



Mercedes-Benz

The new Mercedes-Benz B-Class

Press Information

November 2018

More Sports for the Tourer

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

The main points at a glance

More sports for the Tourer:

The design is more dynamic than ever. At the same time, the B-Class is an agile drive and even more comfortable than its predecessor.

Clean debut:

The transverse-mounted version of the two-litre OM 654q diesel model series with 110 kW and 140 kW is the first engine to fulfil the Euro 6d norm, which is only mandatory for new models as of 2020. An extended exhaust aftertreatment with an additional underfloor SCR catalyst makes this possible.

The heart of an athlete:

Compared to the preceding model, the new B-Class is powered across the range by new, efficient engines, all of which comply with the Euro 6d-TEMP limits at a minimum. The eight-speed dual-clutch transmission is making its début.

Practical companion:

The B-Class is the perfect (family) car for all those who attach importance to space, comfort and safety, and despite its sporty appearance it offers better interior dimensions than the preceding model.

Revolution, the second one:

In terms of the avant-garde interior, the B-Class again breaks new ground with the mono-volume design of the instrument panel and is every bit as revolutionary as the A-Class.

Always on:

MBUX is a user experience revolution in the car regarding 3D graphics, intuitive operation including via touchscreen and "Hey Mercedes" voice-operated control, the ability to learn as well as functions such as MBUX Augmented Reality.

Head up:

The optional head-up display is a new feature in the B-Class. Important information is projected into the windscreen, reducing distraction from the traffic situation.

Safety upgrade:

The new B-Class comes with driving assistance systems with cooperative driver support, thus providing one of the highest levels of active safety in this segment with functions from the S-Class.

Slips through the air:

With a c_d value starting at 0.24, the new B-Class trumps its predecessor (value starting at 25.0), and is the leader in its segment. At the same time, the frontal area (A) has been made somewhat smaller, reduced from 2.42 to 2.40 m². This all adds up a reduction in aerodynamic drag $c_d \times A$ from 0.605 m² to 0.576 m².

Good for the back:

The new ENERGIZING seat kinetics supports orthopaedic changes in the seating posture by means of minute changes to the inclination of the seat cushions and backrest.

Best sellers:

Since its market launch in 2005, more than 1.5 million B-Classes have been handed over to customers. In 1997, the A-Class founded the current Mercedes-Benz compact car segment: Since then, more than 6 million compact cars have been delivered to customers worldwide.

The most important dimensions

Compact yet spacious

		New B-Class	Predecessor	Diff.
Exterior dimensions				
Length	mm	4,419	4,393	+26
Width	mm	1,796	1,786	+10
Width incl. exterior mirror	mm	2,020	2,010	+10
Height	mm	1,562	1,566	-4
Wheelbase	mm	2,729	2,699	+30
Front track	mm	1,567	1,552	+15
Rear track	mm	1,547	1,549	-2
Turning circle	m	11	11	0
Interior dimensions				
Headroom, front	mm	1,052	1,047	+5
Headroom, back	mm	993	985	+8
Legroom, front	mm	1,045	1,041	+4
Legroom in the rear	mm	976	976	0
Load compartment width	mm	1,050	1,050	0
Boot capacity VDA behind the rear seats up to the top edge of the backrest	l	455	488	-33
Boot capacity VDA behind the front seats up to the top edge of the backrest	l	1100	1,065	+35
Maximum luggage compartment capacity	l	1,540	1,547	-7
Elbow room, front	mm	1,456	1,423	+33
Elbow room, back	mm	1,446	1,446	0
Shoulder width, front	mm	1,419	1,411	+8
Shoulder width, rear	mm	1,392	1,382	+10

More Sports for the Tourer

Stuttgart. The new Mercedes-Benz B-Class puts the emphasis on sport with the Sports Tourer. It looks more dynamic than its predecessor and is more agile on the road while offering greater comfort and space. The transverse-mounted version of the two-litre OM 654q diesel engine model series with 110 kW and 140 kW celebrates a clean debut: It is the first engine to fulfil the Euro 6d norm, which is only mandatory for new models as of 2020. The eight-speed dual-clutch transmission also makes its début. The avant-garde interior of the B-Class ensures a unique feeling of spaciousness with the distinctive design of the instrument panel. The intuitive user interface of the adaptive MBUX multimedia system is ground-breaking. Its strengths include brilliant graphics, "Hey Mercedes" voice control, a standard touch screen and functions such as MBUX Augmented Reality. State-of-the-art driving assistance systems give the B-Class one of the highest standards of active safety in the segment with functions carried over from the S-Class. Start of sales for the new B-Class is 3 December 2018, with delivery due to begin in February 2019.

"More practical than ever, more chic than ever," is how Britta Seeger, Member of the Board of Management of Daimler AG, responsible for Mercedes-Benz Cars Sales, characterises the new B-Class. "In our portfolio of compacts, it's the perfect vehicle for the whole family. And MBUX – the new Mercedes-Benz User Experience – provides also the B-Class with an all-new customer experience with functions that were previously the reserve of the luxury class."

"The latest derivative of the new generation of compact cars from Mercedes-Benz, the B-Class, writes a further punchy chapter in the success story of the dynamic Mercedes-Benz Sports Tourer," says Gorden Wagener, Chief Design Officer of Daimler AG. "With its emotional yet purist design, the new B-Class blends seamlessly into the design language of Sensual Purity."

The designers' brief was to make the new B-Class stand out visually from the world of minivans. That brief was accepted and executed, with the long wheelbase (2729 mm) with short overhangs, slightly lowered roof line and larger, 16- to 19-inch wheels making for dynamic proportions. The relatively squat, progressive front end with flowing transition from bonnet to A-pillar and

on to the windscreen, along with the muscular shoulder of the body, underlines the sporty overall look.

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The same is true of the low-profile headlamps, the inside of which is already high-grade, detailed and precisely designed on the basic model with H7 headlamps and LED daytime running lights. When ordered with LED headlamps or higher, the B-Class comes with its own daytime running light signature in the form of a double torch. The optional MULTIBEAM LED headlamps have an especially sporty look. They allow fast, electronically controlled adjustment of the headlamps to suit the current traffic conditions. This feature from the luxury class, which made its *début* in the compact segment in the new A-Class, now produces striking looks and added safety also in the new B-Class.

At the back, the width of the vehicle is accentuated by two-part lamps, reflectors integrated in the bumper and a distinctive black bumper bottom section with diffuser look and chrome trim strip. The large roof spoiler, along with high-gloss black spoilers at the sides of the rear window, makes for improved aerodynamics while ensuring a sporty appearance.

The c_d value of the new B-Class starts at 0.24 (predecessor: 0.25). The lower roof line further contributes to a best-in-class airflow due to the smaller end face of the car. In addition, the aerodynamics engineers have reduced the wind noise thanks to extensive detail work. The benefits: a high level of alertness as well as the ability to engage in a relaxed conversation.

The improved seat geometry and lower belt line make for an even more generous feeling of space than in the previous model. The driver sits 90 millimetres higher than in an A-Class, thus enjoying an especially good all-round view – also thanks to optimised cross-sections of the roof pillars, which obscure less of the surroundings.

Interior design: Revolution, the second

The interior of the B-Class is as avant-garde as the much-praised revolutionary interior architecture of the new A-Class, yet distinctive: while the instrument panel of the sister model is split into two horizontal basic bodies, that of the B-Class has a single basic volume, which drops away towards the occupants and has cut-outs in the area of the driver and front passenger. The cut-out in front of the driver houses the fully free-standing display unit, which comes in

three different versions: with two 7-inch displays (17.78 cm), with one 7- and one 10.25-inch display (26 cm) and, in the Widescreen version, with two 10.25-inch displays. A head-up display is optionally available.

The five round air vents feature a high-grade turbine look with finely styled air ducts, inspired by the world of aviation. In the Style equipment line, the vent surround is colour-accentuated in the depth of the vent geometry to give the impression of an afterburner. The centre console with touch-based control and input system comes with a black panel look similar to the E-Class. The ambient lighting with 64 colours and ten colour worlds, a unique selling point in this segment, allows individual adjustments, even to suit the mood.

The seats offer a flatter and, therefore, more comfortable seating position as well as a larger adjustment range, which also increases the maximum headroom. There is also more space in the width: at 1456 millimetres (plus 33 mm), the front elbow width now has the dimensions of a mid-range vehicle.

ENERGIZING seat kinetics: supports changes of posture

With seat climate control and multicontour seats with massage function, the new B-Class is available with optional extras that were previously reserved for vehicles from much higher segments. This opens the way to even better seating comfort.

The new ENERGIZING seat kinetics is particularly good for the back. It can support orthopaedically beneficial changes of posture by regularly making minute adjustments to the angle of the seat cushion and backrest. The innovation is available for the front seats in combination with all-electric seat adjustment with memory function.

ENERGIZING COACH which is included in the ENERGIZING packages is new. This function based on an intelligent algorithm recommends one of the programmes contained in the packages depending on the situation and individual. If a compatible wearable is worn, personal values such as stress level or quality of sleep optimise the accuracy of the recommendation. The aim is for passengers to feel well and relaxed even during demanding or monotonous journeys.

The interior has been fine-tuned in many places: the improved entry aperture to the centre tunnel in the rear makes for a more accessible middle seat. The rear seat backrest comes as standard with a 40:20:40 split. Depending on version, from mid-2019 it will be possible for the rear seats to be moved by 14 centimetres and for the backrest to be folded into a steeper position to vary the capacity of the luggage compartment behind the rear seats between 455 and 705 litres. Although the capacity is roughly the same as in the previous model, the luggage compartment can be more efficiently used thanks to the improvements.

With the rear seat folded down and luggage loaded to the roof, the luggage compartment, which is flat thanks to the adjustable load compartment floor, can accommodate up to 1540 litres behind the front seats. The folding backrest of the front passenger seat (optional extra, expected to be available from mid-2019) makes for an even longer loading length.

An EASY-PACK tailgate is optionally available. It can be conveniently opened or closed automatically at the press of a button, even by means of a foot movement in combination with optional HANDS-FREE ACCESS.

MBUX – Mercedes-Benz User Experience: unique experience

What goes for A also goes for B: the new B-Class is the second car model after the A-Class to feature the MBUX (Mercedes-Benz User Experience) multimedia system, which ushered in a new era with Mercedes me Connectivity. Its ability to learn thanks to Artificial Intelligence makes the system unique. MBUX is customisable and adapts to the user. It thus creates an emotional link between vehicle, driver and passengers.

Its other strengths include touch screen control as standard as well as, depending on equipment, a high-resolution Widescreen cockpit, navigation display with Augmented Reality technology plus intelligent voice control with natural speech recognition, which is activated by saying "Hey Mercedes". The touch screen is part of the integrated MBUX touch control concept – a trio consisting of touch screen, touchpad on the centre console (optional) and touch controls on the steering wheel.

MBUX is a revolution of the user experience in the car. Emotively appealing showcasing features underline the comprehensibility of the control structure and thrill through brilliant 3-D maximum-resolution graphics which are rendered, i.e. calculated and displayed, in real time. A head-up display is also available.

New and improved Mercedes me connect services were launched with the new MBUX infotainment generation. These include navigation functions based on Car-to-X communication and Vehicle Tracking, which makes it easier to find the parked vehicle, as well as a notification function in the event of the parked vehicle being bumped or towed away.

The Mercedes me collection of apps can be placed as an icon on the screen in a user-friendly way, and can be freely sorted on the homepage like all other main applications. In addition, online content, such as current petrol station prices, can optionally be displayed. Online updating is a simple way of allowing new content to be made available in MBUX.

The new B-Class is already set up for private car sharing: Mercedes me allows the new compact car to be shared with friends and family members. Operation is simple and secure using the Mercedes me Car Sharing app.

The new Mercedes me connect services On-Street Prediction, Real-Time Information and Off-Street Information can save Mercedes-Benz drivers valuable time and reduce their stress levels while at the same time cutting their fuel consumption and emissions when searching for a parking space. The real-time information is based, among other things, on Mercedes-Benz vehicles that have just left a parking space or driven past potential parking spaces.

Intelligent Drive: functions from the S-Class

The new B-Class comes with driving assistance systems with cooperative driver support, thus providing one of the highest levels of active safety in this segment with functions from the S-Class. For the first time, the B-Class is able to drive semi-autonomously in certain situations. To do so, it employs improved camera and radar systems to anticipate the traffic up to 500 metres ahead while using map and navigation data for assistance functions. For example, **Active Distance Assist DISTRONIC** as part of the Driving Assistance package is able to support the driver in many route-specific situations, predictively and conveniently adjusting the speed, e.g. when approaching bends, junctions or

roundabouts. Also on board are **Active Emergency Stop Assist** and intuitively understandable **Active Lane Change Assist**.

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The new B-Class comes as standard with extended **Active Brake Assist**, which can help mitigate the severity of rear-end collisions with slower-moving, stopping or stationary vehicles ahead – and now even with crossing pedestrians or cyclists – or prevent them altogether.

The new B-Class, too, was developed and tested at the new Vehicle Safety Technology Centre (TFS). The design of the vehicle structures with regard to geometry, material thickness, joining technique and material quality incorporates findings from real-world accidents. Many bodyshell components are made of high-strength and ultra-high-strength steel to obtain high strength with lowest possible weight, because the core of the safety design of the body is the highly stable passenger cell.

Driver and front passenger are provided with three-point seat belts with pyrotechnic belt tensioners and belt force limitation. In combination with the PRE-SAFE® system (optional extra), the front seats are additionally equipped with electrically reversible belt reel tensioners. Both of the outer rear seats are fitted with a seat belt with reel tensioner and belt force limiter. The new B-Class comes as standard with airbags for driver and front passenger, kneebag for driver and windowbags and sidebags (combined thorax/pelvis bag). Rear sidebags are optionally available.

Double powertrain début: new powerful two-litre diesel is Euro 6d compliant, new eight-speed dual-clutch transmission

Compared to its predecessor, the new B-Class is powered across the range by new, efficient engines, all of which comply with the Euro 6d-TEMP limits. Making its début is a transverse-mounted version of the OM 654q two-litre diesel with 110 kW and 140 kW, aluminium crankcase and stepped-bowl combustion process. Thanks to extended exhaust aftertreatment with an additional underfloor SCR catalyst, the B-Class with the OM 654q is the first compact model from Mercedes-Benz to be certified in accordance with the Euro 6d standard, which will become mandatory for new models only on 1.1.2020.

Also available are two four-cylinder petrol engines of the M 282 series with 1.33-litre displacement and 100 kW/120 kW. Innovations include cylinder

management (in combination with 7G-DCT transmission), delta shape of the cylinder head and particle filter.

The new B-Class is initially available exclusively with dual-clutch transmissions. New here is the eight-speed 8G-DCT, which is used in combination with the larger diesel engine. Other new engines will follow, as will models with 4MATIC all-wheel drive. A 43-litre tank is installed as standard, while a 51-litre tank is optionally available, depending on the engine.

The following four engine variants will be available at the launch of the B-Class:

- B 180 (**100 kW**/136 hp, 200 Nm) with 7G-DCT dual-clutch transmission (fuel consumption combined 5.6-5.4 l/100 km, CO₂ emissions combined 128-124 g/km)¹
- B 200 (**120 kW**/163 hp, 250 Nm) with 7G-DCT dual-clutch transmission (fuel consumption combined 5.6-5.4 l/100 km, CO₂ emissions combined 129-124 g/km)¹
- B 200 d (**110 kW**/150 hp, 320 Nm) with 8G-DCT dual-clutch transmission (fuel consumption combined 4.5-4.2 l/100 km, CO₂ emissions combined 119-112 g/km)²
- B 220 d (**140 kW**/190 hp, 400 Nm) with 8G-DCT dual-clutch transmission; (fuel consumption combined 4.5-4.4 l/100 km, CO₂ emissions combined 119-116 g/km)².

The new OM 654q diesel engine: lighter, more powerful, cleaner

The transverse-mounted version of the latest premium diesel engine family makes its *début* in the new B-Class. Despite its lower displacement – just under two litres – the around 16 percent lighter new diesel engine with **140 kW** (190 hp) puts out 10 kW more than the previous engine. On the inside, the OM 654q offers efficiency-enhancing technological highlights such

¹ Figures for fuel consumption and CO₂ emissions are provisional and were determined by the technical service for the certification process in accordance with the WLTP test method and correlated into NEDC figures. EC type approval and certificate of conformity with official figures are not yet available. Differences between the stated figures and the official figures are possible.

² The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.

as steel pistons with stepped bowls in an aluminium block. The cylinder liners are coated using the further-improved NANOSLIDE® process.

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With a cylinder spacing of just 90 mm instead of 94 mm, the new engine is more compact than its predecessor while allowing the exhaust aftertreatment components to be installed directly on the engine, where the exhaust temperature is higher, making for more efficient aftertreatment. Thanks to further improved exhaust aftertreatment, the powerful four-cylinder from the modern OM 654 engine family already meets the Stage 2 RDE (Real Driving Emissions) standard coming into force from 2020, and is certified to Euro 6d. Even in demanding driving situations and under challenging environmental conditions, the B-Class remains within all the emissions limits.

This is achieved by additional selective catalytic reduction (SCR) with an ammonia slip catalyst (ASC) in the exhaust system of the B-Class. This allows a more generous dose of the reduction agent AdBlue®, as any surpluses can be reduced and converted in the second SCR. These surpluses (ammonia slip) particularly occur during fast temperature changes in the exhaust tract, e.g. when moving from city traffic to the motorway.

Suspension: agile and comfortable

At least as agile as its predecessor while even more comfortable – that was the development brief handed to the suspension specialists for the new B-Class. Depending on the version, several options are available for the basic configuration, including a lowered comfort suspension and a suspension with active adaptive damping, which lets the driver control the damper tuning while driving using DYNAMIC SELECT. The system uses an electronic valve, the control of which additionally analyses the driving state and optimises the damping rate individually for each wheel.

In all versions of the new B-Class, the front wheels feature McPherson struts and forged-aluminium wishbones, to which are attached cast-aluminium steering knuckles. This makes the unsprung mass as low as possible in the interests of road-holding and comfort.

At the rear, the models with the entry-level engine variants come with a twist-beam rear axle in the basic configuration. In combination with the more powerful engine variants or if the customer opts for one of the optional suspension systems, use is made of a sophisticated four-link rear axle, which is made extensively of aluminium to reduce the unsprung mass. The three wishbones and one trailing arm on each of the rear wheels are mounted on a subframe, which is isolated from the bodyshell by rubber bushings to reduce the transfer of vibration and noise from suspension to body. Single-tube shock absorbers and separate coil springs are used for both the four-link and the twist-beam rear axle.

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Exterior design

More Sports for the Tourer

The assignment for the designer was clear: the new B-Class needed to be sportier and, in terms of its look, stand out from the ranks of minivans – without sacrificing any of its space or user value. The B-Class is more dynamic than ever, while at the same time offering a particularly generous and airy sense of space.

The proportions (long wheelbase paired with short overhangs), the relatively squat, progressive front end with flowing transition from bonnet to A-pillar and on to the windscreen all contribute to the sporty look. At 16 and 19 inches, the wheels are a size bigger than on the previous model. Paired with the muscular shoulder of the body, they also underline the sporty overall look.

The same is true of the low-profile headlamps. The high-grade, detailed and precisely designed interior of the headlamps are typical of Mercedes-Benz. Even the entry-level model with H7 headlamps and LED daytime running lamps as well as LED indicators is designed with great attention to detail and quality. While the daytime running lamps in the A-Class take the form of a single strip, the B-Class, when equipped with full LED headlamps, uses twin strips as its distinguishing feature. On request, MULTIBEAM headlamps are also available. Thanks to the horizontal accentuation of the interior elements, these headlamps have a particularly sporty appearance. There are two grille slats and the central star in the radiator grille with shell diamond-patterned grille.

The two-part rear lamps as well as the reflectors, which are now placed downwards in the bumper, accentuate the rear's wide look. The bumper has a black lowered section in diffuser look and a chrome trim strip. Full LED rear lamps are available as optional equipment. The large roof spoiler in the same colour as the vehicle and the high-gloss black lateral spoiler on the rear window are both aerodynamically beneficial and sporty. To enlarge the wiped area, the inside of the roof spoiler housing has a recess to allow a longer wiper blade.

The generous sense of space was a further development goal. The driver sits 90 millimetres higher than in an A-Class and can thus benefit from particularly

good all-round vision. Overall, the impression of space is very airy. The greenhouse with comparatively large window areas, the cross-section of the pillars optimised for all-round visibility and the panorama roof available as an option contribute to this feeling of airiness. The front part of the roof can be opened, while the rear part consists of fixed glass.

Here are the design details of the individual equipment lines:

- **Production model:** Radiator grille with double louvres and central star, outside mirror flap painted in the vehicle colour, 16-inch wheels, 17-inch wheels for models with an output of 120 kW or higher
- **Style:** Double louvres painted silver, chrome inserts, chrome elements in the front and rear apron as well as chrome-coloured shoulder-line trim strips, 16-inch light-alloy wheels (from 120 kW: 17-inch), side skirts painted in vehicle colour
- **Progressive:** Window line trim strip in chrome, integrated tailpipe trim, 17-inch light alloy wheels additionally available
- **AMG Line:** Diamond grille and single louvre, AMG front and rear aprons (with visible tailpipe trim) as well as AMG side sill panels, 18-inch AMG light alloy wheels
- **Night Package** (available in combination with the Progressive Line and the AMG Line): black double louvres of the radiator grille, black accents on the exterior mirror flap and trim elements in the bumpers, tinted rear side windows, 18-inch bichromatic light alloy wheels

Revolution, the second

The Mercedes-Benz designers were highly praised for the revolutionary interior design of the A-Class. Even though the interior of the B-Class is equally as avant-garde, the designers took a different approach here: while the instrument panel of the sister model is split into two horizontal bodies, the B-Class has a single basic volume which drops towards the occupants and has cut-outs in the driver and front passenger area. An air scoop in the cockpit was dispensed with. The ambient lighting with 64 colours and ten colour worlds is a unique feature in this vehicle segment.

The instrument panel consists of a single basic volume, which has optical cut-outs in the driver and front passenger area. The cut-out on the driver's side characterises the completely free-standing display unit, which is available in three variants: with two 7-inch displays (17.78 cm), with one 7- and one 10.25-inch display (26 cm) and, in the Widescreen version, with two 10.25-inch displays (for information on the User Interface and its operation see the chapter on MBUX – Mercedes-Benz User Experience). On the passenger side, the cut-out area is finished with a trim element.

The five round air vents feature a high-grade turbine look with finely styled air ducts, inspired by the world of aviation. In the Style equipment line, the vent surround is colour-accentuated in the depth of the vent geometry to give the impression of an afterburner. The three central air vents are symmetrically positioned. The centre console with touch-based control and input system is available with a black panel look similar to the E-Class.

The door centre panel transitions seamlessly into the armrest, underlining the sensual, flowing design principle. The grab and assist handle has a tubular profile and runs horizontally like a railing. It comes in Silver Shadow design for the Progressive equipment line and higher. The new B-Class has a 3-spoke multifunctional sports steering wheel with touch controls to control the displays.

Three different seat variants offer excellent ergonomics and a high degree of comfort even on longer journeys. Alongside the standard seat with straight stitching, a comfort seat with double topstitching is available in conjunction with the Style and Progressive equipment lines. The AMG line comes with sports seats in the front with adjustable head restraints as standard. This seat variant is also available for the Progressive line on request.

The expanded ambient lighting stages the interior like a work of art with 64 colours and ten colour schemes.

Colour & trim: Lots of choice and high-quality materials

The colours and materials in the B-Class reinterpret the modern luxury of Mercedes-Benz. An attractive and diverse offer of exterior paints and interior colours allows you to customise your vehicle.

The Style equipment line offers cool and modern interior colours, including indigo blue inspired by blue jeans. Graphic trims and cool silver, grey and white nuances in the exterior paint round off the look perfectly.

The Progressive line typifies Mercedes-Benz exclusivity. The black and macchiate beige appointments are also available in leather and are tastefully combined with high-quality, open-pore woods in black or brown.

The sporty character of the AMG line has been enhanced for the B-Class with new appointments. Dinamica fabric in black with red topstitching calls motorsport to mind. The interior colour combination black/neva grey with carbon-look trim works with strong contrasts and comes across as both cool and modern. In addition, leather appointments in black/titanium grey pearl and classic black/red are on offer. Trim elements in brushed aluminium underscore the character of the AMG line.

Aerodynamics

Good air flow characteristics: The champion in the segment

With a c_d value starting at 0.24, the new B-Class trumps its predecessor (value starting at 25.0), and is the leader in its segment. Despite bigger internal dimensions, the aerodynamic engineers were simultaneously able to reduce the size of the frontal area (A) in comparison to the previous model – from 2.42 to 2.40 m². A considerable improvement was also achieved in the aeroacoustics, which are important for understanding and hearing one another in the interior.

Although the B-Class is conceptionally at a disadvantage as an estate car rear end, it nevertheless performs better than many saloons in the wind tunnel. This is the result of extensive and detailed work at the computer and in the wind tunnel, as well as cross-unit cooperation at an early stage of development. This means that the frontal area could be reduced in size despite larger interior measurements, because from the very beginning the aerodynamics engineers were in consultation with their dimensional design colleagues. One of the results of this was to lower the roof, for example.

The good air flow characteristics, which are a major contributory factor to the vehicle's low fuel consumption in everyday conditions, result from numerous aerodynamic optimisation measures. These include an extensive sealing concept (sealing the headlamp surroundings and the lateral joints of the tailgate, among other things), a new exterior mirror in the A-pillar triangle as well as the nearly complete panelling of the underbody, which comprises the engine bay, the main floorpan, parts of the rear axle, the diffuser and other components. At the rear the large roof spoiler and the small lateral spoilers as well as the spoiler lips in the rear lamps and on the bumper reduce resistance and lift. The front and rear wheel spoilers have been specifically optimised to achieve low airflow losses around the wheels. The wheels were also fine-tuned with regard to aerodynamics.

A two-part blind system behind the radiator grille is available on request, which minimises aerodynamic losses in the engine compartment. This AIRPANEL opens adjustable louvres depending on cooling output

requirements. There is an additional louvre system in the air inlet below the registration plate, which further improves system performance.

In comparison to the previous model, the wind noise has been reduced, thanks above all else the concept work carried out at an early stage and the extensive sealing concept. This translated into further important improvements in the design of the seals in the windscreen surrounds and the sealing of trim elements and detachable parts. Where the high-frequency wind noises are concerned, particular attention was paid to the shape of the A-pillars. The modified form and improved position of the exterior mirror not only reduce wind noise but also aerodynamic drag.

The B-Class thus not only appears even more mature and of higher quality, reduced noise also has practical benefits. They prevent fatigue and contribute to driver-fitness safety. At the same time, it is easier to hold a conversation in the vehicle: Using the so-called "Articulation Index", a measure for speech intelligibility, Mercedes-Benz engineers ascertained an improvement of up to 30 percent in terms of wind noise in comparison to the previous model.

At the same time, the noise, vibration and harshness characteristics have been improved. In this area, too, diverse measures were undertaken. Two examples: Instead of foam, a new combination of material is used for the interior trim of the wheel arches: A fleece spring mat combined with a heavy-duty layer reduces noise from the tyre tread, especially the hissing noises when wet.

And just like every modern car, the B-Class also has a flap for forced ventilation for pressure compensation, for example when the doors are closed. These flaps could be problematic acoustically because they transfer the sound. The developers therefore arranged the forced ventilation in the form of a labyrinth: A total of four changes in direction mean that the sound loses its energy while making its way into the interior.

User value

Plenty of space in the interior

Traditionally, the B-Class is the perfect (family) car for everyone who attaches importance to space, comfort and safety but still likes a compact vehicle. And even though the new generation has a sporty look, the interior dimensions were increased in comparison to the previous model. The sense of space and all-round visibility were also optimised.

For design and aerodynamic reasons, the new B-Class is not any higher than its predecessor. Yet it offers passengers more head room in the front and the rear. The inclination of the torso was improved for this: You now sit in a more level position and therefore more comfortably in the vehicle. In addition, the developers have enhanced the characteristics map of the seat adjustment.

With regard to elbow width at the front, the engineers from the dimensional design department produced yet another masterpiece: With 1,456 mm elbow width, they achieved the dimensions typical of the mid-range series, and improved elbow width by 33 mm in comparison to the previous model even though the B-Class is only 10 mm wider on the exterior. This was also achieved thanks to a new arrangement of the door interior (Package) and the design of the door trims.

The most important dimensions with regard to comfort:

Key interior dimensions in mm	B-Class (new)	B-Class (old)	Difference
Elbow room, front	1,456	1,423	+33
Elbow room, 2nd seat row	1,446	1,446	0
Shoulder room, 1st seat row	1,419	1,411	+8
Shoulder room, 2nd seat row	1,392	1,382	+10
Maximum headroom, front	1,052	1,047	+5
Maximum headroom, rear	993	985	+8

The interior has been fine-tuned in many places: The so-called entry aperture to the centre tunnel in the rear was improved, making the middle seat easier to access.

The rear seats can optionally be moved by 14 cm and the rear backrest can be put in a steeper position to facilitate loading bulky boxes, for example. There is still plenty of room for one or two people in the rear since these backrest variants come with a 40:60 split. In this way, the capacity of the luggage compartment behind the rear seats can be varied between 455 and 705 litres. Expected availability of this optional extra from mid-2019. When the position of the backrest is changed and loading takes place to roof-level, up to 1,540 litres fit in the load compartment.

The rear seat backrest comes as standard with a 40:20:40 split and can be individually folded. This means for example that four people could go on a skiing holiday and through-load their skis in the middle. The height-adjustable load floor which comes as standard offers maximum variability. When the rear seat backrests are folded down and the load floor is in the upper position, an almost flat loading area extending to the front seats can be created. The folding backrest of the front passenger seat (optional extra, expected to be available from mid-2019) makes for an even longer loading length. For bulky objects, the load floor can be put in the lower position, the cross-member behind the rear seats can be removed and the rear seats with optional fore/aft adjustment can be moved forward.

A lot of detailed work was also put into the luggage compartment: The 12-Volt socket is now located to the left in the load compartment, where it is easier to access. In addition, its position has been lowered so that it no longer impedes loading. Instead of a roller blind like in the previous model, the new B-Class now has a tray. This benefits noise, vibration and harshness characteristics as well as weight.

An EASY-PACK tailgate is optionally available. It can be conveniently opened or closed automatically at the press of a button, even by means of a foot movement in combination with optional HANDS-FREE ACCESS.

Better feeling of space, improved all-round visibility

The beltline is 5 mm lower than in the predecessor model, something that benefits the feeling of spacious. The upper edge of the rear backrest was lowered for the same reason. All-round visibility was also improved. All in all, the area obscured by the pillars has been reduced by 4 percent compared to the preceding model. The risk of overlooking vehicles or pedestrians when turning

off, changing lane or parking has been reduced. The B-pillar is now 40 mm further back and therefore no longer in the driver's field of vision.

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A good view to the rear is also ensured by the new rear window wiper. To significantly enlarge the wiped area, the inside of the roof spoiler housing has a recess to allow a longer wiper blade.

Wellness while driving

The B-Class is the first compact model to have the ENERGIZING comfort control, which networks different comfort systems in the vehicle. The intelligent solutions from the ENERGIZING COACH in the ENERGIZING Package Plus are completely new. In general, the ENERGIZING comfort control systematically uses the functions of the air conditioning system and the seats (heater, ventilation, massage) as well as lighting and musical moods, and enables a specific wellness set-up tailored to the mood and need of the customer.

There are two ENERGIZING packages to choose from: The ENERGIZING package includes the Freshness and Vitality as well as the Training programmes (three training sessions – muscle relation, muscle activation and balance – each with several exercises). The training can also be carried out while on the move. In addition, in the ENERGIZING Package plus, the Heat, Pleasure and Comfort programmes are also available.

Each programme is designed for ten-minute period. They are visualised on the media display with colour graphics, and backed by suitable music, among other things. The main function of the "Joy" programme is massage, for example. There is also music which further underscores the mood of the programme on account of its rhythm. If personal music selections are available, e.g. via the Media Interface, the system analyses them in the background and assigns them to a programme based on the beats per minute. Individual functions of the programmes can be deactivated.

ENERGIZING comfort control also incorporates the ambience lighting, which is harmoniously tailored to each of the individual screen designs. The light stages the interior like a work of art by composing colour worlds from different colours, thereby creating a new, holistic comfort experience.

The ENERGIZING COACH is a new feature. Based on algorithms, this service makes customised programme recommendations. To this end the system first analyses current journey and vehicle data – this assessment includes aspects such as traffic conditions, weather or journey time. It then suggests the most

suitable ENERGIZING comfort programme – Vitality or Joy. The ENERGIZING COACH represents the first step toward customised, customer-oriented comfort from Mercedes-Benz.

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Active sitting whilst driving

Good for the back: The new ENERGIZING seat kinetics supports orthopaedic changes in the seating posture by means of minute changes to the inclination of the seat cushions and backrest. The innovation is available for the front seats in combination with all-electric seat adjustment with memory function.

"The best seat position is the next one" - this is what many doctors say about sitting in the car, because sitting in almost the same position for several hundred kilometres and many hours is not good for the back or discs. Mercedes-Benz is now introducing an innovation in the new B-Class that supports switching seating positions in the form of ENERGIZING seat kinetics.

ENERGIZING seat kinetics uses the electric seat adjustment. If the driver selects this programme, the inclination of the seat cushions and backrests are continuously minutely adjusted using the seat settings selected by the driver and the front passenger as the starting point (the so-called "Home" position). The changes are only minimal - a few degrees or millimetres. The "closed" position is initially started (whereby the seat cushion is inclined backwards and the backrest forwards), followed by the corresponding "open" position with the opposite inclination. If multicontour seats are installed, the ENERGIZING seat kinetics also include the lumbar support function.

Slightly changing position during the trip improves back health because the natural strain and relief of muscles, joints and discs can lead to muscle relaxation and improved supply of nutrients to the joints and discs.

ENERGIZING seat kinetics is based on a patented algorithm and offers three programmes for short, medium-length and long journeys. These are different depending on the number of adjustment cycles. Convenient selection of the programmes is visually supported via the MBUX (Mercedes-Benz User Experience) media display.

The system is based on an invention by Comfort Motion Global (CMG) and was significantly refined by Mercedes-Benz for series use in the automobile. The

brand's seating experts optimised the angle of adjustment and the number of cycles, among other things, and they also established that the system should be stopped when braking and fast cornering. If PRE-SAFE® measures are initiated in an emergency situation, the ENERGIZING seat kinetics are completely deactivated. Mercedes-Benz tested the system with the aid of extensive test subjects on the roads, thereby confirming the system's benefits and acceptance.

Unrivalled experience for the user

What goes for A also goes for B: The much praised MBUX multimedia system - Mercedes-Benz User Experience - is also revolutionising the user experience in the B-Class. A unique feature of this system is its ability to learn thanks to artificial intelligence. MBUX is customisable and adapts to the user.

Its further strengths include the touchscreen operation of the media display, the high-resolution Widescreen cockpit (optional), the navigation display with augmented reality technology (optional) plus intelligent voice control with natural speech recognition, which is activated with the code word "Hey Mercedes" (or "Hello Mercedes").

Its highlight is the comprehensive touch operation concept – the combination of a touchscreen, touchpad on the centre console and touch controls in the steering wheel. In addition to the intuitive operating experience, less driver distraction is another advantage.

Intuitive operating concept: increased comfort and safety:

MBUX is a revolution of the user experience in the car. Emotively appealing showcasing features underline the comprehensibility of the control structure and thrill through brilliant 3-D maximum-resolution graphics which are rendered, i.e. calculated and displayed, in real time.

Operation is horizontal and makes optimum use of the ten-inch media display's widescreen format. As on a stage, a space is created which sets standards visually.

The operating system of the free-standing Widescreen cockpit comprises three levels with increasing information density for the media display: On the first level, for example, is what is known as the **Homescreen**. This is where, alongside the freely selectable main applications (e.g. telephone, navigation and radio), the most important information (such as arrival time, song currently being played etc.) is displayed.

The next level – the **Basescreen** – with the display and controls for the currently selected main application (such as Media and Navigation), is only one step away. The most important information and control options for the given applications are attractively presented at this level. Important functions such as destination or music search are grouped at the bottom edge of the screen. For seldom-used information and settings there is the **Submenu** on the final level.

In **Fullscreen Mode** almost the entire area of the instrument cluster is used for displaying Assistance, Journey or Navigation:

Augmented reality: navigation with information on the video image

The hard-disc navigation available for MBUX on the basis of HERE map data predicts destinations in advance, suggests interesting destinations (POIs - Points of Interest) or navigates to the next filling station; the onboard navigation also works without an online connection.

Map display supplemented by augmented reality is a completely new feature. A video image of the surroundings taken with the aid of the front camera is augmented with helpful navigation information, for example arrows or house numbers are automatically superimposed directly onto the realistic image of the surroundings on the media display. This makes it easier for the driver to search for a certain house number, or to find the correct side road for turning off.

Modular structure: MBUX functions

The MBUX functions are modular in structure, so that the precise needs of different customers and markets can be met. They are based on three pillars:

- Basic variant: As standard this has two 7-inch (17.78 cm) displays for the instrument cluster and media display with touchscreen, a multifunction sports steering wheel with touch controls on the left and right, a USB interface (Type C) in the stowage tray, USB interfaces (Type C) in the rear, Bluetooth® connection for telephony and audio sources.
- Extended MBUX functions: voice control, including personalisation, a predictive function and theme worlds, a WiFi hotspot. On request a large media display can also be ordered.

- Large media display (10.25-inch/26 cm). The extended MBUX functions can be ordered in addition.

At extra cost, customers opting for the extended version or the larger instrument cluster are able to order e.g. a touchpad (also available separately), HD navigation (including three years of Live Traffic, Car-to-X communication and map updates), a head-up display and a Burmester® surround sound system.

Other navigation-specific optional equipment such as augmented reality for navigation, Traffic Sign Assist and navigation services can be ordered on top. The larger instrument cluster display (10.25-inch) is available as an option with the large media display.

The Smartphone Integration optional extra links the mobile phone with the vehicle's media system Apple® CarPlay® and Android Auto®. The driver of the B-Class thus has access to important applications on his smartphone. Apps from third-party service providers such as Spotify are also quick and easy to use.

"Hey Mercedes" – MBUX capable of learning

One of the strengths of MBUX is its intelligent voice control with natural language comprehension, which is activated by the keyword "Hey Mercedes" (or "Hello Mercedes"). The new LINGUATRONIC (included in MBUX with extended functions and with large media display) supports many infotainment functions (e.g. destination input, phone calls, music selection, writing and hearing messages, weather forecast), as well as numerous convenience functions such as climate control/lighting.

Conventional voice control systems in cars call for certain fixed commands from their users. Thanks to natural speech recognition, MBUX's LINGUATRONIC, on the other hand, obeys virtually every command, recognises and understands nearly all sentences from the fields of infotainment and vehicle operation. For example, "Will the sun be shining tomorrow in Mallorca?" is now understood equally as well as "Will the weather be fine in Mallorca tomorrow?".

The intelligent language assistance is activated either via a button on the steering wheel or with the command "Hey Mercedes". It's not the human who has to adapt to the machine, but the other way around. Indirect speech is also recognised, for instance if the user says "I feel cold" instead of giving the clear command "Temperature to 24 degrees" in order to operate the climate control. The temperature is then increased by one degree, or lowered by one degree on hearing "I am hot".

The voice control is also capable of learning. On the one hand it tunes into the user and their voice and also understands non-native speakers better; on the other hand the software models on the server learn new buzzwords or changing use of language with time. The system also no longer answers stereotypically, but varies in the dialogue output too. In short: It is not the driver who must learn the voice commands stored in the vehicle, but rather the vehicle that learns the voice commands of the driver.

The fundamental way the language assistant operates: the voice input is largely freed from background noises, compressed and transmitted. The voice control is a hybrid system. This means that it uses both onboard software and the cloud to understand speech as well as possible and respond to the user's requests.

Both the computer in the vehicle and the server evaluate the data and send a reply. The system decides which reply is the most likely, then within a few seconds the reply/reaction follows. This means that in contrast to many other assistants, the language assistant also answers even when there is no internet connection.

Always obliging and easy to operate

A whole new series of new Mercedes me connect services have been launched with the MBUX multimedia system. They are integrated into the MBUX display in the vehicle via the Mercedes me tiles: this means that the customer can link their car with their Mercedes me account via a QR code and can check the status of their Mercedes me connect services, all while sitting in their Mercedes.

The Mercedes me collection of apps can be placed as an icon on the screen in a user-friendly way, and can be freely sorted on the homepage like all other main applications. In addition, online content such as current filling station prices or the availability of parking spaces in the multi-storey car park are displayed in MBUX. Online updating is a simple way of allowing new content to be made available in MBUX.

Among the Mercedes me connect services are the **navigation functions** based on Car-to-X Communication (information from vehicle to vehicle on events recorded by sensors, e.g. emergency braking, ESP[®] intervention, or a manual system message from the driver, e.g. about an accident) and **vehicle tracking**, which makes it easier to find the parked car, as well as a message if the parked car has been bumped into or towed away.

The **TIDAL streaming service** is available in the B-Class. Customers can stream more than 50 million songs, over 185,000 music videos and hundreds of carefully chosen playlists in their vehicles, on their smartphones or on their music systems at home, free of charge for 12 months.

Office function in the car/In-Car Office allows access to important data and use of certain office functions directly in the vehicle, including easy participation in telephone conferences (without having to search for dial-up information). Appointments can be displayed and read aloud.

The new B-Class is already set up for private **car sharing**: Mercedes me allows the new compact car to be shared with friends and family members. Operation is simple and secure using the Mercedes me Car Sharing app from Mercedes-Benz.

The authorised user opens the vehicle using the App and by means of the Mercedes me communication module installed in the vehicle. The B-Class is started with a key which is left in the vehicle, temporary use of which is also enabled "over the air" by Mercedes me. When returning the vehicle, the driver leaves the key in the vehicle and locks it using the App, thereby bringing the sharing period to an end. The key in the vehicle can be used only during the sharing period.

Mercedes me connect also supports the driver when **parking** in that the services inform them in real time about the parking space situation in their vicinity - both on-street and off-street (in multi-storey car parks). The current situation is shown on the media display of the B-Class and in the Mercedes me app. Parking spaces that have just been vacated are shown for one minute with a "P" symbol on the map of the surrounding area. The predicted probabilities of finding a parking space are represented by differently coloured lines on the streets.

Here are the services and their features at a glance:

- **On-Street Information:**
 - **On-Street Prediction:** Provides information on the probability of finding a free parking space in a given area. A light blue marking on the screen indicates an average probability, while a dark blue marking shows a high probability. On-Street Prediction uses historical data for its analysis.
 - **Real-Time Information:** Provides real-time information on free parking spaces and parking spaces that are currently being vacated. When a Mercedes-Benz vehicle is in the process of leaving a parking space, this information is sent to the Mercedes-Benz back-end in anonymised form. Added to this is the information supplied by Parking Assist in other Mercedes-Benz vehicles. When their parking sensors detect free parking spaces at the roadside (at a speed below 50 km/h),

this information, too, is supplied in anonymised form to the Mercedes-Benz back-end, where all the data is aggregated and displayed to the B-Class driver and the Mercedes me app user for a short period of time.

- **Off-Street Information:** Shows the number of available parking spaces in a multi-storey car park and provides additional information, such as opening times, prices and height limits. For this purpose, Off-Street Information uses current data from the operators of multi-storey car parks.

The new **Mercedes-Benz Parking Card** simplifies access and payment in selected multi-storey car parks in Germany. The card can be ordered via the Mercedes me Portal, and is equipped with an RFID (radio frequency identification) chip using electro-magnetic waves. If the Parking Card is kept in the vehicle, it is recognised by the antenna in the barrier system when entering the car park, and the barrier is raised automatically. There is no more tedious manoeuvring to the operating button of the barrier to remove the parking card. A push message already informs the customer about the parking fees when entering the car park.

Payment is just as convenient: the entry and departure times are digitally registered. The customer sees the invoiced amount in the Mercedes me Portal, and pays the parking fees directly to the car park operator.

The head-up display

Keeping your eyes on the road

The optional head-up display is a new feature in the B-Class. Important information is projected into the windscreen, reducing distraction from the traffic situation. There is also less eye fatigue for the driver, as the eyes do not constantly have to refocus between close-up and long-distance vision. Also new in this vehicle class is configuration via the head-up display itself.

A system of lenses and mirrors projects a full-colour image measuring around 24 x 8 centimetres into the windscreen. It appears to float in front of the bonnet at a distance of around 2.5 metres. The resolution of more than 60 pixels per degree of viewing angle ensures a needle-sharp image. The driver can adjust the height of the virtual image so that it can be easily viewed. In vehicles with seat memory function this feature stores the individual settings.

The head-up display is activated using the left touch-control button in the steering wheel. It is configured via a settings menu in the display itself, a first in this vehicle class. The driver is able to configure the display according to personal preferences and priorities. Depending on the equipment level and personal settings, it shows e.g. navigation instructions, vehicle speed, speed limits or the settings for cruise control or Active Distance Control DISTRONIC.

The driver-specific settings are saved in the MBUX profile and can automatically and conveniently be called up when starting the vehicle as required.

A light sensor located near the top edge of the roof automatically adjusts the brightness of the head-up display to the exterior lighting conditions. Brightness levels of 12,000 cd/sq. m. plus can be achieved on sunny days. Since the contrast ratio is better than 1000:1, the system produces a high-quality display even during the day. To avoid double images caused by reflection at the outer and inner boundary surfaces of the windscreen, this includes a wedge-shaped composite membrane if the vehicle is equipped with the head-up display. It superimposes the secondary image, which is produced on the outer surface, onto the primary image. The head-up display was already taken into consideration during the design of the new dashboard, and the appropriate space was allowed for it.

Powertrain

Clean debut: New powerful two-litre diesel engine is the first engine to fulfil the Euro 6d emission standards

In comparison to the preceding model, the new B-Class has consistently new, more efficient engines. The transverse-mounted version of the two-litre OM 654q diesel model series with 110 kW and 140 kW is the first engine to fulfil the Euro 6d norm, which is only mandatory for new models as of 2020. In addition, two four-cylinder petrol engines from the M 282 model series with 1.33 litre capacity and 100 kW/120 kW will be available at launch. Innovations include cylinder management (in combination with 7G-DCT transmission), delta shape of the cylinder head and particle filter. All engines comply with the Euro 6d-TEMP limits at a minimum. The new B-Class is initially available exclusively with dual-clutch transmissions. New here is the eight-speed 8G-DCT, which is used in combination with the larger diesel engine. Other new engines will follow, as will models with 4MATIC all-wheel drive. The fuel tank has a capacity of 43 litres as standard, with a 51-litre tank optionally available for certain engine variants.

The following four engine variants will be available at the launch of the B-Class:

- B 180 (**100 kW**/136 hp, 200 Nm) with 7G-DCT dual-clutch transmission (fuel consumption combined 5.6-5.4 l/100 km, CO₂ emissions combined 128-124 g/km)³
- B 200 (**120 kW**/163 hp, 250 Nm) with 7G-DCT dual-clutch transmission (fuel consumption combined 5.6-5.4 l/100 km, CO₂ emissions combined 129-124 g/km)³

³ Figures for fuel consumption and CO₂ emissions are provisional and were determined by the technical service for the certification process in accordance with the WLTP test method and correlated into NEDC figures. EC type approval and certificate of conformity with official figures are not yet available. Differences between the stated figures and the official figures are possible.

- B 200 d (**110 kW**/150 hp, 320 Nm) with 8G-DCT dual-clutch transmission (fuel consumption combined 4.5-4.2 l/100 km, CO₂ emissions combined 119-112 g/km)⁴
- B 220 d (**140 kW**/190 hp, 400 Nm) with 8G-DCT dual-clutch transmission; fuel consumption combined 4.5-4.4 l/100 km, CO₂ emissions combined 119-116 g/km⁴.

The new OM 654q diesel engine: lighter, more powerful, cleaner

The transverse-mounted version of the latest premium diesel engine family makes its début in the new B-Class. On the interior, the OM 654q corresponds to its longitudinally mounted brother, tapping in to new levels of efficiency thanks to a series of innovations. At the same time, it is the first Mercedes-Benz to already conform to the Level 2 of the RDE (Real Driving Emissions) which do not come into effect until 202, and is certified according to Euro 6d.

Technical highlights include:

- the stepped bowl combustion system named after the shape of the combustion recess in the piston
- the combination of an aluminium engine block and steel pistons
- further-improved NANOSLIDE® coating of the cylinder walls
- optimised airflow on the intake and exhaust sides and
- the use of fourth-generation common-rail injection with pressures up to 2050 bar.

There are differences in the engine periphery. The intercooler is arranged as an air-air cooler fixed to the vehicle. Extensive measures with regard to noise, vibration and harshness characteristics contribute to a high level of acoustic comfort.

⁴ The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.

These include:

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- Oil pan encapsulation
- Crankcase dam on the hot side toward the passenger compartment.
- Injector well cover
- Design cover with NVH function and
- air intake and charge air resonator

The new engine is more compact than the preceding model. Components relevant for efficient emissions reduction are installed directly on the engine. Thanks to the near-engine configuration, exhaust aftertreatment has a low heat loss and excellent operating conditions. The measures taken include

- high and low-pressure exhaust gas recirculation including cooling
- a diesel oxidation catalytic converter (DOC) to avoid the emission of carbon monoxide (CO) and unburned hydrocarbon (HC)
- a particulate filter (sDPF) as well as
- an SCR catalytic converter (selective catalytic reduction) for reducing nitrogen oxides. Ammonia in the form of the carrier AdBlue® is added to the exhaust gases before entering the SCR catalytic converter.

Première in emission control: OM 654q fulfils Euro 6d

Thanks to further improved exhaust aftertreatment, the powerful four-cylinder from the modern OM 654 engine family already meets the Stage 2 RDE (Real Driving Emissions) standard coming into force from 2020, and is certified to Euro 6d. Even in demanding driving situations and under challenging environmental conditions, the B-Class remains within all the emissions limits.

This is achieved by additional selective catalytic reduction (SCR) with an ammonia slip catalyst (ASC) in the exhaust system of the B-Class. This allows a more generous dose of the reduction agent AdBlue®, as any surpluses can be reduced and converted in the second SCR. These surpluses (ammonia slip) particularly occur during fast temperature changes in the exhaust tract, e.g. when moving from city traffic to the motorway.

Despite having a lower displacement than its predecessor, reduced to just under two litres, and weighing around 16 percent less, the new diesel powerplant in the B 220 d has an output of **140 kW** (190 hp), precisely 10 kW

more than the previous engine, and delivers an NEDC combined consumption of 4.5 litres per 100 kilometres.

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Assembly of the OM 654q takes place in the plant Köllda/Thuringia. The main plant in Untertürkheim/Baden-Württemberg produces the main engine components.

The M 282 petrol engine: four-cylinder with cylinder shutoff

The new entry-level engine in the B 180 and B 200 is the M 282 with a displacement of 1.33 litres. Compared to the previous 1.6-litre engine, the output of this all-aluminium engine has increased by up to eleven percent and the output per litre by no less than 25 percent. This engine excels with very compact dimensions, low weight and high static and dynamic rigidity. The turbocharger features an electronically controlled wastegate: thanks to flexible charge pressure control, it is also possible to set an optimum charge pressure under partial-load conditions.

This is the first four-cylinder Mercedes-Benz engine to feature cylinder shutoff (initially in conjunction with the 7G-DCT transmission). In the partial load range between 1250 and 3800 rpm, and depending on the power requirement, the intake and exhaust valves of the second and third cylinder are closed by valve clearance adjustment. The remaining two cylinders therefore operate under higher loads, and more efficiently. To minimise friction, the cylinder walls are coated using the patented NANOSLIDE® process. The piston skirts have an EcoTough coating. This is a special kind of graphite coating for optimised friction loss and high wear resistance.

Another special technical feature is the delta cylinder head, so called because of its shape. It is slightly higher when installed, but much narrower and lighter than conventional cylinder heads. Further advantages include the semi-integrated intake and exhaust manifolds, which allow compact construction. Daimler holds a patent for the compact arrangement of the high-pressure injection pump with a maximum of 250 bar. The multi-hole injection nozzles are centrally located in the combustion chamber, and injection occurs without the valves being subjected to the jet of fuel.

This new, high-compression four-cylinder engine has a particulate filter as standard. Particular effort was also devoted to noise emissions. The intake air

duct features a Helmholtz resonator, the catalytic converter has insulating seals and the cover also has a noise-reducing role.

The new engine will initially be available with the 7G-DCT dual clutch transmission, and later also with a six-speed manual transmission and 4MATIC all-wheel drive.

The M 282 was developed by Mercedes-Benz in cooperation with Renault. It is produced at the Kölleda plant in Thuringia, and in future it will also be produced in Beijing/China. Renault supplies the components of the long block engine.

The key data of the engine family for the market launch of the B-Class:

		M 282 (B 200)*	OM 654q (B 220 d)**
Cylinders	Number/arrangement	4/in-line	4/in-line
Valves per cylinder	Number	4	4
Displacement	cc	1332	1951
Displacement of one cylinder	cc	333	488
Cylinder spacing	mm	85	90
Bore	mm	72.2	82
Stroke	mm	81.4	92.4
Bore/stroke		1.3	1.12
Rated output	kW/hp	120/163	140/190
at	rpm	5500	3800
Peak torque	Nm	250	400
at	rpm	1620-4000	1.600-2.400
Specific output	kW/l	90	73
Compression	ratio	10.6	15.5

* also available as B 180; ** also available as B 200 d

The 8G-DCT Transmission: More gears, higher torque

In the new B-Class, Mercedes-Benz is for the first time using the new 8G-DCT transmission in connection with the large diesel engine. It has been designed for torque of up to 520 Nm. The gear ratios are closer together on account of the additional gear range, which makes for enhanced ease of shifting and extends the possibility of operating the engine in the best possible operating point. At the same time, the 8th gear has a longer ratio, and at constant speeds on the motorway, for example, rpm is decreased which is good for efficiency and noise comfort.

The weight of the 8G-DCT was reduced by approximately 3.6 kg in comparison to the 7F-DCT. This was made possible by various lightweight design techniques, an internal circuit with synthetic cylinders and a lightweight housing. Despite the additional gear range, the transmission build is not any longer than the 7-speed variant.

The 8G-DCT has a new, fully-integrated direct control with potted electronics. This uses small magnets to aid faster actuation for shorter response times at reduced weight. The 8G-DCT has dry sump lubrication. A light-weight transmission oil with lower viscosity is used. The targeted oiling of the gearing, a reduced amount of oil and a mechanical oil pump with significantly reduced delivery volume ensure efficient oil supply and lubrication. The electrically driven oil pump provides support as required and in active start-stop function it supplies the shift elements of the transmission with hydraulic oil so that the vehicle is ready to drive directly after starting the engine.

B 180 and B 200 have the 7G-DCT dual clutch transmission already familiar from the A-Class. For a low dry weight of 67 kg, the actuators exhibit high mechanical and electrical efficiency. The gears are shifted electro-mechanically, the wet clutches are operated electrohydraulically. The software-controlled clutch allows different shift characteristics – from sporty to particularly comfortable. The driver is able to choose between ECO, Comfort, Sport and Individual. As further functions it allows extended coasting and ECO start/stop. This transmission was developed together with GETRAG, who also produces it.

Chassis

High degree of comfort on long journeys paired with driving pleasure

At least as agile as its predecessor while even more comfortable – that was the development brief handed to the suspension specialists for the new B-Class. The suspension with active damping control (optional equipment) enables the driver to choose the preferred damping characteristics.

The front axle of the new B-Class features a McPherson design. Wheel control is taken care of by one transverse control arm below the wheel centre, the McPherson strut and one tie rod. The transverse control arm in the new B-Class is a forged aluminium component. This reduces both weight and unsprung masses. The steering knuckles are made of cast aluminium.

The powerful versions of the new B-Class as well as all models with adjustable damping have a complex 4-link rear suspension. This is also installed in vehicles with mid-range engines and larger wheels. The three transverse arms and one trailing arm at each rear wheel are configured for maximum driving stability, comfort and longitudinal/lateral dynamics. The rear axle is mounted on a subframe isolated from the bodyshell by rubber bushings so that fewer vibrations are transferred from the suspension to the body.

The versions with the entry-level engine variants come with a twist-beam rear axle in the basic configuration. Its U-section rotates in a targeted manner in one-sided compression and rebound, and acts as a stabiliser bar. The torsion-beam rear axle is secured to the body with two bearings and uses the same attachment points to the body-in-white as the multi-link axle's trailing arm. Single-tube shock absorbers and separate coil springs are used for both the four-link and the twist-beam rear axle.

Three suspension variants: choice of setups

As standard the new B-Class is equipped with a **comfort suspension** with steel springs and DYNAMIC SELECT. The spring travel with 80/100 millimetre (jounce/rebound) on the front axle and 100/100 millimetre on the rear axle are

among the longest in this vehicle class and a sign of the excellent driving comfort. The B-Class has more attenuation reserve than the A-Class on account of the larger luggage compartment.

The **lowered comfort suspension** (15 millimetres) has specially configured springs and dampers for more sporty characteristics.

The **suspension with active damping control** has also been lowered by 15 mm and enables the driver to choose the preferred damping characteristics. A valve in each of the four shock absorbers is electronically actuated to control the oil flow. The damping characteristics are changed by regulation of the oil flow. The gear ratio spread between the Sport and Comfort programmes is larger than in the previous Mercedes-Benz compact car generation. The Comfort programme comes into its own especially when travelling at low speeds, for example on a cobblestone road.

Several sensors constantly monitor the suspension status, driving situation and driving style of the driver, and adjust the damping at each wheel. Information is also added by the engine, transmission, braking system, steering and driving assistance systems. The damping is specifically stiffened during acceleration, braking or steering manoeuvres to reduce pitching and body roll, and to improve wheel loads and the ground contact of the tyres. When applying the adaptive adjustable damping to the B-Class, its higher seating position in comparison to the A-Class as well as the vehicle's rolling behaviour were taken into consideration.

Steering: also supports automated driving

The gearing of the electro-mechanical rack-and-pinion steering is located behind the wheel centre, and servo assistance is speed-sensitive as standard. With 16.8:1, the gear ratio in keeping with the vehicle segment is somewhat more indirect than in the A-Class (where it is 14.6:1 or 15.4:1 depending on the suspension, all figures for centre position).

The B-Class features Steer Assist in conjunction with the driver assistance package. The driver's steering movements to stabilise the vehicle are assisted by additional steering torque generated by the electric servo unit.

In combination with Active Distance Assist DISTRONIC, transverse control takes place with Active Steer Assist to add active lane-keeping to the intelligent cruise control.

Brakes: ADAPTIVE BRAKE as standard

The new B-Class has a hydraulic dual-circuit braking system in X-configuration with the brake control function ADAPTIVE BRAKE as standard. The electric parking brake is standard equipment. The rear axle features a combined floating brake calliper with an electric parking brake function.

ADAPTIVE BRAKE puts technology from the top-of-the-line model Mercedes-Benz models into the B-Class. Thanks to electronic control, the hydraulic dual-circuit braking system allows assistance functions that improve safety and comfort. This includes priming of the braking system in critical situations: if the driver's foot moves abruptly from the accelerator to the brake pedal before an emergency stop, the braking system increases the pressure in the brake lines and brings the pads into contact with the brake discs so that maximum braking power is available as soon as the driver hits the brake pedal. This priming of the brakes allows the system to assist the standard Brake Assist.

ADAPTIVE BRAKE also brings safety benefits in wet conditions. The system briefly applies the brake pads at regular intervals to wipe the film of water from the brake discs, ensuring that the brakes are able to perform at their peak. This automatic brake drying function is always activated when the windscreen wiper of the B-Class has been switched on for a certain time, and the finely metered braking impulses go unnoticed by the driver but ensure optimal braking power even in wet driving conditions.

After braking to a standstill, briefly pressing the brake pedal a little further is all that is required to activate the HOLD function. The car is then held by the brakes, even if the driver's foot is taken off the brake pedal. In this way ADAPTIVE BRAKE prevents unintentional moving-off at traffic lights or in stop-and-go traffic, or rolling backwards on uphill gradients. The HOLD function is deactivated automatically when the car moves off.

Wheels: Larger dimensions for more attractive looks and more ride comfort

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The range of wheels and tyres begins at 16 inches. It comprises steel wheels in size 16 and 17 inches and light-alloy wheels in size 16 to 19 inches. In comparison to the preceding model series, the outside diameter of the tyres has been increased from 645 mm to 660 mm. Apart from a more attractive look, this also offers smoother ride comfort.

High safety standard with functions from the S-Class

The new B-Class features the latest driving assistance systems, offering the driver cooperative support and providing for an even higher standard of active safety than its predecessor. For the first time, the B-Class is able to drive semi-autonomously in certain situations.

The new B-Class has an eagle-eye on the traffic situation: improved camera and radar systems allow it to see up to 500 m ahead. The B-Class also uses map and navigation data for assistance functions. For example, Active Distance Assist DISTRONIC as part of the Driving Assistance Package is able to support the driver in numerous route-specific situations, and predictively and conveniently adjust the speed e.g. when approaching bends, junctions or roundabouts.

The driver is also able to see at a glance which assistance functions have been selected, and to which situations the systems are reacting at present. Clearly understood icons – e.g. a steering wheel with hands on both sides, signalling that both hands should be on the steering wheel – give information both on the screen and in the Head-up Display. All the driving assistance functions can be operated via the steering wheel.

Active safety as standard: extended Brake Assist

The new B-Class comes as standard with extended **Active Brake Assist**. Depending on the situation, it can effectively help to mitigate the consequences of rear-end collisions with slower-moving, stopping or stationary vehicles ahead, and even with crossing pedestrians and cyclists, or prevent them altogether. If the distance drops significantly below the safety threshold, the system issues a visual warning to the driver. If it detects a serious risk of collision, the driver receives an additional, audible warning. It also computes the brake pressure required to prevent a collision, if this is still possible. If, having been warned, the driver then steps on the brake pedal, the system is capable of boosting insufficient braking pressure in line with the needs of the situation. In so doing, it makes the best possible use of the remaining distance in order to leave the vehicles behind room to brake. If the driver fails to respond, Active Brake Assist can go one step further and brake autonomously

if the danger of collision persists, so as to mitigate the severity of the accident or in the best case even prevent it.

ATTENTION ASSIST with adjustable sensitivity, which can warn the driver in a timely manner of inattentiveness and drowsiness, is also included as standard.

Modular driving assistance system: support according to preference

The B-Class offers a modular range of driving assistance systems. In addition to the already extensive standard equipment specification, optional extras right up to the Driving Assistance package also make it possible to individually configure the vehicle with respect to driving assistance. Active Distance Control DISTRONIC is individually available for comfortable longitudinal control, and in conjunction with traffic sign recognition this allows manual adoption of recognised speed limits.

Already in its purely advisory version, at low speeds the Blind Spot Assist is capable of warning of vehicles, including bicycles, in the danger area. For the first time, when the vehicle is at a standstill it can signal to the driver with a visual warning in the exterior mirror before they climb out that a vehicle is driving past in the critical area. If the driver uses the door handle at this moment, an additional acoustic warning sounds. The vehicle driving past or the cyclist cycling past must be moving at more than 2 m/s. The function is also available when the vehicle is stationary and up to three minutes after the ignition has been switched off. Blind Spot Assist can be extended with Active Lane Keeping Assist which, already in the basic variant, is capable of warning against unintentional lane departure by vibrating the steering wheel and, if the driver crosses a solid line, of correctively intervening by means of one-sided braking action.

The functionality of Traffic Sign Assist has been expanded by a wrong-way warning function which now not only warns against wrong-way entry onto the motorway, but also of wrong-way entry into one-way streets. In addition, the detection of stop signs has been coupled with the ECO start/stop function, and is suitably taken into consideration by the latter – the engine remains on. In combination with the driver assistance package (see next paragraph), it is also possible to warn against people in zebra crossing areas.

The assistance and safety systems are grouped together in the Driving Assistance package (optional equipment). The individual functions in detail:

Active Distance Assist DISTRONIC with Active Steering Assist:

Within a speed range from 0 - 210 km/h, and on all types of road – motorway, country road or in urban areas – the system is not only able to automatically maintain the desired distance from the vehicle ahead, but also to give the driver noticeable steering assistance, even on bends. At speeds up to 130 km/h the system is not necessarily dependent on clearly visible lane markings as it can also actively provide support if the lines on the road are unclear, as is often the case at road works, or even if there are no lines on the road at all. The system therefore makes driving much easier and offers support, especially in bumper-to-bumper driving or tailbacks.

The reduction in speed takes place in varying degrees, depending on the selected DYNAMIC SELECT driving mode (e.g. SPORT, COMFORT or ECO). Active Distance Assist DISTRONIC controls the distance from the vehicle ahead within a speed range from 0 to 210 km/h, and keeps the car on track. Coasting characteristics, e.g. on downhill slopes, can now also be taken into account.

Active Speed Limit Assist: In conjunction with MBUX, Active Speed Limit Assist - an engageable subfunction of Traffic Sign Assist - is also able to recognise sign gantries and road works signs by camera. Known limits, such as 50 km/h in built-up areas or 100 km/h on country roads, are also adopted from the navigation system. Active Distance Assist DISTRONIC adapts the vehicle's speed to the recognised speed limits automatically (in combination with navigation and traffic sign recognition). In this case, the speed can be anticipatorily adapted when entering towns based on map data. On roads without speed limits, such as stretches on German motorways, the recommended speed – in this case 130 km/h - is adopted as the set speed. This speed can be adjusted by the driver. The desired maximum speed is always adopted in the course of the journey when the speed limit is cancelled. It remains preset until the vehicle leaves the motorway or until the engine is switched off.

Following vehicles in a tailback: in stop-and-go traffic on motorways and similar roads, stops of up to 30 seconds are now possible within which the B-Class automatically moves off and follows the traffic ahead.

Active Lane Change Assist: When the driver wishes to change lanes on multi-lane roads (recognised by the navigation system) at speeds from 80 to 180 km/h, it is now sufficient to nudge the indicator stalk to activate support. Within the next ten seconds, the sensor system checks together with the driver whether the next lane is clear in front of, alongside and behind the vehicle, also taking into account the speed of any other vehicles. If there is no other vehicle within the relevant safety zone, the driver is supported in changing lane. The initiated lane change is indicated in the instrument cluster and in the head-up display. The system is available in certain countries, depending on certifiability.

Active Emergency Stop Assist: Active Emergency Stop Assist brakes the vehicle to a standstill in its lane if it detects that the driver is no longer actively driving the vehicle while it is on the move with Active Steering Assist switched on. If there is no steering wheel movement over a longer period when Active Steering Assist is active, the system gives the driver a visual and audible prompt to place their hands on the wheel. If the driver fails to respond after repeated visual and acoustic warnings by moving the steering wheel, accelerating, braking or operating the touch controls or other buttons on the steering wheel, the car is slowed down in the identified lane until it comes to a standstill. At speeds below approx. 60 km/h the traffic behind is warned by means of hazard warning lights. When the vehicle comes to a standstill, the parking brake is engaged automatically and the Mercedes-Benz emergency call system is activated. The vehicle is also unlocked, to allow first responders access to the interior. The functions are aborted as soon as the driver takes control of the vehicle again.

Active Brake Assist: Active Brake Assist with cross-traffic function is able to help the driver avoid impending collisions with vehicles ahead, stationary or crossing vehicles and with people if the driver fails to take any action to defuse the dangerous situation. This assistance takes the form of

- a distance warning from a warning lamp in the instrument cluster, if the distance from a vehicle in front is insufficient
- an additional acoustic warning if the danger of collision is identified
- braking assistance appropriate to the given situation as soon as the driver applies the brakes
- autonomous emergency braking to avoid a collision with moving, stationary or crossing vehicles ahead if the driver fails to respond

- autonomous emergency braking also for stationary or crossing pedestrians/cyclists.

Evasive Steering Assist: Within a speed range from 20 to 70 km/h, Evasive Steering Assist can help the driver to avoid a pedestrian detected by the assistance system using the radar sensors and stereo multi-purpose camera. If the driver initiates an evasive manoeuvre by turning the steering wheel, the system provides assistance by adding precisely calculated steering torque to support the movement of the steering wheel. This torque helps the driver to avoid the pedestrian in a controlled manner and then makes it easier to straighten the vehicle up again so that it can drive past safely. While the philosophy behind Evasive Steering Assist is to provide the driver with significant assistance, the initiative to take evasive action must come from the driver. This is because if evasive action were automatic, a previously inattentive driver might be so surprised by the spontaneous movement of the steering wheel that they might react incorrectly and, for example, attempt intuitively to steer in the opposite direction.

Active Lane Keeping Assist: This system is able to warn the driver by means of pulsed vibrations at the steering wheel when the vehicle is unintentionally drifting out of its lane at speeds between 60 and 200 km/h. If the vehicle passes over a continuous line, it can pull the vehicle back into lane by applying the brakes on one side. In the case of a dotted line, such intervention takes place only when there is a danger of collision with a vehicle in the adjacent lane (including danger from oncoming traffic).

Active Blind Spot Assist: In the speed range from approx. 12 to 200 km/h, this system is able to provide the driver with a visual alert plus an audible alarm when a turn indicator is actuated, to warn of a danger of side collisions with other vehicles, including bicycles, for example. At standstill this exit warning also works when leaving the vehicle, enabling e.g. collisions with cyclists to be avoided when opening a door. At speeds above 30 km/h, automatic braking on one side of the vehicle can help avoid a side-on collision at the last moment.

Traffic Sign Assist: Image recognition and information from the digital road map in the navigation system allow the permitted maximum speed and any restrictions on overtaking for the current route section and zebra crossings to be computed and shown in the instrument cluster. Additional restrictions such as speed limits in wet conditions (warning when the windscreen wipers are

switched on) or speed limits for trucks only are also taken into account or ignored as appropriate in the individual case concerned. The vehicle speed is compared with the speed limit. If set to do so by the driver, a visual/visual-audible warning is given if the speed limit is exceeded. No-entry signs are also recognised and the driver is prompted to check the vehicle's direction of travel. A warning additionally appears in the instrument cluster and on the head-up display if pedestrians are detected in the area of a zebra crossing. Traffic Sign Assist is also separately available outside the assistance package.

PRE-SAFE® PLUS: Protection against danger from the rear

PRE-SAFE® PLUS can intervene when following traffic presents a danger. To this end the radar sensors in the rear bumper monitor following traffic to detect an impending rear-end collision. If a hazardous situation is detected, the system warns drivers of the vehicles following behind of the risk by flashing the hazard warning lights at a faster frequency. It also pre-emptively initiates PRE-SAFE® occupant protection measures, especially the reversible belt tensioners. If the vehicle is at a standstill, PRE-SAFE® PLUS also applies the brakes firmly. This reduces the forward jolt from the impact, considerably lowering the loads acting on the occupants and the risk of whiplash injuries. Moreover, locking the brakes can prevent secondary collisions e.g. on junctions with crossing pedestrians or a vehicle ahead.

Easier parking and manoeuvring: further assistance systems on request

Active Parking Assist with PARKTRONIC assists the driver when searching for a parking space and when entering or leaving parallel or end-on parking spaces. In the case of end-on parking spaces it is active in both forward and reverse direction. It manoeuvres the vehicle into the selected parking space and back out again. With this, alongside accelerator and brake operation, the gear is also changed automatically when a dual-clutch transmission is fitted. In combination with Blind Spot Assist, the system can warn the driver of cross-traffic when reversing out of end-on parking spaces, and also initiate automatic braking if necessary. Parking Assist PARKTRONIC gives a visual and acoustic warning of recognised obstacles with the help of six ultrasonic sensors in each bumper. These can be in front of, to the side or behind the vehicle, and are recognised at speeds up to approx. 10 km/h.

The **Parking package with reversing camera** combines Active Parking Assist with a reversing camera in the boot lid. Its image is shown with superimposed guide lines in the media display. The **reversing camera** is also available separately.

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If the **Parking package with 360° camera** is specified, an all-round view is provided by the 360° camera with four networked close-range cameras in the radiator grille, boot lid handle and exterior mirror housings. The information is clearly presented in selectable views in the media display.

MULTIBEAM LED headlamps

Optimum visibility in all conditions

As standard the new B-Class is equipped with halogen headlamps with integrated LED daytime driving lamps. The optional LED High Performance headlamps and MULTIBEAM LED headlamps are another example of the technology transfer from the luxury to the compact class. With the MULTIBEAM LED headlamps, the control units calculate the ideal lighting configuration within milliseconds.

The MULTIBEAM LED headlamps allow quick and precise adjustment of the headlamps to the current road and traffic conditions. 18 individually actuated LEDs are housed in each headlamp. The daylight-like light colour of the LEDs is easy on the eyes and has a positive effect on concentration.

The functions of the MULTIBEAM LED headlamps are as follows:

- Variable dipped beam for country roads and motorways (motorway light with increased range)
- automatic activation of cornering lights when turning to the left and right. These are activated if the direction indicators are operated at under 40 km/h, and also on tight bends at under 70 km/h. Both cornering lights are switched on when reversing, so as to illuminate the swivel range
- active curve illumination with predictive control
- cornering light with roundabout function. This is activated approx. 70 metres before entering a roundabout, and approx. 40 metres before junctions
- city light for wide light distribution at low speeds within built-up areas

Adaptive Highbeam Assist Plus is part of the optional MULTIBEAM LED headlamps. It can remain switched on permanently since oncoming traffic or traffic travelling ahead of the vehicle is masked out via the partial deactivation of individual high beam modules. Adaptive Highbeam Assist Plus is active at speeds above 30 km/h when travelling on unlit roads.

Solid basis and comprehensive protective concept

The centrepiece of the body's safety concept is the highly rigid passenger compartment. Its great rigidity when subjected to accident-induced stress, e.g. in frontal, lateral or rear-end collisions and roll-overs, is above all due to the greater use of high-strength, ultra-high-strength and press-hardened sheet steel. Particularly effective protection is achieved by the interaction of the bodywork and modern restraint systems.

The strength of the entire side wall is increased by a floor assembly with high transverse rigidity. In the front footwells this is brought about by two inner and one outer reinforcing section between the inner shell of the front side members and the central tunnel. There is a continuous seat cross-member in the rear. These are augmented by seats with high transverse rigidity featuring tubular sections in the seat frame.

The upper area of the B-pillar is extremely rigid, with hot-formed ultra high-strength steel, while the lower area is slightly less rigid with deformable, ductile steel. This gives the B-pillars very good deformation kinematics. The steel doors have specific reinforcements. Additional protection is provided by impact elements in the side seat and B-pillar claddings.

The so-called Inertia door handles are the result of in-house accident research. These even more reliably prevent a door from opening during a side impact, as the door is locked in place at the handle when subjected to impact-induced forces.

Special measures for the structural safety of the vehicle's front section include the following:

- the robust firewall cross-member of hot-formed, press-hardened steel between the two A-pillars
- several parallel load paths for improved load distribution in a partial frontal collision (offset crash)
- side members at the upper impact level connected to the A-pillars

- effective load distribution from the front side members by means of specially reinforced A-pillars
- a middle impact level with side members having specific crash kinematics
- multi-layered floor structures for high energy absorption
- an additional pedal floor cross-member to protect the footwell
- continuous floor side members to improve energy transfer into the underbody structure, with a larger cross-section and material thickness than in the previous model
- compatibility with other vehicles in the design of the front structure in the event of a frontal collision (protection of other road users).

The more compact drive units also play an important role. During a frontal collision, and acting together with the body structure, they allow more homogeneous deceleration and help to ensure the occupant protection for which Mercedes-Benz is well-known. Depending on impact severity, the engine and transmission are specifically displaced and disengaged from the new integral carrier.

Vehicles with a tailgate require a particularly well-conceived rear body structure to compensate for the large aperture of the body in the rear. For many years, e.g. in the E-Class Estate models, the structural concept of two peripheral sections has proved successful for Mercedes-Benz: the so-called C-ring at the level of the C-pillar and the D-ring around the tailgate aperture. Thanks to the geometry of the D-ring, it was possible to position the lower section of the C-ring completely below the rear floor while retaining the excellent rigidity of the previous model. This enlarged the load capacity and made a level load area possible.

The reduction of the severity of an accident is especially important in collisions with weaker road users such as pedestrians, since they do not have their own crumple zone. In addition to the active safety measures which help avoid accidents or mitigate the severity of accidents, protection measures were therefore also further developed. For example, in order to reduce the loads which arise in the event of a pedestrian's head impacting the bonnet of the vehicle, the design includes deformation space between the bonnet and the components beneath. This is two-fold: through the appropriate alignment and design of components such as control units and fluid containers in the engine compartment, and through the correspondingly flexible components that lie beneath it. The structure of the bumpers also acts flexibly in a collision.

The most important restraint system is the seat belt. Driver and front passenger are provided with three-point seat belts with pyrotechnic belt tensioners and belt force limitation. In combination with the PRE-SAFE® system (optional extra), the front seats are additionally equipped with electrically reversible belt reel tensioners. Both of the outer rear seats are fitted with a seat belt with reel tensioner and belt force limiter. The maximum belt tension level also takes into consideration smaller and lighter passengers. The centre belt is a standard three-point belt.

The new B-Class is equipped with driver and front passenger airbags, a driver's kneebag and windowbags as standard. The windowbags cover the first and second row of seats. In comparison to many of the competitors, these windowbags extend further forward to the A-pillar, thus offering particularly high protection potential. Thorax-pelvis side airbags are likewise standard in the front, and available as optional equipment for the rear.

Child safety: automatic deactivation of the front passenger airbag

A pressure sensor in the front passenger seat surface can detect whether the seat is unoccupied or whether an infant seat or other child seat is placed on the passenger seat. For a child seat facing backwards, the front passenger airbag is deactivated automatically, while for a child seat facing forwards it depends on the weight. Contrary to other systems that require the airbag to be deactivated with a key, this system reduces the risk of incorrect operation. A special transponder is not required. The system is standard or optional equipment depending on the market or region.

i-Size child seat attachments are used for i-Size child seats. This internationally standardised attachment system, the successor to Isofix, is provided for the outer rear seats as standard. This simplifies securing the child seat, and the fixed connection between the child seat and the vehicle can improve protection.

Mercedes-Benz B 180 7G-DCT

Engine

Number of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	1332
Bore x stroke	mm	72.2 x 81.4
Rated output	kW/hp	100/136 at 5,500 rpm +/- 1.5%
Rated torque	Nm	200 at 1,460 rpm
Compression ratio		10.6: 1
Mixture formation		High-pressure injection

Power transmission

Drive system		To the front wheels
Transmission		7-speed dual clutch transmission
Gear ratios	1st gear	18.63
	2nd gear	11.05
	3rd gear	6.80
	4 gear	4.62
	5th gear	3.57
	6th gear	2.85
	7th gear	2.29
	Reverse	17.17

Suspension

Front axle		McPherson suspension with spring strut and wishbone, coil springs, twin-tube gas-filled shock absorbers, stabiliser
Rear axle		Torsion-beam axle, coil springs, gas-pressure shock absorbers, stabiliser bar
Braking system		Vented front disc brakes, solid rear disc brakes, electric parking brake, ABS, Brake Assist, ESP®
Steering		Electrically supported rack-and-pinion power steering system
Wheels		6.5 J x 16
Tyres		205/60 R 16

Dimensions and weights

Wheelbase	mm	2,729
Track, front/rear	mm	1,567/1,547
Length	mm	4,419
Width	mm	1,796
Height	mm	1,562
Turning circle	m	11.0
Boot capacity, German	l	455-1,540
Association of the Automotive Industry		
Kerb weight acc. to EC	kg	1405
Payload	kg	550
Perm. GVW	kg	1955
Tank capacity/of which reserve	l	43/5

Performance and fuel consumption

Acceleration 0-100 km/h	s	9.0
Top speed	km/h	212
NEDC fuel consumption, combined ⁵	l/100 km	5.6-5.4
CO ₂ emissions combined ¹	g/km	128-124

⁵ The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.

Mercedes-Benz B 200 7G-DCT

Engine

Number of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	1332
Bore x stroke	mm	72.2 x 81.4
Rated output	kW/hp	120/163 at 5500 rpm +/- 1.5%
Rated torque	Nm	250 at 1620 rpm
Compression ratio		10.6: 1
Mixture formation		High-pressure injection

Power transmission

Drive system		To the front wheels
Transmission		7-speed dual clutch transmission
Gear ratios	1st gear	18.63
	2nd gear	11.05
	3rd gear	6.80
	4 gear	4.62
	5th gear	3.57
	6th gear	2.85
	7th gear	2.29
	Reverse	17.17

Suspension

Front axle		McPherson suspension with spring strut and wishbone, coil springs, twin-tube gas-filled shock absorbers, stabiliser
Rear axle		Torsion-beam axle, coil springs, gas-pressure shock absorbers, stabiliser bar
Braking system		Vented front disc brakes, solid rear disc brakes, electric parking brake, ABS, Brake Assist, ESP®
Steering		Electrically supported rack-and-pinion power steering system
Wheels		6.5 J x 16
Tyres		205/60 R 16

Dimensions and weights

Wheelbase	mm	2,729
Track, front/rear	mm	1,567/1,547
Length	mm	4,419
Width	mm	1,796
Height	mm	1,562
Turning circle	m	11.0
Luggage capacity	l	455-1,540
Kerb weight acc. to EC	kg	1410
Payload	kg	550
Perm. GVW	kg	1,960
Tank capacity/of which reserve	l	43/5

Performance and fuel consumption

Acceleration 0-100 km/h	s	8.2
Top speed	km/h	223
NEDC fuel consumption, combined ⁶	l/100 km	5.6-5.4
CO ₂ emissions combined ¹	g/km	129-124

⁶ The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.

Mercedes-Benz B 200 d 8G-DCT

Engine

Number of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	1950
Bore x stroke	mm	82.0 x 92.3
Rated output	kW/hp	110/150 at 3,400-4,400 rpm
Rated torque	Nm	320 at 1,400-3,200 rpm
Compression ratio		15.5: 1
Mixture formation		Common-rail high-pressure injection

Power transmission

Drive system		To the front wheels
Transmission		8-speed dual clutch transmission
Gear ratios	1st gear	15.94
	2nd gear	11.18
	3rd gear	7.34
	4 gear	5.15
	5th gear	3.74
	6th gear	2.93
	7 gear	2.29
	8th gear	1.81
	Reverse	13.39

Suspension

Front axle		McPherson suspension with spring strut and wishbone, coil springs, twin-tube gas-filled shock absorbers, stabiliser
Rear axle		Multi-link, coil springs, gas-pressure shock absorbers, stabiliser
Braking system		Vented front disc brakes, solid rear disc brakes, electric parking brake, ABS, Brake Assist, ESP®
Steering		Electrically supported rack-and-pinion power steering system
Wheels		6.5 J x 16
Tyres		205/60 R 16

Dimensions and weights

Wheelbase	mm	2,729
Track, front/rear	mm	1,567/1,567
Length	mm	4,419
Width	mm	1,796
Height	mm	1,562
Turning circle	m	11.0
Boot capacity, German	l	445-1,530
Association of the Automotive Industry		
Kerb weight acc. to EC	kg	1,535
Payload	kg	520
Perm. GVW	kg	2,055
Tank capacity/of which reserve	l	43/5

Performance and fuel consumption

Acceleration 0-100 km/h	s	8.3
Top speed	km/h	219
NEDC fuel consumption, combined ⁷	l/100 km	4.5-4.2
CO ₂ emissions combined ¹	g/km	119-112

⁷ The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.

Mercedes-Benz B 220 d 8G-DCT

Engine

Number of cylinders/arrangement		4/in-line, 4 valves per cylinder
Displacement	cc	1950
Bore x stroke	mm	82.0 x 92.3
Rated output	kW/hp	140/190 at 3,800 rpm
Rated torque	Nm	400 at 1,600-2,600 rpm
Compression ratio		15.5: 1
Mixture formation		Common-rail high-pressure injection

Power transmission

Drive system		To the front wheels
Transmission		8-speed dual clutch transmission
Gear ratios	1st gear	15.94
	2nd gear	11.18
	3rd gear	7.34
	4 gear	5.15
	5th gear	3.74
	6th gear	2.93
	7 gear	2.29
	8th gear	1.81
	Reverse	13.39

Suspension

Front axle		McPherson suspension with spring strut and wishbone, coil springs, twin-tube gas-filled shock absorbers, stabiliser
Rear axle		Multi-link, coil springs, gas-pressure shock absorbers, stabiliser
Braking system		Vented front disc brakes, solid rear disc brakes, electric parking brake, ABS, Brake Assist, ESP®
Steering		Electrically supported rack-and-pinion power steering system
Wheels		6.5 J x 17
Tyres		205/55 R 17

Dimensions and weights

Wheelbase	mm	2,729
Track, front/rear	mm	1,567/1,567
Length	mm	4,419
Width	mm	1,796
Height	mm	1,567
Turning circle	m	11.0
Boot capacity, German	l	445-1,530
Association of the Automotive Industry		
Kerb weight acc. to EC	kg	1,545
Payload	kg	535
Perm. GVW	kg	2,080
Tank capacity/of which reserve	l	43/5

Performance and fuel consumption

Acceleration 0-100 km/h	s	7.2
Top speed	km/h	234
NEDC fuel consumption, combined ⁸	l/100 km	4.5-4.4
CO ₂ emissions combined ¹	g/km	119-116

⁸ The stated figures were determined in accordance with the prescribed measuring method. These are the "NEDC CO₂ figures" according to Art. 2 No. 1 Implementing Regulation (EU) 2017/1153. The fuel consumption figures were calculated based on these figures.