

# Mercedes-Benz at "Auto Mobil International" 2008

Press Information

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The descriptions and information in this press kit apply to the international Mercedes-Benz model range and may vary from country to country.

## A and B-Class: World premiere of the new model generations in Leipzig

**Leipzig – The focus of attention at "Auto Mobil International" (AMI) in Leipzig will be on the new generations of the A and B-Class. Both models are now more youthful, attractive and environmentally compatible than ever before. This is ensured by an all-round design makeover, an even more attractive equipment package and new technical developments which further improve safety, comfort and economy. A comfortable ECO start/stop function is now available for the high-volume models A 150/170 and B 150/170 which reduces petrol consumption in city traffic by up to nine percent. For the three-door A 160 CDI, Mercedes-Benz has developed a BlueEFFICIENCY package to lower the fuel consumption of the coupé to just 4.5 litres per 100 kilometres. Other new development include the bivalent petrol/natural gas drive of the B 170 NGT BlueEFFICIENCY and active parking assist, which helps the driver of the A and B-Class when finding and reversing into a parking space.**

Since its world premiere in 1997, the A-Class has made a name for itself as a trendsetter and innovative leader in the compact car segment. Outstanding safety, great day-to-day flexibility and typical Mercedes reliability have always been among the strengths of the A-Class, which has so far captured the enthusiasm of about 1.7 million male and female drivers with its distinctive and versatile vehicle concept.

The new-generation A-Class builds on these strengths: in spring 2008 Mercedes-Benz is presenting the five-door saloon and the three-door coupé in completely upgraded versions. Viewed from the front, this compact Mercedes-Benz now appears even more youthful and self-confident than before. The sweeping lines of the newly designed **headlamps** harmoniously combine the front end and flanks, which literally appear to be cast from a single mould. The likewise redesigned **front bumper** reinforces this impression; its lower air intake

is now much larger, emphasising the width of the body. The **radiator grille** is also in a new design which underlines the progressive aura of the A-Class. Design features at the **front end** provide even more clear distinctions between the design and equipment lines of the A-Class than before. In the AVANTGARDE line the front bumper has been given a distinctive design which emphasises the arrow-shape of the front end and suggests even greater agility. When **viewed from the side** the different lines in the A-Class are distinguished by individual wheel designs. While the basic model is equipped with 15-inch wheels and seven-spoke hubcaps as standard, ELEGANCE and AVANTGARDE are fitted with individually designed 16-inch **light-alloy wheels**. The new, larger **exterior mirror housings** and door handles are now painted in the vehicle colour for all model variants.

#### **Interior: upgraded with larger stowage compartments and new fabrics**

Mercedes designers also paid particular attention to enhanced value when redesigning the interior, choosing new, high-grade upholstery fabrics and door linings. In addition new **decorative trim** of smoke-grey, diagonally brushed aluminium enhances the interior of the AVANTGARDE line, while the dignified aura of the ELEGANCE models is heightened by wood trim. All variants of the A-Class share a larger **stowage compartment** in the centre console and a newly designed **cupholder** between the front seats.

#### **B-Class: The Sports Tourer in better shape than ever**

Mercedes-Benz has also developed the B-Class further in design and technical terms. The restyled **front end** injects the B-Class with even more poise and assurance than before. This is primarily down to the radiator grille with its three chromed cross fins painted in metallic grey and the Mercedes star integrated into its centre. However, the more imposing appearance of the B-Class also stems from the new-look bumper – whose design emphasises the large air intake at the bottom – as well as the modified bonnet.

Typical distinguishing features of the current Mercedes style are also very much in evidence in the **side profile** of the B-Class, which presents a thrilling interplay between taut forms and crisp lines. Of particular note is the character line, which rises progressively from the front wing to the rear tail light, thereby marking an intriguing divide between the concave and convex-formed surfaces along the body's flanks. This line furthermore underscores the body's wedge-shaped form, and thereby gives added impact to the Sports Tourer's athletic, powerful nature.

In the Model Year 2008 B-Class, the design at the sides seems even more harmonious and elegant than before because the exterior mirror housings, door handles and skirt panels are now painted to match the body colour on all model variants. The restyled hubcaps and light-alloy wheels add further touches of class to the exterior looks.

The Mercedes design team has further upgraded the interior with a new upholstery fabric, plus a new **fabric pattern** for the seat cushions. If the B-Class is ordered with the **sports package**, the side seat bolsters are trimmed in ARTICO man-made leather and the centre panels in fabric. The interior door linings likewise feature a new fabric trim.

### **Technology: fuel consumption reduced by up to eight percent**

BlueEFFICIENCY is the new designation for the Mercedes commitment to further reductions in fuel consumption and exhaust emissions. Three models in the A and B-Class will bear the BlueEFFICIENCY emblem in future: the A 160 CDI, the high-volume four-cylinder models A 150/B 150 and A 170/ B 170 with the ECO start-stop function, and the new B 170 NGT with bivalent petrol/natural gas drive. The fuel consumption of the models in the A and B-Class has been reduced by up to eight percent thanks to a package of intelligently combined measures.

From autumn 2008 Mercedes-Benz will introduce a standard **BlueEFFICIENCY package** for the three-door A 160 CDI with a manual transmission, with further improvements in engine efficiency, aerodynamics, rolling resistance, energy management and weight. The sum of these measures achieves a fuel saving of

0.4 litres, which means that the A 160 CDI BlueEFFICIENCY has an NEDC consumption of only **4.5 litres per 100 kilometres**. As a result the CO<sub>2</sub> emissions of the 60 kW/82 hp Coupé are only 119 grams per kilometre.

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The BlueEFFICIENCY package also includes an aerodynamically optimised **radiator grille**. This has a closed-off interior face to reduce the airflow to the engine, though the CDI engine is still cooled effectively at all times. The suspension has also been lowered by ten millimetres to reduce the **drag coefficient** even further. Mercedes engineers have exploited an additional fuel-saving potential by controlling the onboard power supply of the A 160 CDI BlueEFFICIENCY according to demand, and therefore on an energy-saving basis. To recharge the battery with optimum energy efficiency, the **generator management system** utilises the engine's overrun phases to produce electrical energy.

#### **Start/stop function: the engine switches off automatically when idling**

In the case of the petrol-engined models A 150/B 150 and A 170/B 170, Mercedes engineers have achieved NEDC **fuel savings** of up to 0.4 litres per 100 kilometres with a newly developed ECO start/stop function. This system will become available from autumn 2008. It automatically switches off the engine when the driver shifts the manual transmission to neutral at a low speed while applying the brakes. If the conditions for engine switch-off are met, the driver is informed by a special display in the instrument cluster.

Within fractions of a second, and almost noiselessly, the engine is restarted as soon as the clutch is operated or the brake released. This rapid and comfortable engine start is a major advantage of the ECO start/stop function versus other systems of this kind.

With the ECO start/stop function the NEDC fuel consumption is reduced by a further 6.5 percent or so. The A 150 BlueEFFICIENCY (70 kW/95 hp) absolves a measured test journey with a fuel consumption of **5.8 litres per 100 kilometres**, which corresponds to 139 grams of carbon dioxide per kilometre.

Even greater advantages can be achieved in normal road traffic, as the results of extensive practical trials have confirmed: Mercedes employees tested the system in 175 test cars, covering a total of around **1.2 million kilometres**. Roughly half of this enormous mileage was covered in city traffic, where the new ECO start/stop function enabled fuel savings of up to nine percent to be achieved.

### **NGT: B-Class powered by natural gas and petrol**

A further new addition to the B-Class range bears the initials "NGT" on the right-hand side of its tailgate. They stand for "**Natural Gas Technology**" and identify a model variant which is as economical as it is environmentally compatible, courtesy of its bi-fuel drive: the B 170 NGT BlueEFFICIENCY is able to run on both natural gas and premium grade petrol while delivering an identical maximum output of 85 kW/116 hp.

In addition to the petrol tank, there are five natural gas reservoirs whose total capacity of 16 kilograms equates to a range of over 300 kilometres. With overall NEDC consumption figures of 7.3 litres of premium petrol and 4.9 kilograms of natural gas per 100 kilometres, the new B 170 NGT BlueEFFICIENCY is therefore able to attain a total range in excess of 1000 kilometres. The driver determines which power source is used at the touch of a button, using the multifunction steering wheel; an electronic control unit carries out the switch instantaneously without any jolts – even while on the move.

The lower carbon dioxide emissions and cheaper fuel costs make natural gas an attractive alternative to petrol and diesel, both ecologically and economically speaking. On the NEDC cycle, the CO<sub>2</sub> emissions are 17 percent lower than in the petrol-powered B 170 at 135 grams per kilometre. If the 4.9 kilograms (7.5 m<sup>3</sup>) of natural gas consumed per 100 kilometres by the new B 170 NGT BlueEFFICIENCY is converted into the equivalent quantity of petrol energy, the fuel cost per kilometre is around 50 percent less than when running on petrol.

**Ecology: the A-Class is the first compact car with an environmental certificate**

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Mercedes-Benz not only assesses the environmental compatibility of vehicles on the basis of standardised emissions and fuel consumption measurement, but also taking into account the entire vehicle lifecycle – from production and many years of operation to eventual recycling and disposal. An analysis of more than **40 000 individual processes** provides an overall picture and enables the development work to be objectively assessed. This **eco balance sheet** is the basis of the environmental certificate according to the stringent international ISO standard 14062 (**Design For Environment**), which Mercedes-Benz is the world's only automobile brand to have received.

Mercedes engineers have, for the first time, compiled an eco balance sheet for the natural-gas drive. It forms one element of the Environmental Certificate awarded to the B-Class by Germany's TÜV Technical Inspection Authority. The results of this integrated analysis over a total distance travelled of 150,000 kilometres highlight, for example, a number of clear advantages for the natural-gas drive. The overall **CO<sub>2</sub> emissions** are some 20 percent below the figure for the comparable petrol-engined model. Nitrogen oxide emissions are eleven percent lower, while the experts have calculated a 54 percent difference in carbon monoxide emissions over the entire lifecycle in favour of the natural-gas drive.

Detailed information about the eco balance sheet and the environmental certificates for the A and B-Class may be found in Mercedes-Benz **brochures**, which are available on the Internet at [www.media.daimler.com](http://www.media.daimler.com).

## **Safety: flashing brake lights warn following traffic**

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Mercedes-Benz has also made further improvements to the safety and comfort of the A and B-Class. The adaptive brake light introduces technology from the luxury class into the compact segment, which therefore benefits from a further accident prevention system as a standard feature. Under **emergency braking** from a speed exceeding 50 km/h, the brake lights flash rapidly to warn following traffic, enabling drivers to respond more rapidly and prevent a collision.

Mercedes-Benz has now added to this extensive safety technology with **crash-responsive emergency lighting** for the interior. This is switched on automatically following an accident of a defined severity, providing the occupants with better orientation and facilitating the work of the emergency services.

## **Parking assist: ultrasound and electric steering for easier parking**

When finding and **reversing into a parking space**, drivers of the A and B-Class will in future be aided by an active parking assist feature which is available on request for all model variants. Using newly developed, side-mounted **ultrasonic sensors**, this system identifies suitable parking spaces on both sides of the road in passing, then informs the driver by means of a display. Once a suitable parking space has been found, an arrow appears in the display to inform the driver on which side of the road the parking space is located. If he or she engages reverse gear, acknowledges the display message and accelerates, active parking assist takes over the steering and automatically manoeuvres the car into the parking space. The driver only needs to accelerate and operate the brakes; the ultrasonic sensors of the **PARKTRONIC** system assist in this by keeping them informed about the distance to the vehicle in front of and behind the car.

Mercedes engineers have also added a new function to a well-proven support system: the Electronic Stability Program (ESP<sup>®</sup>) now has an automatic **hill-start assist** function which prevents the car from rolling backwards when the driver changes from the brake pedal to the accelerator when moving off on an uphill gradient.

**Audio: new units offer Bluetooth, a colour display and Europe-wide navigation**

Like all the new 2008 Mercedes models, the A and B-Class is available with further improved information, communication, navigation and entertainment systems. The new **Audio 50 APS** is equipped with a colour display, Europe-wide DVD navigation system and DVD drive, while the top-of-the-range **COMAND APS** includes HDD navigation, a MUSIC REGISTER, an SD card slot and **voice control**. Even more scope for mobile musical pleasure is provided by a newly developed, interactive **media interface**, an optional item which is able to connect an MP3-player, USB stick or other external audio unit to the onboard infotainment system.

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## More perceived value all-round

- **Choice of two body versions and seven engines**
- **Standard appointments significantly upgraded yet again**
- **Two equipment lines with a decidedly individual character**

Since 1997 the A-Class has self-confidently and emphatically shown itself to be a cut above other compact cars, and set standards in safety, practicality and reliability. To date around 1.7 million male and female drivers worldwide have been convinced by these and the many other qualities of the A-Class. More than half of these are new Mercedes customers – clear testimony to the great attractiveness of the compact Mercedes.

In numerous respects the new-generation A-Class is now an even more attractive proposition. Its design, equipment, technology, economy and environmental compatibility have been improved even further, which means that the best and also most innovative A-Class ever is making its debut in spring 2008.

Individuality continues to be another hallmark of this Mercedes model, with a choice of two body versions designed to appeal to different customer target groups: the five-door A-Class with its great day-to-day variability and practicality, and the three-door coupé which adds a special youthful and sporty appeal to the outstanding safety and comfort attributes of the A-Class. Further options to realise individual wishes are offered by the ELEGANCE and AVANTGARDE design and equipment lines, as well as by special equipment packages and a range of useful optional extras.

As before, the A-Class is available with a choice of seven four-cylinder engines which are combined with a five or six-speed manual transmission, depending on the level of torque. The variable AUTOTRONIC transmission is also available on request. The output range of these engines extends from 60 kW/82 hp to 142 kW/193 hp; with a fuel consumption of 4.5 to 8.1 litres per 100 kilometres

(combined NEDC consumption), these four-cylinder units are among the most economical engines in their displacement and output classes.

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### **New driver support systems as standard equipment**

The A-Class is also distinctly superior to other compact cars where safety and comfort features are concerned. The standard appointments already include adaptive front airbags, head/thorax sidebags, adaptive belt force limiters, crash-responsive front head restraints, a multifunction steering wheel, speed-sensitive power steering (parameter steering), a selective damping system and air conditioning.

Now Mercedes-Benz has extended this large range of features with more standard equipment and new driver support systems which further enhance both safety and comfort:

- Larger-capacity stowage compartment between the front seats
- Exterior mirrors painted in the vehicle colour
- Hill-start assist
- Adaptive, flashing brake lights
- Crash-responsive emergency lighting
- Cupholder in a new design
- Power windows with one-touch control
- Headlamp assist
- Luggage cover
- Hubcaps in a new design
- Upholstery fabrics in a new design
- Door handles painted in the vehicle colour
- Ambient and warning light in the tailgate

The ELEGANCE and AVANTGARDE lines are highlighted by additional comfort and design features. The features introduced with the model facelift include the following in addition to the basic model:

- Oval exhaust tailpipe made of polished stainless steel
- Chrome trim strip above the side skirts
- Front apron with chrome insert, in a distinctive design for the AVANTGARDE model
- Rear bumper with chrome inserts and reflector-look, additional black insert for the AVANTGARDE model
- 16-inch light-alloy wheels in a 10 twin-spoke design (ELEGANCE) or five-spoke design (AVANTGARDE)
- Leather-lined steering wheel
- Foglamps with chrome surround
- Seat upholstery in fabric and ARTICO man-made leather
- Luxury seat package with front seat cushion angle adjustment, front lumbar supports and height-adjustable front passenger seat
- Myrtle wood trim (ELEGANCE) or diagonally brushed aluminium trim in smoke-silver (AVANTGARDE)

**New optional extras for even more economy and comfort**

The list of available optional extras continues to include high-tech systems which are by no means to be expected in this vehicle class. For example the newly developed infotainment units, which boast a colour display, Bluetooth interface, telephone keypad and a connection for external audio units depending on the model. The new top-of-the-line Audio 50 APS and COMAND APS units also have additional functions such as Europe-wide navigation and a DVD drive. COMAND APS is also equipped with a voice control system as standard.

Another outstanding technical highlight is the new active parking assist, which helps the driver to reverse into parking spaces and carries out all the necessary steering movements automatically. The newly developed optional extras for the A-Class at a glance:

- Active parking assist
- Audio 20, on request also with an integrated 6 CD-changer
- Audio 50 APS with Europe-wide DVD navigation, on request with an integrated 6 DVD-changer
- COMAND APS with HDD navigation and map display
- ECO start-stop function (for A 150 and A 170 with manual transmission)
- LINGUATRONIC voice control with whole-word commands
- LOGIC7 surround-sound system
- Media interface for external music units

A number of optional extras are also included in the attractive equipment packages which Mercedes-Benz has put together for the A-Class. These are the Light and Sight Package, the Sports Package and the new Selective Package, which includes a leather interior, electrically adjustable front seats with heating and the THERMOTRONIC automatic climate control system.

## "B" for beautiful

- **New safety and comfort systems as standard**
- **Innovations for automatic parking and fuel economy**
- **Equipment packages for even more comfort, elegance and sportiness**

In presenting the B-Class in summer 2005, Mercedes-Benz produced the blueprint for a new, future-oriented market segment and a new species of car which precisely meets the wishes of today's motorists. The Sports Tourer combines generous spaciousness and great practicality with a dynamic design and a high level of driving pleasure. In other words, a touring, family and recreational car with an incomparable added experience value in terms of design and dynamism.

To date the B-Class has won over more than 325 000 male and female drivers, making it one of the most successful new Mercedes model launches in recent years. For the product planners, designers and engineers this meant that there was actually little reason to make changes, however with their attention to detail and determination to make what is good even better, they have put together a highly appealing package of model facelift measures and given the Sports Tourer an even more attractive profile than before in terms of safety, environmental compatibility, economy and comfort. These are supplemented with discreet but certainly effective design modifications which make for a more youthful appearance and emphasise the agility of the B-Class. In short: a successful makeover in every respect.

The extensive standard equipment of this model will be even more generous from spring 2008. At no extra cost, Mercedes customers will have the benefit of newly developed systems which further enhance their safety and comfort. These include e.g. headlamp assist, which switches on the vehicle lights automatically when the car enters a tunnel or an underground car park, hill-start assist, which prevents the vehicle from rolling backwards when moving off on an uphill gradient, and flashing brake lights which effectively warn following traffic when danger occurs.

Power windows with one-touch control are also standard equipment, as is a steering column adjustable for reach and crash-responsive emergency lighting. All in all, the B-Class therefore offers even more car for the money.

New standard features at a glance:

- Larger-capacity stowage compartment between the front seats
- Exterior mirrors, door handles and side skirt panels painted in the vehicle colour
- Hill-start assist
- Adaptive, flashing brake lights
- Crash-responsive emergency lighting
- Cupholder in a new design
- Power windows with one-touch control
- Headlamp assist
- Steering column also adjustable for reach
- Loading sill protection in black-grained plastic
- Luggage cover
- Hubcaps in a new design
- Upholstery fabrics in a new design
- Ambient and warning light in the tailgate

### **Premiere for innovative new developments**

High-tech systems from the Mercedes-Benz luxury class are available as optional extras for the B-Class, making the Sports Tourer even more comfortable, more versatile – and even more unique. One outstanding technical highlight is the new active parking assist, which helps the driver to reverse into parking spaces and carries out all the necessary steering movements automatically. Another new development, which Mercedes-Benz is offering in the A and B-Class for the first time, is the ECO start/stop function, which switches off the engine automatically when idling.

And finally there is a choice of three new infotainment units, which boast a colour display, Bluetooth interface, telephone keypad and a connection for external audio units. The new top-of-the-line Audio 50 APS and COMAND APS units also have additional functions such as Europe-wide navigation and a DVD drive. COMAND APS is also equipped with a voice control system as standard. Page 16

The newly developed optional extras for the B-Class at a glance:

- Active parking assist
- Audio 20, on request also with an integrated 6 CD-changer
- Audio 50 APS with Europe-wide DVD navigation, on request with an integrated 6 DVD-changer
- COMAND APS with HDD navigation and map display
- ECO start-stop function (for B 150 and B 170 with manual transmission)
- 16-inch light-alloy wheels in a 5 twin-spoke design (standard for B 200 CDI and B 200 TURBO)
- 17-inch light-alloy wheels in a 10-spoke or 5 twin-spoke design
- LINGUATRONIC voice control with whole-word commands
- LOGIC7 surround-sound system
- Media interface for external music units

A number of optional extras are also included in the attractive equipment packages which Mercedes-Benz has put together for the B-Class. These are:

- **The Exterior Chrome package**, which includes matt-silver painted, chrome-embellished radiator grille louvres, foglamps with chrome surrounds, a polished stainless steel exhaust tailpipe and stainless steel loading sill protection.
- **The Light and Sight package**, which includes a rain sensor for the windscreen wiper, headlamp switch-off delay, locator lighting, an automatically dipping rear-view mirror, reading lights in the rear, a reading light for the driver and footwell lights in the front.

- **The Sports package**, which has the same features as the Chrome package and also includes a leather-lined steering wheel and shift lever, an instrument cluster with white illumination, pedals with stainless steel caps and rubber studs, 17-inch light-alloy wheels and a sports suspension.
- **The Luxury Seating package** with a height-adjustable front passenger seat, adjustable seat cushion angle and lumbar supports in the front.

## Innovations for the environment, safety and comfort

- **Fuel consumption lowered by more than eight percent**
- **A 160 CDI BlueEFFICIENCY with only 119 grams of CO<sub>2</sub> per kilometre**
- **Comfortable ECO start/stop function for A 150 and A 170**
- **Parking assist for automatic reversing into parking spaces**
- **New infotainment units with Europe-wide navigation**

The Mercedes models in the A and B-Class remain true to their role as technological trendsetters. Mercedes engineers have developed new systems for the compact car and Sports Tourer that bring major progress in important areas – notably safety, comfort, economy and environmental compatibility.

One major aspect is the further reduction of fuel consumption and carbon dioxide emissions. The Mercedes hit-list of particularly economical models is headed by coupé version of the A 160 CDI, which is equipped with a new BlueEFFICIENCY package as standard. This reduces the NEDC fuel consumption of the three-door car to 4.5 litres per 100 kilometres, which is 0.4 litres below the previous figure. CO<sub>2</sub> emissions are nine grams lower at 119 grams per kilometre.

BlueEFFICIENCY is the new trademark for particularly economical and environmentally compatible Mercedes passenger cars. Mercedes engineers have utilised the potentials from various development areas to reduce fuel consumption even further by means of lightweight construction, a lower air and rolling resistance and more efficient energy management. In the new A 160 CDI BlueEFFICIENCY, it is particularly the aerodynamic measures and demand-related control of the generator that make themselves felt in terms of fuel consumption:

- The **suspension** has been lowered by ten millimetres, thereby exposing a smaller frontal area to the airstream.

- The inner surface of the **radiator grille** is enclosed, reducing the volume of air flowing into the engine compartment. This significantly reduces the drag coefficient, but has no negative effect on engine cooling.
- The **generator** of the A 160 CDI BlueEFFICIENCY is controlled according to demand, and therefore effectively contributes to fuel economy. This energy management is based on sensor information about the battery's charge status. If it has a sufficient charge, the output of the generator is reduced for certain periods. This reduces the work required of the CDI engine, which therefore consumes less fuel. To recharge the battery the system utilises the engine's overrun phases, and therefore its braking energy, which is converted into electrical energy by recuperation.

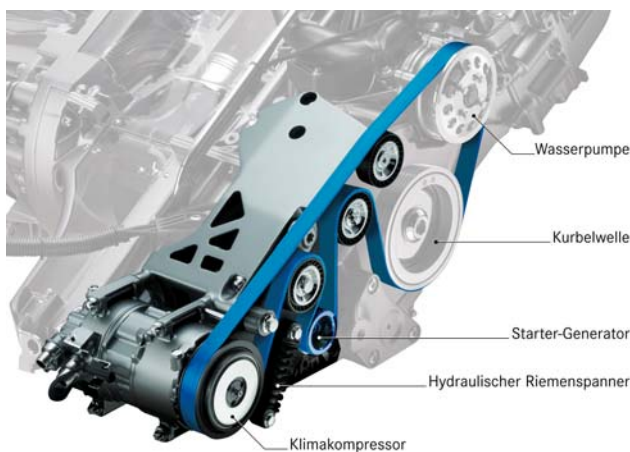
The three-door A 160 CDI BlueEFFICIENCY is available with a five-speed manual transmission from autumn 2008.

### **Fuel savings of up to nine percent with the ECO start/stop function**

During the design and development of their BlueEFFICIENCY measures, the Mercedes specialists were primarily guided by the actual user behaviour of Mercedes customers as identified by a large-scale practical analysis. For short and medium-range journeys with frequent traffic light stops, stop-and-go traffic and tailbacks, Mercedes-Benz has developed a technology which offers significant fuel consumption advantages: the ECO start/stop function. From autumn 2008 this will be optionally available for the high-volume models A 150/B 150 and A 170/B 170 with the five-speed manual transmission, which will also receive the BlueEFFICIENCY hallmark thanks to this technology.

The ECO start/stop function lowers fuel consumption and exhaust emissions by automatically switching off the engine during idling phases. The driver is informed by a special display in the instrument cluster if and when the conditions for engine switch-off are met. When travelling at low speed, he only needs to shift the manual transmission to neutral and apply the brakes. The engine is then switched off, and the ECO display appears in the instrument cluster.

The ECO start-stop function demonstrates its superiority over other systems of this kind when restarting the engine. This process is not only very fast, but also particularly quiet when the driver operates the clutch or releases the brakes. This is the major advantage of the newly developed starter generator, which is directly integrated into the engine's belt drive and powers the crankshaft – much more rapidly and quietly than with the conventional starter. During a journey the starter generator acts as an alternator and feeds electrical power to the onboard network. An intelligent control system ensures that the battery is only recharged when necessary, with particular use of the engine's overrun phases when braking energy can be converted into electrical energy by recuperation.



**The comfortable ECO start-stop function is based on a starter generator integrated into the engine's belt drive.**

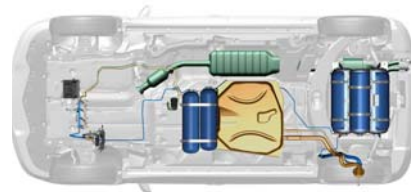
The ECO start-stop function features an electronic control unit which adapts the functions of the system to the operating conditions. This means that the engine is not switched off at low or very high ambient temperatures, so that the heating or air conditioning continue to operate at their full efficiency.

Mercedes-Benz has subjected the ECO start-stop function to extensive practical trials in which around 175 test cars covered approx. 1.2 million test kilometres. Roughly half of these journeys were in city traffic, where the new system offers impressive advantages: fuel savings of up to nine percent and a reduction in NEDC fuel consumption by around 6.5 percent. The A 150 BlueEFFICIENCY consumes just 5.8 litres per 100 kilometres, which makes it 0.4 litres more economical than the A 150 without the ECO start-stop function. In the case of the A 170 BlueEFFICIENCY the fuel saving is 0.5 litres per 100 kilometres.

## Natural gas drive as an ecologically and economically attractive alternative Page 21

NGT (Natural Gas Technology) is the abbreviation used by Mercedes-Benz to designate models which are powered by both petrol and natural gas. The natural gas variant of the B-Class is based on the B 170, but is equipped with a two-litre engine developing 85 kW/116 hp in natural gas or petrol operation. When the driver changes the power source to the four-cylinder engine by pressing a button on the steering wheel, a special electronic control unit carries out the switch from petrol to natural gas - or vice versa - instantaneously without any jolts.

The four-cylinder engine has been modified by Mercedes-Benz to include additional gas injectors on the underside of the intake manifold. A close-coupled pressure governor with electromagnetic shutoff valve regulates the supply of natural gas and keeps the pressure within the system constant. The natural gas is carried in special reservoirs located in the rear and underneath the front passenger footwell. They have an overall capacity of 16 kilograms - enough for a distance of more than 300 kilometres. If the driver then switches to petrol operation, he has a further operating range of more than 700 kilometres. The gas reservoirs reduce the boot capacity of the B-Class by 128 to 422 litres (acc. to the VDA measuring method).



The natural gas reservoirs (shown in blue) are at the rear and beneath the front passenger footwell of the B-Class.

On the NEDC cycle, the CO<sub>2</sub> emissions are 17 percent lower than in the petrol-powered B 170 at 135 grams per kilometre. Natural gas operation is also economically advantageous: if the NEDC natural gas consumption is converted into the equivalent quantity of petrol energy, the fuel cost per kilometre in Germany is around 50 percent less than when running on petrol.

### **Extended safety features incl. emergency interior lighting**

Safety is another major attribute of the Mercedes-Benz A and B-Class. In addition to the unique body concept, which offers advantages in the event of a frontal or side impact, an effective seat belt and airbag system provides the level of occupant safety typical of a Mercedes. This includes adaptive, two-stage front airbags, belt tensioners in the front and for the outer rear seats, and adaptive belt force limiters and head/thorax sidebags in the front. The use of high-strength steel alloys, extremely strong bonded connections and robust structural members in the bodyshell also ensures that the occupants are well protected even during a serious accident.

Mercedes-Benz has supplemented this extensive range of safety features with an emergency interior lighting system which is switched on automatically following a serious collision. This provides the occupants with better orientation at night, and facilitates the work of the emergency services when recovering injured passengers.

### **Flashing brake lights as an effective warning when danger threatens**

In the field of active safety, the A and B-Class also benefit from the technological leadership of the Mercedes models in the luxury and super-luxury class. In addition to ESP<sup>®</sup>, Brake Assist and other systems which make driving safer and demonstrably contribute to accident prevention, Mercedes-Benz is now equipping the A and B-Class with a new development that is able to lower the risk of rear-end collisions: flashing brake lights.

This invention is based on the findings obtained from accident research, which show that three quarters of all serious traffic accidents could be avoided if drivers were given a clear warning of potential danger at an early stage. Mercedes engineers therefore developed the flashing brake light system and tested its effectiveness during practical trials. These showed that the braking response times of drivers are reduced by an average of up to 0.2 seconds if a flashing red warning signal is given instead of conventional brake lights in an emergency braking situation. As a result the stopping distance of the vehicle behind is reduced by around 4.40 metres at a speed of 80 km/h, and even by around 5.50 metres at 100 km/h. Flashing brake lights are therefore an effective means of preventing rear-end collisions. Thanks to this technology now included as standard, driving is therefore also made safer for those not travelling in a Mercedes-Benz.

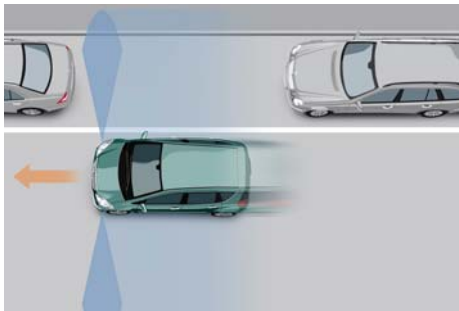
Mercedes specialists tested various warning lights during the course of this study. Brake lights that flash more rapidly than the hazard warning lights during emergency braking proved to be particularly effective in warning following traffic of an impending rear-end collision. The Mercedes study also revealed that switching on the hazard warning system in a critical situation has only an insignificant effect on the reaction time of other drivers.

### **Automatic parking with ultrasound**

Newly developed driver support systems and functions not only make travel in the A-Class even safer, but also more comfortable. For example, Mercedes specialists have enhanced the Electronic Stability Program with a new, standard function aimed at increased comfort: the automatic hill-holder. This prevents the car from rolling backwards when the driver changes from the brake pedal to the accelerator when moving off on an uphill gradient. In these situations ESP<sup>®</sup> maintains the brake pressure for a short time, so that the driver can move off smoothly.

Finding and reversing the A and B-Class into a parking space is also made easier and more convenient with the newly developed, optional parking assist system, which uses ten ultrasonic sensors. These sensors are active up to a speed of 35 km/h, and scan the area to the left and right of the vehicle, measuring the length and depth of possible parking spaces. A "P" symbol in the instrument cluster informs the driver that this electronic search for a parking space is in progress.

Once a suitable parking space has been found, an arrow appears in the display to inform the driver on which side of the road the parking space is located. Now the driver only needs to stop, engage reverse gear and confirm his acceptance of the recommended parking space by pressing a key on the multifunction steering wheel. As soon as he operates the accelerator, active parking assist takes over the steering and automatically manoeuvres the A-Class into the parking space. The driver only needs to accelerate and operate the brakes; the ultrasonic sensors of the PARKTRONIC system assist him in this by keeping him informed about the distance to the vehicle in front of and behind his car.



**Finding a space:** Ultrasonic sensors measure the length and depth of parking spaces on both sides of the road.



**Parking:** Active parking assist steers the car into the parking space, while the driver merely accelerates and brakes.

The ten ultrasonic sensors in the front and rear bumpers send their information to an electronic control unit, which not only measures the size of the parking space but also calculates the best possible entry path. The data are fed to the electromechanical power steering of the A-Class, whose electric motor performs the necessary steering movements of its own accord.

This is because the parking space only needs to be 1.30 metres longer than the A or B-Class for this automatic parking procedure to take place – an indication of the great precision of this technology.

### **New infotainment units for a digital music experience**

Information, communication, navigation and entertainment – four terms which are nowadays just as important to drivers as e.g. agile handling, a high standard of comfort or a powerful engine. Nobody wants to be without news, telephone, route guidance or musical enjoyment, even in the car. Accordingly these topics enjoy a very high priority during the development of new Mercedes models. The engineers in Sindelfingen have developed new systems for the A and B-Class which bring cutting-edge technology from the luxury class to the compact class.

There is a choice of three new units, all of them with a colour display, a twin or triple tuner for superior radio reception, speed-sensitive volume control, a keypad for entering telephone numbers and radio frequencies, a connection for external audio units and a Bluetooth interface that wirelessly connects a mobile phone to the onboard hands-free system.

- **Audio 20 with CD-player**

This car radio with an integral CD-player (MP3-capable) includes an FM/ MW, AM and LW tuner with automatic station search, RDS (during FM reception), direct frequency input via the keypad in the centre console and a 5-inch colour display.

- **Audio 50 APS with DVD navigation**

This infotainment system combines a car radio, telephone exchange and Europe-wide DVD navigation system in a single head unit. The route guidance information – with zoom function – is arrow-based and appears on a 5-inch colour display. The integral DVD drive can be used for navigation or audio data. If the optional 6 DVD-changer is specified, Audio 50 APS also includes the improved LINGUATRONIC voice control system with whole-word commands.

- **COMAND APS with HDD navigation and MUSIC REGISTER**

This multimedia system has a Europe-wide navigation system whose data are stored on a hard disc (40 gigabytes), allowing particularly fast access to the navigation data and even faster route calculation. The route map is shown on a 6.5-inch, high-resolution colour display. COMAND APS also includes a MUSIC REGISTER with a memory capacity of four gigabytes. This enables the driver to store around 1000 music tracks in the MP3 format from CDs, DVDs or memory cards. The system automatically recognises the titles and performers, and shows them on the colour display. Above the colour display the unit has a slot for SD memory cards which can also be used to store music files. COMAND APS also features voice control as standard, and a 6 DVD-changer is available on request.

The **Audio 5** car radio with its familiar functions and features remains part of the range available for the A and B-Class.

#### **Interactive interface for an iPod etc.**

Equipping COMAND APS with a music register and memory card slot shows that entertainment was an important aspect during the development of the new audio units: Mercedes customers are able to compile their own musical playlist and take it with them on an SD card. Now an iPod, USB stick or other external audio unit can also be connected to the onboard infotainment system of the A and B-Class. A newly developed universal media interface available ex factory for all the infotainment systems makes this possible. All that is required is a suitable cable which is available from the Mercedes accessories range.

This interface is much more than just an electronic “socket” in the glove compartment. The new technology also includes a control unit that connects the external music files with the onboard electronics and operating system of the A-Class. This means that the music stored in an iPod is also displayed in the instrument cluster and the colour display in the centre console, and can be conveniently selected using the keys on the multifunction steering wheel. While the portable audio unit is connected to the onboard system via the media interface, its battery is also charged.

The ultimate musical enjoyment is guaranteed if the optional Logic7 surround-sound system is ordered. This offers a natural 360-degree sound experience for all the occupants - a concert hall on wheels. It makes no difference whether the music source is a DVD or CD, or whether the recording is in Dolby 5.1 Surround or normal stereo.

### **Voice control with whole-word commands**

Voice control is standard equipment in the A and B-Class if Mercedes customers specify Audio 50 APS with a 6 DVD-changer or the COMAND APS multimedia unit. LINGUATRONIC operates the telephone, audio and Navigation systems particularly conveniently by whole-word commands. This means that the driver need no longer spell out commands, but merely has to say what he or she requires when entering a destination, selecting a radio station or choosing a name from the stored telephone directory.

With LINGUATRONIC Mercedes-Benz makes an important contribution to traffic safety, as the driver no longer needs to take his hands off the wheel to operate the telephone or audio equipment. His workload is reduced and he is better able to concentrate on the traffic situation. In 1996 Mercedes-Benz was the first automobile brand to offer such an onboard system.