



Mercedes-Benz SLS AMG Coupé *Black Series*

GT3 performance for the road

Mercedes-AMG presents the high-end super sports car version of its gull-wing model, the new SLS AMG Coupé *Black Series*. Inspired by the SLS AMG GT3 racing version, the fifth *Black Series* model from Mercedes-AMG boasts an intoxicating mix of breathtaking design, outstanding driving dynamics and uncompromising lightweight construction in accordance with the "AMG Lightweight Performance" strategy. With a DIN kerb weight of 1550 kilograms, the SLS AMG *Black Series* achieves a power-to-weight ratio of 2.45 kg/hp. The AMG 6.3-litre V8 engine generates a power output of 464 kW (631 hp) at 7400 rpm and propels the most dynamic road-going gull-wing model ever to 100 km/h in 3.6 seconds. A new AMG titanium sports exhaust system produces an emotion-stirring soundtrack to accompany the scintillating performance. The AMG RIDE CONTROL performance suspension, the AMG ceramic high-performance composite brake system and the weight-optimised forged AMG light-alloy wheels with newly developed sports tyres combine to raise the handling dynamics of the SLS AMG *Black Series* to new heights, helped by the electronically controlled AMG rear-axle differential lock and the AMG SPEEDSHIFT DCT 7-speed sports transmission. The AMG Aerodynamics package is optionally available to further boost the vehicle's driving dynamics by optimising the aerodynamic balance and increasing downforce.

Black Series – a name that resonates with automobile experts and enthusiasts alike. Following on from the SLK 55 AMG *Black Series* from 2006, the CLK 63 AMG *Black Series* (2007), the SL 65 AMG *Black Series* (2008) and the C 63 AMG Coupé *Black Series* (2011), the fifth exponent sees the *Black Series* entering a new dimension with the gull-wing model.

"The new SLS AMG Coupé *Black Series* is a perfect study in the one hundred percent transfer of technology and engineering from motorsport to the road. We have drawn inspiration from the example set by the SLS AMG GT3 customer sport racing car, which has enjoyed tremendous success worldwide. Boasting numerous lightweight components and sensational driving dynamics, our fifth *Black Series* model promises pure, unadulterated 'Driving Performance'. The SLS AMG Coupé *Black Series* is the ultimate choice for extremely quick lap times

Press Information

4 March 2013

and highly emotional driving experiences," says Ola Källenius, Chairman of Mercedes-AMG GmbH.

Page 2

"The most dynamic road-going gull-wing model of all time goes by the name of the SLS AMG Coupé *Black Series*. Fans of high-performance super sports cars will be thrilled by its high-tech package. Its stirring performance and supreme driving dynamics are underpinned by the numerous new developments that have been incorporated into the engine, power transmission, suspension and aerodynamics, but also by us giving top priority to our "AMG Lightweight Performance" strategy. Great efforts in the area of lightweight design have resulted in a DIN kerb weight of 1550 kilograms", notes Tobias Moers, Head of Overall Vehicle Development and member of the Management Board of Mercedes-AMG GmbH.

The AMG 6.3-litre V8 engine: a byword for thrilling driving dynamics

The updated AMG 6.3-litre V8 engine generating an output of **464 kW** (631 hp) and 635 Newton metres of torque is a byword for thrilling driving dynamics, and makes the SLS AMG Coupé *Black Series* the most powerful high-performance car from AMG with a combustion engine at present. Only the SLS AMG Coupé Electric Drive with a maximum output of 552 kW comes with greater power reserves.

The SLS AMG Coupé *Black Series* accelerates to 100 km/h in 3.6 seconds, and goes on to attain a top speed of 315 km/h. The additional **44 kW** (60 hp) of power in comparison to the **420 kW** (571 hp) offered by the SLS AMG has been achieved by the following measures:

- Increase in the maximum engine speed from 7200 to 8000 rpm
- Redesigned valve gear for high-revving engine with modified camshafts, adapted cam geometry as well as optimised bucket tappets featuring a special coating normally only used in motor racing
- Revised intake air ducting: de-throttling and adaptation to the new maximum engine speed
- Completely reconfigured belt drive system that is resistant to high rev speeds, including all ancillaries and guide pulleys
- Adjustment of the engine application and increase in peak pressure

The engineers at Mercedes-AMG have further optimised the crank assembly in the interests of optimum stability in tough racing use. The measures carried out

here include modified oil bores in the crankshaft, new crankshaft bearings and high-strength screwed connections for the conrods. The entire water and oil cooling system for the engine and transmission has also undergone further optimisation. The AMG V8 engine in the SLS AMG Coupé *Black Series* is additionally provided with a special support system. A gas-filled strut braces the eight-cylinder engine against the body, effectively eliminating undesired load-change reactions during highly dynamic driving on the racetrack. The AMG 6.3-litre V8 engine is hand-built at the AMG engine workshop in Affalterbach according to the "one man, one engine" philosophy. This is verified by the black AMG engine badge bearing the responsible engine fitter's signature that is a hallmark of the *Black Series* models.

The key data at a glance:

	SLS AMG Coupé <i>Black Series</i>
Displacement	6208 cc
Bore x stroke	102.2 x 94.6 mm
Compression ratio	11.3:1
Output	464 kW (631 hp) at 7400 rpm
Max. torque	635 Nm at 5500 rpm
Max. engine speed	8000 rpm
Engine weight (dry)	205 kg
Fuel consumption, NEDC combined	13.7 l/100 km
CO₂ emissions	321 g/km
Acceleration 0-100 km/h	3.6 s
Top speed	315 km/h

Brand new and exceptionally light AMG titanium sports exhaust system

Placed in a front-mid position behind the front axle, the naturally aspirated eight-cylinder power unit delights with its racing car-like responsiveness and by building up high revs more eagerly than ever. The mighty AMG V8 engine's racetrack pedigree is clearly reflected in its acoustic performance, too: the fully redesigned AMG sports exhaust system, built from weight-saving titanium for the first time, produces a sensational soundtrack, with the free-revving naturally aspirated V8 unit hitting the high notes to even more striking effect than ever.

From 5500 rpm up to when the rev limiter cuts in at 8000 rpm especially, the high-revving concept makes its presence heard even more distinctly, allowing it to be experienced more intensely. The higher frequency tone when accelerating at full throttle is reminiscent of the sound made by racing car engines. The SLS AMG Coupé *Black Series* meets all of the specific AMG requirements while still offering its occupants the comfort on long journeys that Mercedes is renowned for: when driving at a constant speed, the AMG V8 unit produces a more restrained sound.

The AMG sound specialists were able to achieve the challenging acoustic targets by conducting elaborate simulations and in-vehicle testing. The AMG titanium sports exhaust system employs pipes with a diameter of 70 millimetres together with specially designed centre and rear reflection silencers. The system's unique acoustic qualities are down in no small part to the special titanium alloy with its high thermal resistance. The switch from steel to titanium has furthermore spawned a substantial weight saving: at just under 17 kilograms, the new AMG sports exhaust system is around 13 kilograms lighter than its predecessor. It continues to be fitted with the performance-enhancing exhaust headers used in the past. The presence of the AMG titanium sports exhaust system is given away by the two sets of chrome twin tailpipes with a square cross-section, which have been perfectly integrated into the rear apron with its black diffuser insert.

Systematic application of the AMG Lightweight Performance strategy

Lightweight through and through: with a kerb weight of 1550 kilograms (DIN), the new SLS AMG Coupé *Black Series* is not only 70 kilograms lighter than the SLS AMG, but also attains the best power-to-weight ratio of all AMG *Black Series* models to date by far. The figure of 2.45 kg/hp is impressive even by super sports car standards. Such a low ratio is made possible by systematic application of the "AMG Lightweight Performance" strategy. Numerous body elements, such as the bonnet, the rear panel behind the AMG sports bucket seats, the diagonal braces on the underbody and the torque tube between engine and transmission, are made entirely of the motorsport material carbon-fibre-reinforced plastic, or CRP for short. In contrast to its 26.6-kilogram counterpart with sand-cast aluminium housing, the carbon-fibre torque tube weighs just 13.3 kilograms.

As previously, power transmission between the engine and the dual clutch transmission, which is flange-mounted on the rear axle (transaxle principle), is effected by means of a CRP drive shaft weighing only 4.7 kilograms. A number of parts on the aluminium spaceframe have also been replaced by CRP

components. A lithium-ion battery which is used in place of the conventional starter battery saves a further eight kilograms.

Optimised dual clutch transmission for even more emotion-stirring dynamism

The overall power transmission system is also a major contributory factor to the outstanding driving dynamics of the SLS AMG Coupé *Black Series*. The AMG SPEEDSHIFT DCT 7-speed sports transmission is installed ten millimetres lower in order to achieve a lower centre of gravity for the vehicle and is braced against the body by means of gas-filled struts to eliminate load-change effects. The dual clutch transmission features four driving modes (C, S, S+ and M): "Sport plus" and "Manual" in particular provide for even sportier performance than with the SLS AMG and SLS AMG GT models. In addition to shortened shift times, the reduced response time to shift commands from the driver and the precisely defined shift firmness translate into pure dynamism and an emotion-charged driving experience.

An even more thrilling feature is the automatic double-declutching function during downshifting: the throttle blips when shifting gear are more pronounced and, thanks to the AMG titanium sports exhaust system, more distinctly audible than ever. The SLS AMG Coupé *Black Series* once again sets new standards here.

There is also a new "temporary M mode". In C, S or S+ mode, this enables the driver to activate manual mode without having to remove a hand from the steering wheel by simply flicking the "up" or "down" shift paddle once. In temporary M mode, the driver can experience all the dynamism and

performance of gearshifts in the modified manual programme in any of the automatic drive modes, with the added benefit of automatic up- and downshifting. This allows the driver to devote his full attention to savouring the vehicle's stunning performance. The temporary M mode offers the best of both worlds: regardless of the currently activated drive mode, drivers can enjoy combining automated gearshifts and manual shift commands with the paddles as they please. The system deactivates the temporary M mode and reverts to the drive mode last activated (C, S or S+) fully automatically as a function of the current driving situation.

New, electronic AMG rear-axle differential lock

A newly developed, electronically controlled AMG rear-axle differential lock with a shorter final-drive ratio replaces the mechanical variant; it is integrated in the compact transmission housing. This system operates with a variable locking effect in acceleration and overrun mode; in addition, the electronics respond more sensitively than previously, enabling excellent traction for the driven wheels at all friction levels. The electronic AMG rear-axle differential lock also benefits driving safety: when weaving in and out or changing lane at high speeds, the system has a stabilising effect, as it is able to attenuate the vehicle's yaw rate around its vertical axis. The standard-fit 3-stage ESP[®] system featuring the functions "ON", "SPORT Handling Mode" and "OFF" is precision-tuned to the electronic AMG rear-axle differential lock. The same applies to the RACE START function, which provides for perfect traction when accelerating from a standing start in conjunction with the electronic differential lock, or "E-Diff" as it is known in technical jargon.

AMG RIDE CONTROL performance suspension and sports tyres

The chassis and suspension of the SLS AMG Coupé *Black Series* have also been re-engineered. The basic layout with aluminium double wishbones all-round remains unchanged, but barely a component has gone untouched in the interests of greatly enhanced racetrack performance.

The new developments in detail:

- AMG RIDE CONTROL performance suspension with tauter tuning and electronically controlled two-stage damping (Sport, Sport +) for individual adjustment to the preferred personal driving style
- Spring retainers with threaded section to allow for adjustment of wheel loads, thereby enabling personalised racetrack setup
- Elastokinematics around 50% / 42% stiffer (front/rear axle) for greater roll stability in fast S bends
- Track width increased by 20 / 24 millimetres (front/rear axle) for more grip when cornering at speed
- New hub carriers on front axle and new front stabiliser tuning for added grip and reduced roll angle when cornering at speed
- AMG 5-twin-spoke light-alloy wheels featuring extra-lightweight forged design with optimised strength, painted in matt black with high-sheen finish, dimensions: 10x19 (front) and 12x20 (rear). Weight saving: 4.0 kg
- Newly developed Michelin Pilot Sport Cup 2 sports tyres, size 275/35 R 19 (front) and 325/30 R 20 (rear), for more grip and sporty cornering limits

- AMG speed-sensitive sports steering with modified power steering characteristic for optimum steering precision and outstanding control of the vehicle

AMG ceramic high-performance composite brake system as standard

The brake system of the SLS AMG Coupé *Black Series* boasts excellent stopping power and outstanding fade resistance. The AMG ceramic high-performance composite brake system is fitted as standard. The ceramic brake discs, measuring 402 x 39 millimetres at the front and 360 x 32 millimetres at the rear, are characterised by enhanced thermal stability due to their increased hardness, accompanied by a weight reduction of around 40 percent. As a result of the reduced unsprung masses, they optimise both comfort and grip. The reduced rotating masses at the front axle provide for more direct steering response. The weight saving with the AMG ceramic high-performance composite brake system compared to a conventional steel/aluminium brake system amounts to 16 kilograms. The SLS AMG Coupé *Black Series* comes equipped with high-performance brake pads as standard, which further enhance fade resistance when the vehicle is being raced hard on a racetrack.

Design inspired by the SLS AMG GT3 customer sport racing car

The design of the SLS AMG Coupé *Black Series* derives a special fascination from its similarity to the SLS AMG GT3 customer sport racing car. Wide flared wings with an added width of 13 mm (front) and 26 mm (rear) on each side create the necessary space for the 275 mm and 325 mm sports tyres. Darkened headlamps and black surrounds for the tail lights give the SLS AMG Coupé *Black Series* a distinctly muscular and aggressive look. Besides the front apron with carbon-fibre front splitter and the carbon-fibre rear apron with diffuser, further visual indicators of the technology transfer from the world of motorsport include the side skirts with carbon-fibre inserts and the simulated air intakes in front of the rear wheels. The wing-like cross fin and the star recess in the radiator grille are finished in high-gloss black to match the exterior mirrors and the fins on the bonnet.

When viewed from the side, the eye is caught by the stylishly integrated side skirts, which combine with the feature line to stunning effect. The carbon trim elements fitted along the bottom at the sides extend the line traced by the carbon-fibre front splitter back to the rear. AMG forged wheels in an exclusive 5-twin-spoke design painted in matt black with a high sheen finish provide a clear view of the AMG ceramic high-performance composite brake system behind. AMG forged wheels in matt black with a high-sheen rim flange are available as an alternative.

The rear of the SLS AMG Coupé *Black Series* presents a beefy appearance on a par with that of the front end. The broad wings and the striking rear diffuser are the predominant features here. The two sets of chrome twin tailpipes with a square cross-section provide visual confirmation of the gull-wing super sports car's power and dynamism – as well as delivering the soundtrack to match. The exclusive AMG logo with contrasting *Black Series* lettering in black adds a discreet yet unmistakable touch at the top right of the boot lid.

The dynamic styling of the SLS AMG Coupé *Black Series* is beautifully complemented by the AMG solarbeam paintwork. This optionally available shade is exclusive to the *Black Series* model. Six other exterior paint finishes from the SLS AMG range are also available, including the matt paint finish designo magno allanite grey.

Optimum aerodynamic balance and effective cooling

The *Black Series*-specific design has more than just visual impact: it also serves to improve both downforce and cooling with only a slight increase in the coefficient of drag (C_d value). The front apron with carbon-fibre front splitter and the rear apron with diffuser help to optimise the aerodynamic balance. Giving the vehicle's underbody an even slicker form and extending the diffuser forward has lowered the C_d value while increasing downforce at the rear axle. The diffuser extends beyond the profile of the rear apron, which produces yet more downforce at the rear. The upshot of this is greater handling stability at high speeds. Visible air openings behind black grilles are designed to ensure controlled discharge of the hot air in the area between the transmission and the AMG titanium sports exhaust system.

The enlarged air intakes in the front end with carbon-fibre flics on the inside ensure an optimum air inflow into the cooling modules at the front. The carbon-fibre insert on the sides with air outlet and a black fin is also reminiscent of the SLS AMG GT3; the suction effect helps to dissipate hot air from the engine compartment and lower the temperature level. The result is supremely stable operation, even during rigorous use on the racetrack.

As on the SLS AMG GT3, the carbon-fibre bonnet features a central air outlet. Apart from effectively discharging the engine heat, this outlet also increases downforce at the front axle and improves the C_d value. The engineers at AMG have utilised the vacuum effect to deliver the the double benefit of dissipating the hot air from the engine compartment at the same time as drawing up the cool airflow from the vehicle's underbody.

AMG Aerodynamics package with carbon-fibre components

The exhilarating performance can be given an even more dynamic edge by opting for the AMG Aerodynamics package, which also has the effect of reinforcing the visual likeness to the SLS AMG GT3 customer sport racing car. This package replaces the standard-fit rear aerofoil that extends automatically at speeds of over 120 km/h with a fixed carbon-fibre aerofoil in the style of the SLS AMG GT3 that can be adjusted to two settings. The rear aerofoil is braced by aluminium elements on a special insert on the boot lid and provides for even greater contact pressure at the rear axle – not least as a result of the Gurney flap, named after its inventor, Dan Gurney, a former racing driver, designer and team owner. This eight millimetre-high spoiler lip fitted to the rear aerofoil at an angle of 90 degrees results in a further increase in downforce without significantly increasing drag.

The carbon-fibre rear aerofoil can be adjusted to any angle between 2 and 10 degrees in just a few steps. The two most aerodynamically efficient settings are aerofoil level 1 and aerofoil level 2. Level 1 is the aerodynamic configuration for everyday use: with an angle of attack of 2 degrees, the carbon-fibre aerofoil produces a light downforce at the rear axle. Level 2 is recommended for use on the racetrack: the aerofoil's 10 degree angle of attack produces 50 kilograms of contact pressure at the rear axle at a speed of 200 km/h, without a significant increase in lift at the front axle. The vehicle's handling stability benefits from the increased downforce at the rear wheels in fast corners especially. A look at the aerodynamic data furthermore shows that the SLS AMG Coupé *Black Series*

with AMG Aerodynamics package achieves better wind tunnel figures at aerofoil level 1 than without the package.

The carbon-fibre rear aerofoil is complemented by carbon-fibre flics mounted on the sides in front of the front wheels as well as an additional spoiler lip fitted in the centre below the front splitter. Both of these aerodynamic-enhancing components bring about a further reduction in lift at the front axle. Even in aerofoil level 2, the aerodynamic balance of the SLS AMG Coupé *Black Series* has been configured so as to still create a small amount of lift at the front wheels. This "pitching moment" as the aerodynamics engineers call it is desirable on a front-mid-engined super sports car, as it dampens the response to steering inputs at very high speeds. As a result of this aerodynamic set-up, critical driving situations that would otherwise be triggered by a sudden evasive manoeuvre at high speed, for instance, can be prevented by design, and the driver can enjoy an enhanced sense of safety and stability at the wheel.

Aerodynamic data for the SLS AMG Coupé *Black Series*:

	SLS AMG Coupé <i>Black Series</i>	SLS AMG Coupé <i>Black Series</i> with AMG Aerodynamics package, aerofoil level 1	SLS AMG Coupé <i>Black Series</i> with AMG Aerodynamics package, aerofoil level 2
Drag coefficient C_d	0.391	0.384	0.418
Frontal area A	2.173 m ²	2.173 m ²	2.173 m ²
Drag coefficient $c_d \times A$	0.85 m ²	0.83 m ²	0.91 m ²

Sporty, functional interior exuding high quality

A functional, sporty racing-car atmosphere is prevalent inside the SLS AMG Coupé *Black Series*, with high-quality materials demonstrating precision workmanship and exquisitely designed details. There is a choice of two colour variants: Alcantara® anthracite or Alcantara® anthracite/red. With the two-tone variant, the door centre panels and the detailing on the centre console and above the glove compartment are finished in red. The AMG performance steering wheel with flattened bottom rim section is fully trimmed in Alcantara® for a good grip. It also features a sporty red 12 o'clock marking at the top. The solid metal curved insert features a high-gloss black paint finish to match the high-gloss black surrounds of the air vents. Further exclusive, high-class details include the "AMG

Black Series" badge on the glove compartment and the so-called "3D seam" running horizontally along the dashboard: the dashboard's leather covering is punctuated by a fine Alcantara® strip in anthracite across its entire width. Red contrasting stitching in the leather lends an accomplished finish to the 3D seam, underscoring the handcrafted character.

The combination of high-quality designo leather and functional Alcantara® features throughout the interior – on the bottom section of the dashboard, for example, on the door centre panels and on the AMG sports bucket seats, whose centre sections are upholstered in Alcantara®. Embossed AMG emblems on the head restraints are further exclusive, eye-catching features. In addition to providing superb lateral support at high cornering speeds, the AMG sports bucket seats are also 15 kilograms lighter than the standard AMG sports seats.

The omission of the COMAND APS multimedia system reduces the vehicle's weight by an additional six kilograms as a further demonstration of the SLS AMG Coupé *Black Series*' uncompromisingly purist character. The carbon-fibre fascia fitted between the air vents in place of the screen adds to the racing atmosphere. COMAND APS is available ex factory together with AMG Performance Media and the reversing camera as part of the optional "Infotainment System" package. The vehicle's occupants will find that the entire centre console incorporating the AMG DRIVE UNIT has also been encased in the motorsport material carbon fibre.

Bold highlights are added by red seat belts and red contrasting stitching on the AMG sports bucket seats, the centre console, the upper and lower section of the dashboard and the door panelling. The floor mats similarly feature red edging.

Bang & Olufsen BeoSound AMG high-end surround sound system

One of the highlights among the optional equipment and appointments is the Bang & Olufsen BeoSound AMG high-end surround sound system, developed by Mercedes-Benz and Mercedes--AMG together with renowned Danish audio specialist Bang & Olufsen. The sound system also offers playback in Dolby Digital 5.1 quality, of course, and enables an exclusive audio experience of the very highest standard.

This performance is made possible by a 1000 W amplifier and eleven high-end loudspeakers with neodymium driver in conjunction with precision distribution of the audio signals by the sound processor. This integrated digital sound

processor (DSP) enables the driver to select a special B&O sound menu via COMAND. Individual Driver, Passenger and Central sound setups can be selected in True Image™ mode, resulting in a realistic audio experience in the selected listening position. Various sound modes are additionally stored in the "Sound Mode" menu, offering a choice between a "Reference" high-end studio sound and a wide-dispersion surround option. While "Reference" focuses on an unadulterated rendering of the artist's performance, the special surround sound mode with its wide sound dispersion is especially suited to live music or concerts, creating a unique panoramic sound stage in the vehicle without compromising the natural character of the recording.

The illuminated 50 W tweeters featuring Acoustic Lens Technology on the dashboard are a very special visual highlight. The 250 W-subwoofer is accommodated in the rear shelf. Top-quality Bang & Olufsen aluminium loudspeaker covers in "silver chrome" bearing the Bang & Olufsen logo provide a further indication of the exclusive character of the Bang & Olufsen BeoSound AMG high-end surround sound system.

The following optional extras are available for further customisation (selection):

- AMG carbon-fibre exterior mirrors
- AMG carbon-fibre engine compartment cover
- AMG Interior Carbon-Fibre package
- Convenience telephony
- Media Interface