG Estate is also equipped with a newly developed, dedicated front axle with a 45-millimetre wider track, a tubular stabiliser, new control arms, new elastokinematics and new hub carriers for more negative camber – thereby providing more grip when taking bends at speed. This is a highly sophisticated axle design whose principle has already proved its worth in the C 63 AMG Estate. The rear axle likewise has more negative camber, optimised elastokinematics and a new subframe mounting for greater stability at the physical limits.

Newly developed power steering and individual 3-stage ESP®

A more direct steering feel comes courtesy of the all-new speed-sensitive rack-and-pinion steering. The steering ratio of 14 : 1 is 22 percent more direct than in the standard production models, while a more rigid steering column plus the reconfigured characteristic mapping of the speed-sensitive servo assistance ensure better steering precision and improved road contact.

The 3-stage ESP® familiar from the SL 63 AMG and C 63 AMG enables individual settings to be selected – with clear benefits in terms of driving pleasure. The ESP® button in the AMG DRIVE UNIT allows the driver to choose between "ESP ON", "ESP SPORT" and "ESP OFF" – with the currently active mode shown in the central display of the instrument cluster. Perfect deceleration even when driving extremely briskly is ensured by the AMG high-performance braking system with 360-millimetre, internally ventilated and perforated brake discs all-round. Particularly resistant, motorsports-tested composite technology is used at the front axle. The newly developed, optional ceramic composite high-performance brakes with larger brake discs guarantee even better brake performance and a longer service life. As well as performing reliably at even higher operating temperatures thanks to their greater hardness, the ceramic brake discs offer a weight saving of some 40 percent. The reduced unsprung masses translate into even more agile handling, particularly on fast motorway bends.

Optimum grip is ensured by the 18-inch, titanium grey, high-sheen AMG five-spoke light-alloy wheels with respective front and rear widths of 9 and 9.5 inches and tyre sizes of 255/40 R 18 at the front and 285/35 R 18 at the rear. Lightweight, forged 19-inch AMG light-alloy wheels with size 255/35 R 19 tyres at the front and 285/30 R 19 at the rear are also available as an option.

AMG bodystyling and wider front wings

The newly developed front axle with its wider track calls for wings that are 17 mm wider. The "6.3 AMG" lettering integrated stylishly into the wings leaves the connoisseur in no doubt about the unique credentials of the high-performance estate. The AMG bodystyling also includes a front apron with large cooling air intakes, air outlets at the side and the AMG-specific LED daytime driving lights. In conjunction with the optional Intelligent Light System (ILS), the E 63 AMG Estate is equipped with tinted main headlamps. The side skirts and the rear apron with its black insert also guarantee the car's striking looks. Both styling features combine effortlessly with the graceful line that follows the rear wheel arches and lends a clear shape to the imposing, muscular contours of the rear wings. The standard specification includes ultra-fast LED tail lights and direction indicators. To create

a lasting impression – on the eye and the ear – the sports exhaust system has two newly designed, chrome-plated twin tailpipes.

Luggage compartment with the largest capacity and great practicality

Thanks to the wheelbase that has been enlarged by 20 millimetres, the E 63 AMG Estate not only offers better ride comfort but also more space and luggage compartment capacity than the previous model. With its capacity of 695 to 1950 litres, the luggage compartment is not only larger than before but also leaves the competition standing when it comes to the essential luggage compartment dimensions and capacity. This highly practical concept paves the way for numerous options for transporting sports equipment, holiday luggage or furniture.

Standard equipment for the E 63 AMG Estate includes the main components of the EASY-PACK system such as the folding load compartment floor with two loading levels and collapsible crate, the load compartment cover, the quickfold function to fold down the 1/3:2/3-split rear backrest easily and the EASY-PACK tailgate, which can be opened and closed electrically.

Interior with sporty feel-good atmosphere

The newly designed interior of the high-performance estate is an exciting blend of high-grade materials and functional sportiness. Exclusive features include the dedicated, electrically adjustable sports seats with improved lateral support and the sports steering wheel in a four-spoke design with aluminium shift paddles. The AMG DRIVE UNIT is used to adjust the MCT sports transmission, the 3-stage ESP[®], the suspension set-up and the AMG drive modes. The E-SELECT selector lever in the centre console is a completely new feature for the DRIVE UNIT. The driver can shift directly between R, N and D simply by nudging the lever, all thanks to drive-by-wire; the parking lock P can be selected conveniently by pressing a button. Standard equipment also includes high-grade leather upholstery in three different colours, the AMG instrument cluster with an AMG main menu and AMG RACETIMER as well as the door sill panels with AMG lettering and a sports pedal cluster – both in brushed stainless steel.

Optional extras from the AMG *Performance Studio* are also available ex factory:

Page 8

- Lightweight, forged 19-inch AMG light-alloy wheels with size 255/35 R 19 tyres at the front and 285/30 R 19 at the rear
- AMG ceramic composite high-performance braking system
- Brake callipers, painted red
- Rear axle locking differential with 40 percent locking action
- AMG Performance steering wheel in a three-spoke design with Alcantara[®] inserts in the grip areas
- AMG carbon-fibre trim elements
- Illuminated AMG door sill panels
- AMG Driver's Package (top speed increased to 280 km/h, attendance at driver training at the AMG Driving Academy)
- AMG floor mats

Other optional extras include:

- AMG Exclusive package: nappa leather for seat upholstery, top section of the dashboard, beltline, armrests on the doors as well as the centre console and door centre panels. Roof liner with sun visors and A, B, C and D-pillars in Alcantara[®], AMG floor mats
- COMAND APS
- designo range: eleven colours, including three new matt finishes, as well as nine leather upholstery options and a choice of three types of trim element
- EASY-PACK load securing rails to secure the cargo incl. EASY-PACK load sill guard
- Driving Assistance package
- KEYLESS-GO package
- Media interface
- Reversing camera for PARKTRONIC
- Surround sound system

Just like the E 63 AMG Saloon, the new AMG Estate meets the very highest expectations with respect to active and passive safety. Standard features include the new drowsiness detection system ATTENTION ASSIST, the unique anticipatory occupant protection system PRE-SAFE[®], seven airbags and crash-responsive NECK-PRO head restraints. On request the safety features can be brought to a level unprecedented in this vehicle class with the Lane Keeping Assist and Blind Spot Assist systems, the PRE-SAFE[®] Brake with an automatic emergency braking function, Adaptive Highbeam Assist, Night View Assist and Speed Limit Assist.

The new E 63 AMG Estate will have its market launch in February 2010; the sales price is 108,409 EUR (incl. 19 % VAT).

Contacts:

Pietro Zollino, Product Communications,
Telephone +49 (0)711 17-75855, pietro.zollino@daimler.com

Johannes Riegsinger, Public Relations Mercedes-AMG,
Telephone +49 (0)7144 302-581, johannes.riegsinger@daimler.com

More information from Mercedes-Benz is available online at:
www.media.daimler.com

Powerful, high-revving V8 naturally aspirated engine with lower fuel consumption

- **Output of 386 kW/525 hp and 630 newton metres of torque**
- **Powerful performance and enormous pulling power**
- **Provisional fuel consumption figure is 12.8 litres per 100 km**
- **High technology from motor racing went into the design**
- **Characteristic AMG V8 sound is one of the hallmarks of this model**

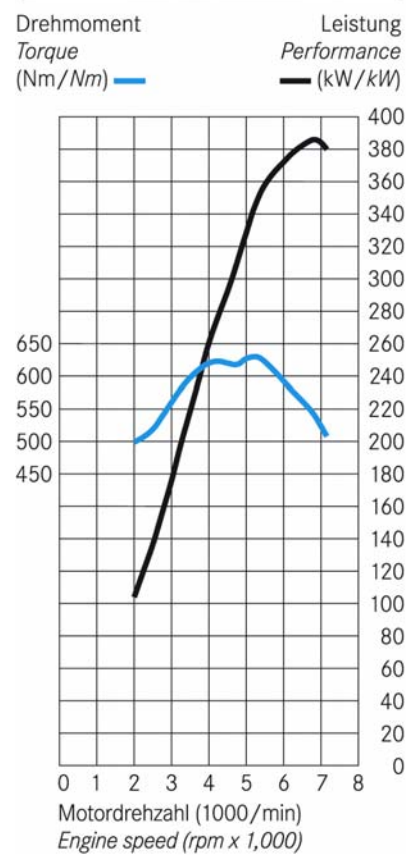
With its peak output of 386 kW/525 hp from a displacement of 6208 cc, the AMG 6.3-litre V8 engine ranks among the world's most powerful standard-fit eight-cylinder naturally aspirated engines. The rated speed of 6800 rpm and the maximum engine speed of 7200 rpm are the hallmarks of this high-revving engine. But it also boasts enormous pulling power: developing 630 newton metres at 5200 rpm, the AMG V8 offers more torque than any other naturally aspirated engine in this displacement and performance class. High pulling power at low engine speeds, instant responsiveness and exhilarating high-revving flexibility are the strengths of the AMG 6.3-litre V8 engine unveiled in 2005.

With fuel consumption of 12.8 litres per 100 kilometres the high-performance E 63 AMG Estate betters its predecessor by 1.7 l/100 km or 12 percent (despite the extra output of 8 kW/11 hp) and leads its competitive segment, too. The significant reduction in fuel consumption comes courtesy of a wealth of innovative measures: the E 63 AMG Estate features alternator management with braking energy recovery as standard. The electronically controlled fuel supply, friction-optimised twin-wire-arc-sprayed (TWAS) coating on the cylinder walls and the AMG SPEEDSHIFT MCT 7-speed sports transmission with the Controlled Efficiency consumption-optimised transmission mode and wet start-up clutch, which replaces the torque converter, (see page 16) are also crucial elements in improving efficiency.

	Mercedes-Benz E 63 AMG Estate
Cylinder arrangement	V8
Cylinder angle	90°
Valves per cylinder	4
Displacement	6208 cc
Bore x stroke	102.2 x 94.6 mm
Cylinder spacing	109 mm
Compression ratio	11.3 : 1
Output	386 kW/525 hp at 6800 rpm
Output per litre	62.2/84.6 kW/hp
Max. torque	630 Nm at 5200 rpm
Torque per litre	101.5 Nm
Maximum engine speed	7200 rpm
Engine weight (dry)	199 kg
Fuel consumption NEDC combined	12.8 l/100 km
CO₂ emissions	299 g/km
Acceleration 0-100 km/h	4.6 s
Top speed	250 km/h*

* electronically limited

Mercedes-Benz E 63 AMG
Leistungsdiagramm
Power Output Graph



Recuperation: generating energy during braking

Page 12

Alternator management takes advantage of the engine's overrun phases and braking to recover kinetic energy. This energy is then used to charge the battery, rather than being wasted by simply generating heat. This recuperation assists the driver not only during braking action but also helps convert the braking energy into electrical energy. Conversely, the alternator is switched to no-load operation during acceleration, thus reducing the load on the engine. All of which saves fuel: some 0.15 litres per 100 kilometres as per NEDC ratings and up to 0.2 l/100 km on urban roads with frequent overrun and braking phases.

The twin-wire-arc-sprayed (TWAS) coating on the cylinder walls – used exclusively by AMG – produces outstanding low-friction characteristics while reducing fuel consumption at the same time. The electronically controlled fuel supply is also highly effective: depending on the power requirements and outside temperature, the system operates at a demand-actuated fuel pressure of between 3.6 and 4.5 bar and is regulated practically instantaneously. The engine management system translates the command from the accelerator within milliseconds into the corresponding fuel pressure setting. Such control ensures rapid vehicle response and sporty acceleration across all load ranges and at all engine speeds.



**Technology transfer from motor racing:
the AMG 6.3-litre V8 engine**

In typical AMG fashion, the design of the AMG 6.3-litre V8 engine has been based closely on its motorsport counterparts. As customary with the thoroughbred racing engines, the AMG engineers opted for a closed-deck design with the crankcase made entirely out of aluminium for the eight-cylinder unit. To produce a crankcase with superb torsional stiffness, the bottom section of the crankcase has been designed as a bedplate. This produces a very stiff tunnel for the crankshaft which can easily withstand the high combustion pressures and reduces flow losses within the crankcase. The resulting improvement in mechanical efficiency helps reduce fuel consumption. An oil scavenger integrated into the bedplate reduces engine oil foaming.

Manufactured from the high-quality forged steel alloy 42CrMo4V and designed for the highest stresses, the finely balanced crankshaft rotates in five crankshaft bearings and features six counterweights for perfectly balanced masses. Torsional rigidity, long-term structural strength and inertia characteristics are also to the very highest standards. Two lightweight connecting rods forged by the cracking process are connected to each of the four crank pins. During this process, the utmost production precision is made possible by a predetermined breaking point created by a laser beam. Extremely close weight tolerances between the eight connecting rods are also ensured by precision machining. The same principle is also used for the cast, lightweight pistons. They are made from a durable high-temperature alloy. Pressure-controlled oil spray nozzles in the crankcase ensure optimal cooling of the highly stressed piston crowns.

Variable intake manifold with two internal throttle flaps

The aerodynamically designed intake system with large cross-sections and the variable intake manifold made of magnesium with two integrated throttle flaps ensure superlative cylinder charging. The system's task is to ensure a strong torque curve by lengthening the airflow distance at low engine speeds. At higher engine speeds the intake manifold switches to short airflow distances to achieve a

high peak performance. The two throttle flaps can be opened to their maximum in just 100 milliseconds at full throttle, thereby contributing to the extraordinary responsiveness perceived by the driver.

Rigid valve train, four overhead camshafts

The 32 valves in the cylinder heads are operated by bucket tappets. Their space-saving design allows a stiff valve train and therefore high engine speeds with large valve opening cross-sections, which in turn benefit output and torque. The large intake valves have a diameter of 40 millimetres, while their opposite numbers on the exhaust side measure 34 millimetres.

All four overhead camshafts are continuously variable over a range of 42 degrees. Both the intake and exhaust camshafts are adjusted as a function of engine load and engine speed, ensuring extremely high output and torque values as well as smooth idling and especially low exhaust emissions. Depending on the engine speed, the valve overlap can be varied to ensure an optimal supply of fuel/air mixture to the combustion chambers and efficient venting of the exhaust gases. The system is driven by a duplex roller chain and intermeshing pairs of gear wheels.

Sophisticated engine cooling solution

A powerful oil pump is used for the oil cooling system on the engine. As in thoroughbred racing engines, the engine is cooled on the sophisticated cross-flow principle. In the interests of optimal in-engine friction and fuel economy, the temperature of the coolant is also variably controlled. The lightweight, compact and powerful cooling module – located behind the large apertures in the AMG front apron – for coolant, engine, transmission and power-steering oil ensures non-critical operating temperatures – even under the extreme stress of the racetrack. The hot air from the suction-type fan used for engine oil cooling is vented via the side apertures in the front apron.

The newly composed AMG V8 vocals fully live up to the expectations of a powerful high-performance estate: a powerful engine sound when accelerating coupled with restrained running characteristics during smooth cruising, providing hallmark Mercedes long-distance comfort. The AMG experts have resolved this conflict of aims with a newly developed sports exhaust system; it comes with carefully matched tube cross-sections and two newly designed chrome-plated twin tailpipes.

Thanks to efficient emission control technology, the E 63 AMG Estate meets current EU 5 exhaust emission standards and all requirements of the U.S. market (LEV-II standard, On-Board Diagnosis II and oxygen sensor diagnosis).

Engine production – tradition of hand-built excellence

The AMG 6.3-litre V8 engine is hand-built in keeping with the AMG tradition. In the AMG engine workshops, which were opened in 2002, a highly qualified engineer assembles an eight-cylinder engine according to the company's philosophy of "one man, one engine" in compliance with the most stringent quality standards. The engineer's signature on the characteristic AMG engine plate is testimony to the highest standards of workmanship. Production takes around three hours.

In the coveted "International Engine of the Year Awards 2009", the AMG 6.3-litre V8 engine carried off two accolades: in the "Best Performance Engine" and "Above 4 litres" categories, this high-revving, naturally aspirated engine took first place by a wide margin.

Exclusive driving pleasure courtesy of AMG SPEEDSHIFT MCT 7-speed sports transmission

- **Seven ratios and four driving modes**
- **Double-declutching and RACE START function for sheer driving pleasure**
- **Wet start-up clutch replaces torque converter**
- **New "C" drive mode reduces fuel consumption**

The AMG SPEEDSHIFT MCT 7-speed sports transmission is an innovative power transfer system that made its debut in the high-performance SL 63 AMG Roadster in 2008. It combines the sporty, direct and agile feedback of a manual transmission and the maximum convenience of an automatic transmission. Fitted with seven speeds, four drive modes, a double-declutching and RACE START function, the 7-speed sports transmission offers superb versatility. MCT stands for Multi-Clutch Technology and indicates that only clutch elements are employed to perform gearshifts.

A wet start-up clutch, which runs in an oil bath, replaces the conventional torque converter. Thanks to its low rotational inertia, the transmission responds instantaneously and dynamically without the losses typical of a torque converter transmission - thereby helping to save fuel. The AMG sports transmission also impresses with its low weight of just 80 kilograms, which has been made possible through the use of lightweight magnesium for the transmission housing. Vibrations are effectively eliminated by a new, two-stage torsion damper, with resulting benefits in perceived passenger comfort.

Consumption-optimised drive mode "C" (Controlled Efficiency)

During development of the E 63 AMG Estate the AMG engineers paid special attention to the new drive mode "C" (Controlled Efficiency). The emphasis was on delivering minimum engine speed coupled with a reduced number of gearshifts in all driving situations. When moving off in "C", the MCT transmission always

selects second gear and shifts decidedly early to the next higher gears if the driving style permits. At 60 km/h for instance, sixth gear will already be engaged - not only improving fuel consumption but noise levels, too. Controlled Efficiency also means convenient gearshifts and a "soft" accelerator response set-up for outstandingly smooth power transfer.

The powerful electronic control unit and the integrated 80 MHz processor together ensure spontaneous downshifts - when approaching traffic lights, for example, or if the driver suddenly needs power for dynamic acceleration.

Drive modes "S", "S+" and "M" for even more driving pleasure and dynamism

The engine and transmission take on a much more agile character in the "S" (Sport) mode. Accelerator pedal movements trigger a more direct traction response, making the downshifts more spontaneous. The engine speed is allowed to reach a higher level in each gear, while the gearshifts are around 25 percent faster than in "C". Turning the rotary switch in the AMG DRIVE UNIT a notch further to the right activates "S+" mode. Sport plus shifts the gears another 25 percent faster than in "S". The same applies to the manual shift mode "M". In "S+" and "M" modes, gearshifts at full throttle take just 100 milliseconds.

The engine management system partially suppresses cylinders in "S", "S+" and "M" modes: precisely interrupting ignition and injection under full load for brief periods leads to even faster gearshifts than before. The highly emotional vocals are an appealing side effect of this lightning-fast process.

Ultra-fast, spontaneous multiple downshifts are another forte of the AMG SPEEDSHIFT MCT 7-speed sports transmission. For instance, kickdown lets you move straight from seventh down to fourth gear or from fifth to second. In the Sport, Sport plus and Manual modes the automatic double-declutching function is active. Every manual or automatic downshift is accompanied by precisely metered double-declutching - from "S" through "S+" to "M" incrementally. And this not only adds to

the driver's emotional experience: the load-free downshift minimises load-change reactions, which pays dividends – particularly when braking into a bend on the racetrack – and also enhances safety in the wet or on ice. Page 18

In manual "M" mode the driver also benefits from the high torque of the V8 engine, as there is no automatic downshift under full load and kickdown; the transmission remains steadfastly in the selected gear. Moreover, the AMG MCT sports transmission does not perform an automatic upshift in manual mode when the rev limit is reached. In "M" mode the AMG instrument cluster displays the current gear and alerts the driver to the need for an upshift just before the needle reaches the red zone. This means that a particularly sporty driver can use the superior performance potential to its fullest extent. When approaching the lower rev limit, e.g. when braking the vehicle, there is an automatic downshift to the next lower gear.

AMG DRIVE UNIT with RACE START function

The AMG DRIVE UNIT is the central control unit for the AMG SPEEDSHIFT MCT 7-speed sports transmission and all driving dynamics functions. The driver can change gears either using the E-SELECT selector lever or via the steering-wheel shift paddles. On the left next to the selector lever is the electronic rotary switch to select the four drive modes including activation of the RACE START function. Underneath are three buttons for additional functions: the first controls the ESP[®] function, the second the AMG RIDE CONTROL sports suspension.

The third, bearing AMG lettering, is used to store the personal set-up. Briefly pressing the AMG button brings up the configuration options, whilst holding down the button allows you to program the required set-ups - this is confirmed by an audible signal. The current settings may be viewed in the AMG instrument cluster by pressing the AMG button at any time.

The RACE START function delivers maximum dynamism: in order to use it, the driver has to activate the ESP[®] sports function while the vehicle is at a standstill and press the brake pedal with his left foot. Having preselected the RACE START program using the rotary switch, the driver is presented with a confirmation

message on the AMG central display. After confirming the RACE START function by pulling the "Up" shift paddle once, all he has to do is depress the accelerator fully and take his foot off the brake. The optimum start-up engine speed is set fully automatically and the E 63 AMG Estate accelerates away with flawless traction - all the way up to top speed, if so required. The driver does not need to shift gear manually; the AMG transmission changes gear with lightning-fast shift times. Page 19

Innovative new features for superlative driving dynamics

- **Newly developed front axle with 45-millimetre track**
- **AMG RIDE CONTROL with electronically controlled damping system**
- **New axle components and more direct steering**
- **AMG ceramic composite high-performance braking system available as an option**

High cornering speeds, exhilarating driving dynamics coupled with typical Mercedes long-distance comfort – the innovative chassis and braking technology developed by AMG ensures that the new E 63 AMG Estate is able to take a leading position in the high-performance estate segment.

The sophisticated AMG RIDE CONTROL sports suspension combines steel suspension at the front with an all-air suspension system at the rear. This exclusive solution guarantees a sensitive response from the front springs while the vehicle is kept at a constant height thanks to the automatic level control system – irrespective of the load. The top-of-the-line AMG model differs from the other E-Class variants with its newly developed three-link front suspension with wider track – 45 mm greater than the E 500. In conjunction with new hub carriers for more negative camber at the front, this provides much more grip when taking bends at high speed.

Another feature of the AMG RIDE CONTROL sports suspension is the electronically controlled damping system: the system varies the damping characteristics instantly according to the driving situation, road speed and load status, reducing the roll angle of the body. For the driver this means instant, continuously variable adjustment between the greatest possible agility and optimum ride comfort – depending on the driving style and route. The damping can also be individually adjusted by pressing

the appropriate button in the AMG DRIVE UNIT. A push of a button is all it takes for the electronics to switch from "Comfort" to "Sport" or "Sport plus." The selected mode is displayed in the AMG instrument cluster. Page 21

"Comfort" delivers a sensitive response with soft damping characteristics, while the shock absorber response is an average 40 percent firmer in "Sport". "Sport plus" is ideal for challenging laps on a racetrack: in addition to the higher damping force, this mode comes with specific control algorithms that have been tailor-made for a decidedly sporty driving style on level road surfaces.

Eleven sensors for electronic damper control

The electronic damper control utilises four sensors to permanently monitor the drive and brake torque along with steering angle and lateral acceleration. Four position sensors are also used to determine the ride height and to ascertain the direction of motion. Three acceleration sensors help identify the absolute body roll. Powerful control electronics that interact constantly with the engine and transmission control units instantly adjust the forces at the four shock absorbers.

New axle components and more direct steering

The high-grade axle components are further evidence of the redesigned AMG RIDE CONTROL sports suspension. New steering knuckles, wishbones, torque strut bearings and head bearings at the front provide extra stability and improved road contact. A weight-optimised, thicker tubular stabiliser reduces body roll on fast S-shaped bends. The rear suspension has also been substantially reworked in the interests of enhanced handling stability: new track rods, push-pull rods and far more rigid mountings for the subframe – on which the rear axle is mounted – translate into enhanced dynamics when cornering. The AMG-specific kinematics and the new elastokinematics on both axles also noticeably increase precision during cornering – a solution that has already proven itself on the C 63 AMG.

This is complemented by the newly developed rack-and-pinion steering: the selected steering ratio which is 22 percent more direct (14 : 1), together with the reconfigured characteristic mapping of the speed-sensitive servo assistance, makes for more agile cornering. More feedback in all driving situations comes courtesy of the Hardy disc made out of a rubber compound that is 33-percent harder; it sits between the steering shaft and steering coupling.

3-stage ESP® with Sport function as in the SL 63 AMG

The 3-stage ESP® is also systematically tailored to the superb dynamic qualities of the E 63 AMG Estate: familiar from the SL 63 AMG and C 63 AMG, the Electronic Stability Program supports three individual control strategies at the push of a button: the ESP® button in the AMG DRIVE UNIT allows the driver to choose between "ESP ON", "ESP SPORT" and "ESP OFF" – with the currently active mode shown in the display of the AMG instrument cluster. In "ESP ON", the onset of handling instability leads to braking intervention at one or more of the wheels, accompanied by a reduction in engine torque.

Briefly pressing the ESP® button activates "ESP SPORT". In this mode the braking intervention to counter oversteer or understeer, as well as the accompanying reduction in engine torque, allows a higher dynamic threshold and, for instance, corresponding drift angles – thereby significantly enhancing driving enjoyment. Operating the brake pedal restores all the normal ESP® functions. Prolonged pressure on the ESP® button activates "ESP OFF". There is no intervention to control the handling dynamics and generally no reduction in engine torque – with the result that driving enjoyment is increased even further. "ESP OFF" should only be used by experienced drivers on dedicated racetracks. In this mode too, operating the brake pedal restores all the normal functions of ESP®.

The system's traction logic is active in all three ESP® modes. If one of the drive wheels starts to spin, specific brake pressure is applied to virtually create the effect of a mechanical differential lock. This means that the engine power is transferred to the road even more effectively.

New AMG ceramic composite high-performance braking system available as an option

Page 23

As you would expect from an AMG high-performance car, the new E 63 AMG Estate also comes with an ultra-powerful braking system. Internally ventilated and perforated brake discs with a generous 360-millimetre diameter are fitted front and rear. Because of the special stresses they face, the front discs feature composite technology that has been tried and tested in motor racing to help offset the temperature peaks more effectively. Grey-painted brake callipers with white AMG lettering and six-piston (front) and four-piston technology (rear) provide responsive, fade-resistant deceleration and extremely short stopping distances.

All-new AMG ceramic composite high-performance brakes which are available as an option are instantly recognisable thanks to their brake callipers with the "AMG Carbon Ceramic" logo. Thanks to the special materials and production technology used to manufacture the discs from carbon-fibre-reinforced ceramic in a vacuum at 1700 degrees Celsius, the ceramic discs are much harder. This not only increases the service life many times over compared with a grey cast iron disc, but also their resistance to extreme loads and heat. The result is extremely short stopping distances, an exact pressure point and much higher fade resistance even under extreme operating conditions. The larger ceramic discs – front: 402 x 39 millimetres; rear: 360 x 32 millimetres – also feature a composite design and are connected with a floating radial mount to an aluminium bowl.

Compared with the conventional composite brake discs, the ceramic brake discs are around 40 percent lighter. The further reduction in unsprung masses not only boosts driving dynamics and agility but also improves steering response as well as ride comfort and contact characteristics. Six-piston fixed callipers are fitted at the front with a brake lining surface of 2 x 154 cm²; four-piston fixed callipers with a brake lining surface of 2 x 73 cm² are used at the rear.

	Composite braking system	Ceramic composite high-performance braking system
Front suspension:		
Brake calliper	6-piston aluminium fixed calliper	6-piston aluminium fixed calliper
Brake disc	Composite technology, internally ventilated, perforated	Ceramic composite technology, internally ventilated, perforated
Diameter/thickness	360 mm 36 mm 13.6 kg	402 mm 39 mm 7.9 kg
Weight*		
Rear suspension:		
Brake calliper	4-piston fixed calliper	4-piston fixed calliper
Brake disc	Solid, internally ventilated, perforated	Ceramic, composite technology, internally ventilated, perforated
Diameter/thickness	360 mm 26 mm 11.1 kg	360 mm 32 mm 6.6 kg
Weight*		

* weight of the brake disc

Numerous functions of both the AMG composite braking system and the AMG ceramic composite high-performance braking system enhance comfort and safety. Take the practical HOLD function: if the E 63 AMG Estate has come to a stop, the driver simply needs to press the brake pedal a little harder for the vehicle to continue to be held by the brake even if the driver takes his foot off the brake pedal. This prevents the vehicle from unintentionally rolling forward in stop-and-go traffic or inadvertently rolling back on an uphill slope. The HOLD function is automatically disengaged once the vehicle is driven forward. Another useful feature comes in the shape of the hill-start assist. If the sensor technology detects that the driver has stopped on an incline, the brake pressure is automatically maintained constant for a short period. This means the E 63 AMG Estate will not roll back and the driver has sufficient time to switch his right foot from the brake to the accelerator pedal without having to use the parking brake.

If the driver suddenly switches from the accelerator to the brake pedal prior to emergency braking, the braking system increases the pressure in the brake lines and applies the pads to the brake discs, so that they can grip instantly with full

force when the brake pedal is pressed. The system supports the standard-fit Brake Assist by means of this 'priming'. Further standard features include the brake-drying function, which uses brief braking impulses to ensure the film of water on the brake discs is removed in the wet, thus considerably improving the responsiveness of the brakes.

AMG 18 or 19-inch light-alloy wheels

The AMG light-alloy wheels in an 18 or 19-inch design play a major part in the dynamic, stable handling of the E 63 AMG Estate. The Estate comes as standard with high-sheen five-spoke wheels painted in titanium grey with respective front and rear dimensions of 9 x 18 and 9.5 x 18 and corresponding tyre sizes of 255/40 R 18 and 285/35 R 18. Forged 19-inch AMG twin-spoke light-alloy wheels painted titanium grey with a mirror finish and shod with 255/35 R 19 (front) and 285/30 R 19 (rear) wide-base tyres are available as an option from the AMG *Performance Studio*.

Effortless superiority with decidedly sporty character

- **AMG bodystyling for looks which reflect the dynamism of the brand**
- **AMG 18 or 19-inch light-alloy wheels**
- **Sporty and high-grade interior ambience**
- **AMG DRIVE UNIT for individualised set-up**

The new Mercedes-Benz E 63 AMG Estate fulfils its role as the powerful, top-of-the-line E-Class model with effortless superiority. The exterior design conveys presence, precision and typical Mercedes dynamism. Functional sportiness, top quality and consummate business class comfort combine in the interior. In short: this high-performance estate comes across as sporty without being showy. Dominant, masculine, dynamic – take a look at the E 63 AMG Estate and you instantly get a sense of these three attributes, not least thanks to the distinctive front wings: they are 17 millimetres wider on each side to accommodate the new front axle with its greater track width and the 255/40 front tyres.

The striking AMG front apron is an integral part of the characteristic AMG bodystyling. A central air intake and two side apertures provide an efficient supply of fresh air to the cooling module placed behind. The side air vents in the front apron serve to expel the hot air from the oil coolers. The AMG-specific LED daytime driving lights are another eye-catching detail. In conjunction with the optional Intelligent Light System, the E 63 AMG Estate is equipped with tinted bi-xenon main headlamps.

From the side, the eye is drawn to the 18 or 19-inch AMG light-alloy wheels as well as the "6.3 AMG" lettering integrated stylishly into the wings; this lettering is testimony to the powerful eight-cylinder powerpack under the bonnet. The side sill panels pick up the sweeping line of the spoiler edges on the front apron, extending it through to the AMG rear apron – the same line also emphasises the

estate's width: the two newly designed chrome-plated twin tailpipes of the AMG sports exhaust system, the characteristically black insert and the overlying light-catching contour are further visual highlights of the muscular rear section.

Sporty and high-grade interior ambience

Luxurious quality, high-grade materials, consummate business class comfort combined with a noticeable degree of dynamism and sportiness – these are the essential attributes of the interior of the E 63 AMG Estate. Dedicated, newly developed electrically adjustable and heated sports seats with AMG badges await the driver and front passenger. All the seats, armrests and door centre panels are trimmed in exquisite leather, the seat centre panels with perforated leather. Three different appointment colours are available: black, mocha brown/almond beige and reef grey/alpaca grey. The perfect finishing touch comes courtesy of the black ash wood trim.

The sports steering wheel in a four-spoke design with a 385-millimetre rim is trimmed with perforated leather in the specially moulded grip areas. Up and down gear selection can be performed manually by means of the aluminium shift paddles.

AMG main menu and AMG DRIVE UNIT

Behind the steering wheel lies the equally new instrument cluster with a 320 km/h speedometer scale and silver-coloured backplate. The five classic dial instruments come with a new look red needles and all-new lettering. AMG lettering adorns the speedometer while "6.3 V8" lettering adds a special touch to the rev counter. The AMG main menu, which is integrated into the central display of the speedometer, can be operated conveniently using the multifunction buttons on the sports steering wheel. The three modes "Warm Up", "Set Up" and "RACE" keep the driver well informed: "Warm Up" indicates the engine oil and coolant temperature, "Set Up" indicates the current ESP[®] mode, the suspension setting – "Comfort", "Sport" or

"Sport Plus" - and the transmission mode - "C", "S", "S+" or "M". In "RACE" the RACETIMER is ready; this allows the driver to record lap times on private racing circuits.

The AMG DRIVE UNIT, which is familiar from the SL 63 AMG, is angled towards the driver and enables individual settings to be selected for the MCT sports transmission, the ESP[®] functions, the suspension set-up and the AMG drive modes. A completely new feature for the DRIVE UNIT comes in the shape of the E-SELECT selector lever in the centre console. The driver can shift directly between R, N and D simply by nudging the lever, all thanks to drive-by-wire technology. Once the engine is turned off, the parking lock is activated automatically; it can also be engaged by lightly pressing the P button in front of the selector-lever.

The extensive standard specification also includes (selection):

- Adaptive brake lights
- AMG door sill panels in brushed stainless steel
- AMG sports pedal cluster in brushed stainless steel
- EASY-PACK load compartment management
- Child Safety package
- THERMOTRONIC automatic climate control

The wide range of optional extras includes (selection):

- COMAND APS
- DAB - digital radio
- Driving Assistance package
- Rear-seat entertainment system
- Speed Limit Assist
- Intelligent Light System
- KEYLESS-GO package

- Heated steering wheel
- Media interface
- Memory package
- Night View Assist Plus
- PARKTRONIC incl. Parking Guidance
- Tyre pressure monitoring system
- Reversing camera for PARKTRONIC
- Heated/climatised seats
- Sun Protection package
- Lane Tracking package
- Surround sound system
- TV tuner

Even more individuality with tailor-made AMG extras

Customers requiring even more sporty individuality are catered for by the AMG *Performance Studio*. A wide range of attractive, factory-fitted optional extras is available:

- AMG 19-inch twin-spoke forged wheels fitted with 255/35 R 19 front and 285/30 R 19 rear tyres
- AMG rear axle locking differential with 40 percent locking action
- Brake callipers, painted red
- AMG Driver's Package (top speed restriction increased to 280 km/h, attendance at driver training at the AMG Driving Academy)
- Illuminated AMG door sill panels
- AMG floor mats
- AMG Performance steering wheel in a three-spoke design with Alcantara® inserts in the grip areas
- AMG ceramic high-performance composite braking system
- AMG carbon-fibre trim elements

The high-quality interior ambience of the E 63 AMG Estate can also be enhanced with the AMG Exclusive package. It includes: Page 30

- Nappa leather appointments for the AMG sports seats, top section of the dashboard, the beltlines, the door armrests, the centre console and door centre panels
- Roof liner, A, B, C and D-pillars and sun visors in Alcantara®
- AMG floor mats

New designo range for the E 63 AMG Estate

The new designo range for the E 63 AMG Estate, which will be available from the end of the year, offers further individualisation options. The designo colour chart includes a total of ten attractive colours, including three new matt finishes: designo magno platinum, designo magno allanite grey and designo magno cashmere white. Nine different single-tone designo leather upholstery options and three designo trim element variants are available for the interior.

Engine

No. of cylinders/arrangement		8/V, 4 valves per cylinder
Displacement	cc	6208
Bore x stroke	mm	102.2 x 94.6
Rated output	kW/hp	386/525 at 6800 rpm
Rated torque	Nm	630 at 5200 rpm
Compression ratio		11.3 : 1
Mixture preparation		Microprocessor-controlled petrol injection, HFM

Power transmission

Drive system		Standard drive system
Transmission		AMG SPEEDSHIFT MCT 7-speed sports transmission
Ratios	Final drive	2.82
	1st gear	4.38
	2nd gear	2.86
	3rd gear	1.92
	4th gear	1.37
	5th gear	1.00
	6th gear	0.82
	7th gear	0.73
	Reverse	-3.42

Chassis and suspension

Front	Three-link suspension, anti-dive, coil springs, AMG RIDE CONTROL electronically controlled damping system, stabiliser
Rear	Multi-link independent suspension, anti-squat and anti-dive, AMG RIDE CONTROL full air suspension system with electronically controlled damping system, stabiliser
Braking system	Composite disc brakes, internally ventilated and perforated at the front, internally ventilated and perforated disc brakes at the rear, drum-type parking brake at the rear, ABS, Brake Assist, 3-stage ESP®
Steering	Speed-sensitive rack-and-pinion steering, steering damper
Wheels	Front: 9 J x 18; rear: 9.5 J x 18
Tyres	Front: 255/40 R 18; rear: 285/35 R 18

Dimensions and weights

Wheelbase	mm	2874
Track, front/rear	mm	1625/1594
Overall length	mm	4918
Overall width	mm	1872
Overall height	mm	1499
Turning circle	m	11.3
Boot capacity**	l	695-1950
Kerb weight (EC)***	kg	1945
Payload (basis: ready-to-drive state as defined by EC)	kg	595
Perm. gross vehicle weight	kg	2540
Tank capacity/incl. reserve	l	66/14

Performance and fuel consumption

Acceleration 0-100 km/h	s	4.6
Top speed	km/h	250****
Fuel consumption, NEDC comb.	l/100 km	12.8
CO ₂ emissions	g/km	299

* provisional figures; ** acc. to VDA measuring method; *** incl. 75 kg for driver and luggage;

**** electronically limited