Mercedes-Benz

Press Information

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Mercedes-Benz CL63 AMG / CL65 AMG

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The descriptions and data contained in this press kit apply to the U.S. model range of Mercedes-Benz. Country-specific variations are possible.

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AMG 5.5-liter V8 biturbo engine

Performance, innovation and efficiency in perfect harmony

Increased performance and torque, reduced fuel consumption and exhaust emissions – these qualities are perfectly united in the new AMG 5.5-liter biturbo engine. Mercedes-AMG is confronting the challenges of the future, and demonstrating that dynamic performance can be perfectly combined with fuel economy. The result: a maximum output (with the optional AMG Performance Package) of up to 563 hp and 664 lb-ft of torque.

The new AMG 5.5-liter biturbo engine combines performance, innovation and efficiency to a previously unknown extent. This is made possible by a unique combination of innovative high-tech systems such as direct gasoline injection, twin turbochargers, air/water intercooling and the Controlled Efficiency stop/start function. The 2011 AMG CL models will be in U.S. showrooms this November.

Mercedes-AMG is systematically following the trend towards increasing efficiency: with a displacement of 5461 cc it is precisely 747 cc below the 6208 cc of the naturally aspirated AMG 6.3-litre V8 engine. Nevertheless, it develops more output and torque. The 2011 CL63 AMG develops a peak output of 536 hp and maximum torque of 590 lb-ft. In conjunction with the AMG Performance Package these figures increase to 563 hp and 664 lb-ft. The torque curve in particular shows that no other engine in this power class is able to match the figures delivered by the new AMG biturbo motor.

Despite an increase in horsepower and torque as compared to the naturally aspirated V8, AMG engineers have been able to reduce fuel consumption and CO_2 emissions considerably. With an estimated fuel savings of 27 percent, engine specialists consider this to be nothing less than a quantum leap. CO_2 emissions have likewise been significantly reduced by approximately 30.

These improvements in efficiency and environmental protection have no negative effects on the car's performance. On the contrary, as the new AMG 5.5-liter V8 biturbo fully lives-up to AMG's brand commitment to "performance": the CL63 AMG accelerates from zero to 60mph in 4.4 seconds, and has a top speed of 155 mph (electronically limited). With the AMG Performance package, the high-performance Coupé reaches the 60 mph mark in 4.3 seconds and reaches a top speed of 186 mph (electronically limited).

Combination of twin turbocharging and direct gasoline injection

Mercedes-AMG is presenting an attractive high-tech package with its combination of biturbo charging and direct gasoline injection with spray-guided combustion. The innovative injection technology brings distinct advantages to fuel consumption and exhaust emissions, thanks to higher thermodynamic efficiency. Particularly fast and precise piezo-electric injectors spray the fuel into the combustion chambers, ensuring a homogenous fuel/air mixture and highly effective combustion.

An electric low-pressure pump delivers the fuel from the tank to a high-pressure pump in the trunk with a pressure of 87 psi. The fuel pressure in the high-pressure rail is controlled between 1,500 and 3,000 psi on a fully variable and demand-related basis.

Two turbochargers and efficient air/water intercooling

Two turbochargers located next to the cylinder banks supply the eight cylinders with fresh air. At their maximum speed of 185,000 rpm under full load, the two turbochargers force 3,860 lbs into the combustion chambers per hour. The maximum charge pressure is 14.5 lbs, and 18.8 bar with the AMG Performance package. Thanks to their specific, compact construction – the turbine housings are welded to the exhaust manifold – there are significant space advantages and the catalytic converters also heat up more rapidly.

The new AMG V8 is the first turbocharged engine to dispense with the usual blow-off valve. This innovative solution enables the compressor housing to be made extremely compact. To ensure agile responsiveness with no time lag, all the air ducts in the intake tract are as short as possible. The wastegate valve, which reduces the pressure in the exhaust system during negative load changes, is vacuum-controlled via an electropneumatic converter. This allows dethrottling under partial loads, which in turn lowers the fuel consumption.

Like the existing AMG 6.0-litre V12 biturbo engine, the new eight-cylinder direct-injection unit uses very efficient air/water intercooling. The low-temperature cooler with its water circulation is space-savingly accommodated within the V of the cylinder banks. It effectively cools down the intake air compressed by the turbochargers before it enters the combustion chambers, and maintains a constantly low intake temperature under full load. A large radiator at the car's front end ensures metered cooling of the water circulating in the low-temperature circuit. This guarantees a high output and torque yield in all ambient temperatures and operating conditions.

Extremely short charge-air ducting makes for outstanding responsiveness. The stainless steel pressure pipes for the fresh and charge air are produced by the hydroforming process, have a wall thickness of only 0.03 inches and are designed for very low pressure loss.

Aluminum crankcase with Silitec cylinder liners

The crankcase of the new AMG 5.5-liter V8 biturbo engine is made of diecast aluminum. The low (dry) engine weight of just 450 lbs is the result of uncompromising lightweight construction methods, and leads to the car's very balanced weight distribution. The bearing cover for the main crankshaft bearings is of grey cast iron, and is bolted to the crankcase for high rigidity. Cast-in Silitec cylinder liners ensure that the eight pistons operate with low friction.

Drilled pulsation holes in the crankcase lead to a higher output and fuel savings under partial load: above the bearing blocks there are longitudinally drilled holes

which connect adjacent crankcase cavities. Normally the upward and downward movement of the pistons causes air to be forced into and extracted from the sump, which leads to increased internal friction losses and therefore a reduction in output. The pulsation holes prevent this by ensuring effective pressure compensation between the cavities.

The forged crankshaft of high-grade 38MnS6BY steel alloy rotates in five main bearings, has eight counterweights and has been optimized with respect to torsional rigidity, inertia, low rotating masses and a long operating life. A two-mass viscous damper mounted at the front reliably eliminates vibrations. Each connecting rod journal on the crankshaft carries two forged, cracked connecting rods. In the interests of low mechanical friction and high wear resistance, the lightweight pistons have a metallic contact surface. Pressure-controlled oil-spray nozzles in the crankcase ensure that the highly stressed piston crowns are efficiently cooled.

Four-valve technology with variable camshaft adjustment

Perfect charging of the combustion chambers is ensured by large intake and exhaust valves, of which there are four per cylinder. The exhaust valves, which are subject to high thermal loads, are hollow and sodium-cooled. Four overhead camshafts operate the 32 valves via low-maintenance, low-friction cam followers. The infinitely variable camshaft adjustment with a range of 40 degrees on the in-take and exhaust sides depends on the engine load and engine speed, leading to outstanding output and torque values. This also results in consistent idling at a low speed.

Depending on the engine speed, valve overlap can be varied for the best possible fuel/air supply to the combustion chambers and efficient removal of the exhaust gases. The variable camshaft adjustment is carried out electromagnetically via four pivoting actuators, and is controlled by the engine control unit. The camshafts are driven by three high-performance silent chains, which have considerable advantages in noise comfort compared to cylinder roller chains.

Efficient oil supply and water cooling

Efficient oil delivery under all load and operating conditions is ensured by an oil pump with an electrically controlled compression stage. The oil pressure can be varied between 29 and 48 psi, which has advantages in terms of friction and fuel consumption. An extraction stage integrated into the oil pump for the two turbochargers prevents oil from being mixed into the charge air and exhaust gases, thereby helping to reduce emissions even further. Both the sump and the extraction point have been optimized for maximum lateral acceleration and efficient lubrication. The oil capacity is 11 quarts.

The combined water/oil cooling system is a particularly innovative solution: initially the engine oil only flows through the oil/water heat exchanger. If the cooling performance of the very compact cooler is insufficient, the flow is directed through the external engine oil/air cooler by an oil thermostat. The advantage of this system is that the engine oil warms up (via hot engine coolant) more rapidly. A selectable water thermostat ensures rapid warming of the coolant when starting the engine and driving off.

The engine coolant is cooled using the particularly effective crossflow principle. There is a transverse flow of coolant through both the crankcase and the cylinder heads. Additional cooling slots in the cylinder head ensure more efficient cooling of the combustion chambers, which has advantages during combustion: it enables earlier ignition timings to be chosen without incurring the risk of knocking.

Highly efficient engine electronics for every function

All the engine functions are executed and controlled by a particularly efficient Bosch MED 17.7.3. control unit. This state-of-the-art engine computer not only controls the direct gasoline injection, charge pressure, camshaft adjustment and variable oil supply, but also communicates with all the other onboard control units. The microprocessor has more than 30,000 different parameters and functions stored in its memory, and is able to perform up to 260 million individual operations per second. To reduce the load on the engine control unit, the eight individual ignition coils have an integral

electronic module known as an ignition amplifier at each cylinder. These ensure a strong ignition spark at all engine speeds and under all load conditions. Eight high-voltage powerstages are responsible for highly precise fuel distribution to the piezo-electric injectors.

Effective emissions technology with new catalytic converter boxes

The requirements for the exhaust system of the new AMG 5.5-liter V8 biturbo engine were complex: low exhaust emissions, compliance with country-specific standards and a characteristic AMG engine sound. The CL63 AMG complies with all the current EU-5 emission standards, as well as meeting all the requirements of the US market (LEV-II standard, On-Board Diagnosis II and lambda sensor diagnosis).

The turbochargers are welded to the exhaust manifolds, while air gap-insulated manifolds with a wall thickness of only 0.04 inches ensure a rapid catalytic converter response. For efficiency and to save space, this concept has a tandem catalytic converter housing on each side of the vehicle: adjacent to the firewall, two thin-walled ceramic substrates are grouped into each housing. This solution makes the previous, additional underbody catalytic converters unnecessary. The two ceramic substrates differ to ensure rapid and efficient emissions control: the front one is coated with palladium, while the rear one has a bimetal coating of palladium and rhodium. One lambda sensor per row of cylinders is located in front of each catalytic converter housing, and there is a lambda diagnostic sensor between each of the two thin-walled substrates.

The lambda sensors are necessary for demand-related lambda control. In all operating conditions, the components of the intake mixture can be precisely controlled to avoid damaging the catalytic converters. This also benefits fuel consumption under full load, as the mixture can be leaner than in engines without this control system.

Twin-pipe AMG sports exhaust system for a characteristic sound signature

The twin-pipe AMG sports exhaust system has a pipe cross-section of 2.76 inches from the manifolds to the rear silencers. When designing the sound, the aim was to create a perfect synthesis of aggressiveness and the comfort on long journeys that is the hallmark of a Mercedes. The goal of the developers was to achieve an emotional experience when accelerating and rev-matching, but unobtrusiveness at constant speeds. Unpleasant frequencies or droning noises were effectively eliminated during a series of painstaking tests. The sports exhaust system emits a sonorous eight-cylinder sound that is typical of AMG, while the striking chrome twin tailpipes feature a new design.

Power transmission with stop/start function

Maximum driving pleasure, reduced fuel consumption

The new AMG SPEEDSHIFT MCT 7-speed sports transmission provides evocative performance and sheer driving pleasure. Equipped with seven gears, three driving modes and a rev-matching function, the power transmission of the new CL63 AMG never fails to delight. At the same time it makes a considerable contribution to fuel economy – and specifically in combination with the Controlled Efficiency drive mode with stop/start function and generator management included as standard features. Consequently, the AMG MCT transmission impresses with a combination of unique functions which no other manufacturer offers.

The AMG SPEEDSHIFT MCT 7-speed sports transmission is an innovative driveline that made its debut in the high-performance SL63 AMG Roadster in 2008. It combines the sporty, direct and agile feedback of a manual transmission with the maximum convenience of an automatic transmission. Featuring seven gears, three driving modes and a rev-matching function, the 7-speed sports transmission offers superb versatility. MCT stands for Multi-Clutch Technology and indicates that only clutch elements are employed to perform gearshifts.

A compact wet start-up clutch, which runs in an oil bath, replaces the conventional torque converter. Thanks to its low rotational inertia, the transmission responds instantaneously and dynamically without the losses typical of a torque converter transmission – thereby helping to save fuel. The AMG sports transmission also impresses with its low weight of just 176 lbs, which has been made possible through the use of lightweight magnesium for the transmission housing. Vibrations are effectively eliminated by a new, two-stage torsion damper, with resulting benefits in passenger comfort.

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

During its development and adaptation to the AMG 5.5-liter V8 biturbo engine, the AMG engineers paid special attention to the new driving mode Controlled Efficiency ("C"). The emphasis was on delivering minimum engine speed coupled with a reduced number of gearshifts in all driving situations. When starting-off in "C", the MCT transmission always selects second gear and shifts early to the next higher gears if the driving style permits. At 37 mph for instance, sixth gear will already be engaged – not only improving fuel consumption but also noise levels. Thanks to its powerful, readily available torque even at low engine speeds, the AMG V8 biturbo unit is absolutely ideal for this style of driving. Controlled Efficiency also means convenient gearshifts and a "soft" accelerator response set-up for outstandingly smooth power transfer.

Controlled Efficiency stop/start function as a new feature

The Controlled Efficiency stop/start function also makes its debut in an AMG model. This system is standard equipment in the CL63 AMG, and permanently active in the fuel economy driving mode "C". Once the driver comes to a stop e.g. at a traffic light, the V8 engine is automatically switched off. Once the brake pedal is released or the accelerator is depressed, the engine is immediately re-started and the car is able to move-off quickly. Intelligent technology guarantees a comfortable and immediate starting procedure: a crankshaft sensor recognizes the direction of rotation registers the resting position of all eight pistons. For an automatic engine start, the cylinder with the most favorable piston position receives an injection of fuel into its combustion chamber. The precise piezo-electric injectors greatly assist making these fast starts possible.

The engine management ensures that the engine is only switched off if certain preconditions are met. The starter battery must have sufficient charge, for example, and the engine must be at the necessary operating temperature for efficient emissions control. The same applies to the interior temperature selected by the driver: if this has not yet been reached, the engine is not switched off when the car comes to a stop. The onboard network management system makes

sure that active audio, telephone or video functions are not interrupted by the stop/start function.

A green "ECO" symbol in the AMG main menu shows the driver that the Controlled Efficiency stop/start function is active. Should one of the above criteria prevent activation of the system, this is shown in the central display by the message "Stop/start inactive" and a yellow "ECO" symbol. In the two more performance-oriented driving modes "S" (Sport) and "M" (Manual), the start/stop function is always deactivated. If required, the driver can also switch it off while in "C" mode as well.

The eight-cylinder biturbo engine also features a new generator management system: whenever the engine is on the overrun or when braking, kinetic energy is used to charge the battery rather than being wasted as heat in the usual way. In all other operating modes a combination of onboard network and generator management enables the generator to be kept at a low voltage. This reduces the load on the engine and increase fuel economy, particularly in city traffic with its frequent overrun and braking phases.

Drive modes "S" and "M" for even more driving pleasure and performance

The engine and transmission are even more agile in the "S" (Sport) mode. Accelerator pedal movements trigger a more direct response and make downshifts more spontaneous. The engine speed is allowed to reach a higher level in each gear, while the gearshifts are around 25 percent faster than in "C". In the manual shift mode "M", gearshifts at full throttle take just 100 milliseconds, a reduction of 50 percent compared to "C". In "S" and "M" modes, the engine management system partially suppresses the cylinders. This interruption of ignition and injection under full load leads to even faster gearshifts than before. The highly emotional exhaust notes are an appealing side effect of this lightning-fast process.

Ultra-fast, spontaneous multiple downshifts are another highlight of the AMG SPEEDSHIFT MCT 7-speed sports transmission. For instance, kickdown allows gearshifts straight from seventh down to fourth gear, or from fifth to second. In

the "S" and "M" driving modes the automatic rev-matching function is active. Every manual or automatic downshift is accompanied by precisely metered rev-matching – incrementally from "S" to "M". And this not only adds to the driver's emotional experience: the load-free downshift minimizes load-change reactions, an advantage when braking into turns – and also enhances safety in rain or on ice.

No automatic downshifts in manual "M" mode

In manual “M” mode the driver also benefits from the high torque of the V8 biturbo engine, as there is no automatic downshift under full load and kickdown; the transmission remains in the selected gear. The AMG MCT 7-speed sports transmission doesn’t even upshift automatically in manual mode when the rev limit is reached. In “M” mode the AMG instrument cluster displays the current gear and alerts the driver to the need for an upshift just before the needle reaches the red zone. This means that a n especially sporty driver can use the superior performance potential to its fullest extent. When approaching the lower rev limit, e.g. when braking the vehicle, there is an automatic downshift to the next lower gear.

Regardless of the driving mode, the gears can always be shifted using the steering wheel shift paddles. The electronic button for selecting the three driving modes is located to the left of the COMAND controller. The powerful electronic transmission control unit with its integrated 80 MHz processor guarantees immediate downshifts – for example when approaching traffic lights or if the driver requires more acceleration when overtaking.

AMG sports suspension and high-performance braking system

Perfect blend of driving dynamics, ride comfort and active safety

The Direct-Steer system, Torque Vectoring Brake and crosswind stabilization are the three new systems available as standard on the CL63 AMG. In combination with the AMG sports suspension and AMG high-performance braking system, these unique high-tech systems provide the highest level of driving dynamics, ride comfort and active safety.

The Direct-Steer system provides more agile handling with less steering effort and outstanding straight-line stability. A key feature of the Direct-Steer system - which is well-known in the S-Class - is the variable-ratio steering rack that operates by purely mechanical means. While the power steering around the central position utilizes an indirect ratio to promote excellent straight-line stability, this begins to change starting from a steering angle of around five degrees. Small steering movements are all it takes to achieve precise cornering and noticeably improved handling on winding country roads. The steering angle requirements have also been modified, enabling the driver to steer the AMG Coupé far more easily, particularly on urban roads. Compared with a constant-ratio steering system, the number of revolutions from lock to lock is reduced by around 25 percent with the Direct-Steer system.

Another advantage of the purely mechanical Direct-Steer system is the absence of any elaborate actuators and complex sensors – with associated benefits in terms of weight, installation space and susceptibility to faults. The constant steering response is also advantageous compared with other variable steering systems that sometimes require the driver to adapt quickly to fast-changing driving conditions.

The Direct-Steer system is based on the familiar speed-sensitive power steering system which reduces the power assistance as the road speed increases. Easy maneuverability on urban roads (with large movements of the steering wheel) is

coupled with reduced support at highway speeds – all of which improves straight-line stability and handling safety.

Torque Vectoring Brake optimizes driving dynamics and handling safety

A further improvement in driving dynamics as well as active handling safety comes courtesy of the Torque Vectoring Brake. If the Electronic Stability Program ESP® detects the onset of understeer, short one-sided braking intervention on the vehicle's inside rear wheel generates a specific yawing moment around the vehicle's vertical axis within a fraction of a second. Consequently, the AMG CL-Class handles precisely and remains under control at all times.

Automatic crosswind stabilization as standard

The standard AMG sports suspension based on Active Body Control (ABC) also features automatic crosswind stabilization. The ABC control electronics vary the wheel load distribution so that the effect of crosswinds is virtually compensated for or reduced to a minimum. If the CL63 AMG is affected by a crosswind, the ABC control unit utilizes the yaw-rate, lateral acceleration, steering angle and speed sensors of the Electronic Stability Program ESP® to trigger diagonal wheel load distribution instantly – for instance on the left front and right rear wheel. Crosswind stabilization is activated at speeds above 50 mph while traveling in a straight line or on slight bends. The function is deactivated if the driver himself makes heavy, abrupt steering corrections.

The AMG sports suspension all but entirely eliminates the body movements that occur when accelerating, cornering and braking. Bends are negotiated with far less roll, and body roll during fast evasive maneuvers is suppressed. Other notable features of Active Body Control are the variable roll movement distribution between the front and rear axles, which the system carries out automatically according to the speed. The computer uses various acceleration sensors to obtain information on the current driving situation and compares this data with those from the pressure sensors in the spring struts and the level sensors on the control arms. The system then computes the control signals that the servo-hydraulic valves at the front and

rear axle transform into precisely metered flows of oil.

Briefly pressing the Sport button next to the AMG instrument cluster changes the characteristics of the AMG sports suspension: the roll angle through fast corners is reduced even further and the shock absorbers and springs also respond firmer for more agility. At speeds of between 40 and 62 mph, ABC automatically lowers the body by as much as 0.6 inches to reduce wind resistance. If more ground clearance is needed when driving on poor road surfaces, the level of the vehicle can be raised by 1.56 inches at a speed up to 19 mph by simply pressing a button.

Thanks to loading adjustment, the active suspension control also takes the current vehicle weight into account as part of its calculations. As such the CL63 AMG is able to achieve identical levels of driving dynamics when laden as well.

AMG high-performance two-piece braking system based on ADAPTIVE BRAKE

Based on the ADAPTIVE BRAKE system, the AMG high-performance braking system continues to set the benchmark for stopping power, sensitivity and fade resistance. The front axle features a double floating brake caliper; this technology combines the advantages of a sliding-caliper disc brake – reduced heat transfer to the brake fluid and comfort thanks to the brake lining guide mechanism – with the efficiency of an extra large fixed caliper brake. At the rear, braking is handled by a large sliding frame-type caliper. Internally ventilated, perforated two-piece brake discs at the front and rear with a diameter of 15.4” and 14.4” respectively ensure the shortest stopping distances, remarkable resistance to fading and outstanding sensitivity.

The hydraulic dual-circuit braking system is controlled electronically, permitting the inclusion of numerous driver assistance functions that improve safety and comfort – such as "priming" the braking system in critical situations: if the driver suddenly switches from the accelerator to the brake pedal before emergency braking, ADAPTIVE BRAKE increases the pressure in the brake lines and applies the pads to the brake discs, so that they can grip instantly with full force when the brake pedal is pressed. In wet weather, the system injects regular, short brake impulses to ensure that the film of water on the brake discs is wiped off so the brakes can work as effectively as possible. This automatic brake-drying function is always activated when the windscreen wipers have been in operation for a certain time; the driver does not notice the finely metered braking impulses.

After the CL63 AMG has been braked to a standstill, briefly pressing the brake pedal a little further is all that is required to activate the HOLD function. The coupé is then held by the brakes, even if the driver's foot comes off the brake pedal. In this way ADAPTIVE BRAKE prevents the car from rolling forward inadvertently when stopped at traffic lights or stuck in stop-and-go traffic, or from rolling back when facing a slope. The HOLD function is deactivated automatically when the car accelerates.

Active and passive safety

A unique combination of driver-assistance systems

The large Mercedes coupé has always been synonymous with the ultimate in active and passive safety systems. The CL makes significant use of trend-setting camera and radar-based driver assistance systems. The latest innovations are called Active Lane Keeping Assist and Active Blind Spot Assist.

The combination of state-of-the-art assistance and protection systems turn the AMG CL-Class into an "intelligent" partner which is able to "see", "feel", and respond "instinctively" to detected dangers and react to avoid accidents or to reduce their severity. The vehicle makes use of cameras which look far ahead, observe the conditions around the vehicle, and are able to interpret typical critical situations.

Like the Mercedes-Benz S- and E-Class, the CL63 AMG is now also available with the new Active Lane Keeping Assist. When the driver unintentionally crosses a solid line to the right or left of a lane or on the outside of a turn, the Active Lane Keeping Assist intervenes and prevents the vehicle from unintentionally leaving the lane. In such cases it applies the brakes to the wheels on the opposite side of the vehicle, using the sensor system of the Electronic Stability Program ESP®.

Similarly, when the new Active Blind Spot Assist system detects that changing lanes would be dangerous, it alerts the driver by displaying a red warning in the glass of the relevant exterior mirror. If the driver ignores the warning signal and moves towards the other vehicle, the ESP® takes corrective action by applying the brakes to the wheels on the opposite side of the vehicle.

Night View Assist Plus

The enhanced Night View Assist Plus with infrared camera is now equipped with special pedestrian detection: as soon as the system detects pedestrians on the road ahead, they are highlighted on the display to make them more readily noticeable for the driver.

Adaptive Highbeam Assist is included as standard equipment. The camera-based system can detect vehicles with their headlights or taillights on and controls the headlamps to ensure the largest possible range without dazzling other drivers.

Drowsiness detection on the basis of more than 70 parameters

Thanks to innovative technology the CL-Class is very attuned to the attention level of its driver, and can warn him in time when he becomes drowsy. The ATTENTION ASSIST drowsiness detection system, well-known from the S-Class, continuously monitors more than 70 different parameters. Once the electronics recognize the steering behavior pattern associated with the onset of drowsiness, a warning signal is sounded and "ATTENTION ASSIST. Time for a rest?" appears in the instrument cluster. ATTENTION ASSIST is fitted as standard.

"Electronic crumple zone" for maximum occupant protection

Mercedes-Benz has also improved the long and medium-range radar used by the optional Brake Assist BAS PLUS and DISTRONIC PLUS proximity control. Another radar-based system for the CL-Class is PRE-SAFE® Brake with Automatic Emergency Braking. If the driver is distracted and fails to recognize the immediate danger of a rear-end collision, or the warning signals of an assistance system, this system can intervene and brake the vehicle autonomously. The CL-Class makes use of the latest development of this safety system: if the driver fails to react even after automatic partial braking action, the PRE-SAFE® Brake activates the maximum braking pressure around 0.6 seconds before an unavoidable accident – an emergency braking action that can significantly mitigate the severity of the impact. The PRE-SAFE® Brake acts like an "electronic crumple zone".

Design and equipment

A new look for even more style

More status, more sportiness, more elegance – these are the characteristics now portrayed by the design of the new CL63 AMG. Thanks to specific modifications to the front and rear, as well as AMG light-alloy wheels, the high-performance coupé now looks even more confident and athletic than ever. The tastefully designed interior and the comprehensive range of standard equipment help to guarantee an air of exquisite sophistication. New optional extras such as SPLITVIEW for the COMAND multimedia system also offer maximum comfort for the vehicle occupants.

The front section of the CL63 AMG boasts numerous new design features which give the coupé an even more powerful appearance than ever. The new, arrow-shaped hood with an aggressive ridged design is the perfect match for powerfully-shaped headlamps, which now come equipped with bi-xenon headlamps with active light function, Adaptive Highbeam Assist and also AMG-specific LED daytime driving lights in the front apron. A more aggressive appearance is also provided by a steeply swept-back radiator grille with larger, chrome-trimmed cooling-air intake. The central Mercedes star is flanked by a distinctive single horizontal grille slat. The new front apron, which is part of the AMG bodystyling, has a bold three-dimensional design as well as a lower cross strut painted black and with a high-gloss finish.

The rear too has been updated: new taillamps with one-piece red-colored lenses and new reverse lights next to the license plate recess on the trunk lid match the new AMG rear apron. In addition to the body-colored diffuser insert another visual highlight comes in the form of the newly designed chrome twin tailpipes of the AMG sports exhaust system.

Unmistakable AMG light-alloy wheels

Viewed from the side, the CL63 AMG stands out thanks to the "V8 BITURBO" lettering on the fenders. Additional highlights include the newly designed AMG light-alloy wheels painted in titanium grey and with a high-sheen finish.

Sporty interior with exclusive appointment details

The tastefully designed interior of the CL63 AMG boasts an exciting combination of exclusive appointment details. The AMG instrument cluster, for example, now has a new look: after opening the driver's door, the words "AMG V8 BITURBO" are displayed on the screen – a clear invitation to start the new eight-cylinder engine. Also new is the AMG sports steering wheel with silver-colored aluminum shift paddles, specially shaped grip area and perforated nappa leather around the steering wheel spokes. The multifunction buttons on the left and right enable the driver to select numerous settings and call up information, for example in the AMG main menu: the current transmission mode is displayed in the middle of the instrument cluster – the currently engaged gear and recommended upshifts are also shown in "M" mode. A new feature is the Controlled Efficiency stop/start function: a green "ECO" symbol in the AMG main menu tells the driver that it is enabled, while a yellow "ECO" symbol indicates that the "start/stop function is disabled".

The AMG main menu also provides the driver with information about the temperature of the engine oil and coolant. With the RACETIMER, the driver can calculate lap times - when on a private racing circuit, for instance. The RACETIMER records the time for the fastest lap, the average and maximum speeds and the lap distance. The AMG instrument cluster in the CL63 AMG comes with a 200 mph speedometer scale. One of the most eye-catching features in the interior is the exclusive analogue clock with its "IWC Ingenieur" design in the center console.

The new SPLITVIEW technology for the standard COMAND display is available as an optional extra. This innovative display concept allows the driver and front passenger to view different content simultaneously on the same screen. While the driver uses the map-based navigation system, for example, the front

passenger can be watching the latest film on DVD using headphones, without disturbing the driver.

Exclusive designo line-up with designo Selection

The entire designo range is available to provide further individualization options - an exclusive selection of different paint finishes, leather upholstery, trim elements and steering wheels: ten different designo paint finishes can be combined with ten designo aniline leather appointments options – with the result that there are practically unlimited possibilities for customers to turn their personal preferences into reality. Particular highlights come courtesy of the matte paint finishes designo magno cashmere white and designo magno platinum, for example. The designo aniline leather colors deep white, deep black and light brown provide customers with even more individualization options. When it comes to designo the customer can choose from six different exclusive trim elements: natural maple grain and matte natural oak grain as well as two high-gloss piano lacquer trim elements in black or champagne white. The unique designo stone trim elements made from genuine granite are available in two versions for the CL-Class: Labrador blue pearl and Star Galaxy. To highlight the exclusivity of the designo trim elements, customers can adorn the cupholder cover with handmade designo lettering in 925 sterling silver.

CL65 AMG

Dream car with exclusive V12 power

Automobile enthusiasts have long held it in high regard – the Mercedes-Benz CL65 AMG. This dream car with the powerful V12 engine and exquisite appointments is synonymous with exclusive performance and exclusive style. The same applies to the restyled model which not only features a number of new visual highlights, but also boasts an increase in power from 604 to 621 hp, as well as a reduction in both fuel consumption and emissions.

The AMG 6.0-litre V12 biturbo engine in the CL65 AMG is one of the most powerful series production engines ever built. The twelve-cylinder engine produces 621 hp from a displacement of 5980 cc, and a maximum torque of 738 lb-ft which remains constant between 2300 and 4300 rpm. The torque has been electronically limited from a possible 885 lb-ft, to make allowances for the powertrain. The unrivalled superiority can be experienced over every single mile: the AMG V12 engine is characterized by effortless power delivery in all engine speed ranges and an exciting engine sound, all coupled with supreme refinement. The exceptional power of the AMG twelve-cylinder engine is evident from the performance data: the CL65 AMG accelerates from zero to 60 mph in 4.2 seconds, and achieves a top speed of 186 mph (electronically limited).

AMG has made a number of additional detailed enhancements to the AMG 6.0-litre V12 biturbo engine for the new CL65 AMG. The engine experts at AMG achieved the increase in horsepower thanks to new exhaust gas turbochargers. The inlet diameter of the compressor housing and also the exhaust gas ducts have been enlarged, and the resulting increase in air throughput, together with the new engine electronics, has resulted in an increase of 17 hp. The maximum charge-air pressure is 22 psi.

Despite the increase in output, it has still been possible to reduce fuel consumption and exhaust emissions, with CO_2 emissions down 3.5 percent over the previous model.

The reduction in fuel consumption is achieved thanks to the new engine electronics as well as the generator management: the kinetic energy generated during each drive phase of the engine and also when braking is used to charge the battery, and not just left to generate heat as would otherwise be the case. In all other operating areas, management of both the on-board electrical system and generator enables the generator to be maintained at a low voltage level.

New piston rings, a modified oil pump and use of a superior coating on the catalytic converters also contribute towards reducing raw exhaust emissions as part of the package of measures. As a result, the CL65 AMG immediately fulfils all of the requirements of the US market (LEV II standard, on-board diagnostics II and lambda sensor diagnostics).

Know-how from the world of motorsport also with the AMG biturbo V12 engine

Characteristic features of the AMG 6.0-litre V12 biturbo engine include AMG's extensive know-how from the world of motorsport applied to the engine's construction, and also the sophisticated air/water intercooler. It achieves high power and torque output under all operating conditions, regardless of the outside temperature. Traditionally all engines are built by hand at Mercedes-AMG in Affalterbach – and the V12 engine is no exception.

In line with the exceptional 738 lb-ft. of torque, the CL65 AMG comes with a systematically reinforced powertrain. Power transfer is handled by the AMG SPEEDSHIFT five-speed automatic transmission, which has three different drive modes.

Direct-Steer system, Torque Vectoring Brake and crosswind stabilization

As is the case with the CL63 AMG, the twelve-cylinder top-of-the-range model also comes with the AMG sports suspension based on Active Body Control (ABC) with Torque Vectoring Brake, crosswind stabilization and loading adjustment system. The characteristics of the AMG sports suspension can be changed by pressing the

Sports button – for the driver, this translates into a noticeable reduction in the roll angle when cornering at speed, and also stiffer spring/damper tuning. The new Direct-Steer system with speed-sensitive power steering guarantees high levels of maneuverability and smooth control in all driving situations.

Reliable deceleration performance comes courtesy of the AMG high-performance braking system based on the ADAPTIVE BRAKE system. Internally ventilated, perforated composite brake discs all round, with a diameter of 15.4- and 14.4-inches respectively, are combined with double floating brake calipers (front) and sliding frame-type calipers (rear) for maximum deceleration.

New design with even higher status

The new CL65 AMG now features an even more exclusive appearance than ever before. An elegant look is achieved thanks to the swept-back front section with profiled hood, the enlarged, more angled radiator grille and the powerful head-lamps. Included as standard is bi-xenon headlamps, active light function, Adap-tive Highbeam Assist and AMG-specific LED daytime running lights in the front apron. The upsized, chrome-trimmed cooling-air intake adorns a distinctive hori-zontal grille slat. The newly designed AMG bodystyling is easily recognizable thanks to the distinctive V-shape and the lower cross strut, which on the CL65 AMG has an exclusive chrome-look finish. This is matched by the AMG rear apron which boasts a chrome diffuser insert. Also new are the taillamps with one-piece red-colored lenses and the reversing headlamps placed next to the license plate recess. Another visual highlight comes in the form of the AMG sports exhaust system with two chrome twin tailpipes featuring a V12 design.

When viewing the vehicle from the side, enthusiasts will note "V12 BITURBO" let-tering on the fenders as well as AMG double-spoke forged wheels, painted titanium grey and with a high-sheen finish. The wheels are fitted with 255/35 R 20 tires at the front, and 275/35 R 20 tires at the rear.

Exclusive leather upholstery with an AMG V12 diamond pattern design

The exclusive position held by the CL65 AMG within the AMG model range is also highlighted by the vehicle's exquisite and perfectly finished interior appointments: the exclusive leather upholstery with its distinctive AMG V12 diamond pattern design covers all four seats as well as the door center panels. Premium leather also covers not only the entire instrument panel and seatback panels, but also the map pockets and the parcel shelf. In addition, Alcantara® is used on the roof lining and also on the A and C-pillars. The AMG sports seats, which can be adjusted into many different positions, feature their own seat upholstery layout as well as active ventilation and heating, active multicontour front seats with massage and dynamic functions, and also NECK-PRO luxury head restraints.

New additions in the interior include the AMG sports steering wheel with silver-colored aluminum shift paddles and perforated premium leather in the grip area. The latest information and entertainment comes courtesy of the standard COMAND multimedia system including Harman Kardon® Logic 7® surround sound system with SPLITVIEW – which divides the screen into different displays based on viewing angle.

The AMG instrument cluster displays the expressive "AMG V12 BITURBO" start screen and a 220 mph speedometer scale. Integrated into the AMG main menu is a gear indicator including upshift recommendation, and the driver is also kept informed about engine oil and coolant temperatures. Thanks to the RACETIMER, lap times can be displayed, such as when on a race track for example. A particular highlight of the interior is the exclusive analogue clock with IWC design. High-gloss poplar wood trim elements, reserved exclusively for the V12 models, complete the interior look.