

The BMW M6 Convertible. Contents.



1. World Debut of the BMW M6 Convertible. (Short Version)	3
2. A Stunning Appearance: Design, Body, Features.	9
3. Superior All Round: Chassis and Suspension.	19
4. Effortless Muscle: Drivetrain.	25
5. Specifications.	32
6. Output and Torque Diagram.	33

1. World Debut of the BMW M6 Convertible. (Short Version)



Incredibly dynamic, incredibly open, incredibly attractive:

The BMW M6 Convertible is a dream car for the genuine enthusiast seeking to combine supreme power and performance with a particularly stylish rendition of open-air motoring. Precisely for this purpose, BMW M GmbH has created a truly unique performer: Ten cylinders and five litres engine capacity, 373 kW/507 hp and maximum torque of 520 Newton-metres/383 lb-ft – these are the basic facts and figures describing a drive unit revving up smoothly and dynamically to the other side of 8,000 rpm. Together with the excellent suspension conceived for supreme dynamics and the Sequential M Gearbox (SMG) complete with Drivelogic, this supreme power unit turns the large convertible from BMW M into an open sports car able to accelerate to 100 km/h in just 4.8 seconds.

The BMW M6 Convertible combines impressive driving dynamics with supreme exclusivity and aesthetic looks with dynamic elegance through and through. And offering all the space and comfort of a genuine 2+2 as well as the refinement of a truly outstanding top segment luxury car, the BMW M6 Convertible makes open-air motoring an absolutely unique experience.

Combining all kinds of different qualities in unprecedented style, the BMW M6 Convertible is truly unmistakable. It is the open-air version of the BMW M6 high-performance sports car. And at the same time it is the most sporting and dynamic rendition of the BMW 6 Series Convertible. In particular, however, the BMW M6 Convertible is one of the most fascinating and exclusive cars ever built.

Reflecting the usual standard of a BMW M Car, the dynamic driving qualities of the BMW M6 Convertible have been optimised on the race track. With its supreme driving comfort, wide range of equipment and unique flair, the M6 Convertible is however equally at home on all kinds of roads the world over. The high-quality fabric roof ensures sheer driving pleasure at all times of the year. And not least, the BMW M6 Convertible stands out through the understatement and style so typical of every BMW M Car.

Unique at first sight.

In the sum total of all its features, the BMW M6 Convertible is beyond any competition. Proudly bearing the motorsport DNA of BMW M and the comfort-oriented elegance of the BMW 650i Convertible, the M6 Convertible most definitely comes in a class of its own – it is a high-performance

convertible thrilling in every respect. So there can be no doubt about it: Compared with other high-performance open two-seaters, the BMW M6 Convertible comes closest to the concept of the ideal car in this segment.

Measuring 4,871 millimetres or 191.8 inches in length, BMW M's new high-performance convertible is more than 5 centimetres or 2 inches longer than the BMW 6 Series Convertible, above all due to its rear air dam optimised for supreme aerodynamic performance and giving the entire car an even sleeker, stretched-out silhouette. Widely flared wheel arches, in turn, give the car a very sporting, low and dynamic look.

Perhaps the most significant eye-catchers at the rear are the four exhaust tailpipes sticking out of the powerfully contoured air dam so typical of BMW's M Cars. In all, the BMW M6 Convertible offers unique aesthetic looks characterised by dynamism and exclusivity and truly fascinating to behold whether the car is open or closed.

Fin-roof look with the softtop either closed or open.

The roof of the BMW M6 Convertible is made up of three layers. A special noise- and heat-insulating layer of polyurethane (PUR) foam comes between the rubberised outer layer and the interior roof lining. Thanks to its unique fin-roof look, the softtop boasts the same dynamic contours as the coupé. The wide C-pillar, in turn, is characterised by the so-called Hofmeister "kick" proudly borne out on all BMWs and so typical of the brand.

Although the roof covers an extremely generous passenger compartment, it folds up into compact dimensions, the vertically positioned rear window hardly taking up any storage space at all, since it moves up and down electrically, regardless of whether the roof itself is open or closed, thus providing a pleasant, draught-free supply of air whenever required. The roof itself opens and closes electrically either by remote control or by pressing a button in the instrument panel, the entire process in each case taking less than 25 seconds.

The interior: sports car character with proud style and noblesse.

Within its interior, the BMW M6 Convertible again boasts a wide range of beautiful, stylish and highly practical features. Quite openly, it displays all the noblesse rightly expected by the connoisseur of an exclusive convertible ranging from generous seats and spaciousness all the way to a complete range of highly attractive comfort features. A particular highlight is the tasteful combination of the most exclusive materials, with the entire design of the interior reflecting the car's sporting and elegant style.

In the driver-oriented cockpit all essential functions are positioned exactly where they should be for perfect ergonomics, either on or around the steering wheel. The controls masterminding all functions also relevant to the co-driver are housed on the centre console, which also accommodates the iDrive Controller serving to activate and operate a wide range of comfort functions via the Control Display.

Through its purist design alone, the iDrive Controller stands out clearly in its looks and touch from the Controller in the BMW 650i Convertible. The Control Display itself comes with enhanced menu guidance also comprising MDrive management. The speedometer and rev counter are housed in tube-shaped rings, the faces on the instrument dials are in black, the numbers stand out clearly in white, and the indicator needles themselves come in traditional BMW M red.

The optional Head-Up Display (HUD) presents driving information essential to the driver directly in his field of vision, the driver himself determining at the touch of a button whether he wishes to see the standard display or receive special M information.

Perfect seats for sports motoring.

The front seats have been optimised especially for the BMW M6 Convertible, offering above all supreme driving dynamics and excellent support. For a convertible, the space available for the rear-seat passengers is by all means comfortable and, indeed, generous.

Like in all M Cars, the battery and tyre repair system are housed in the luggage compartment offering an unusually spacious volume of 300–350 litres (10.5–12.3 cubic feet). This accommodates one large and one small hard shell case or a medium-sized hard shell case plus two 46-inch golf bags.

The V10 Convertible: an open pledge to power and performance.

Boosting a 373 kW/507 hp V10 power unit, the BMW M6 Convertible is quite literally an open pledge to power and performance. Even so, however, the sheer power of the engine alone is not everything. Rather, the fascinating experience of driving the car results from its outstanding acceleration and development of power at all engine and road speeds. In the BMW M6 Convertible, this ideal combination of torque and the overall transmission ratio translates into truly impressive power on the drive wheels in all situations and under all circumstances.

The supreme performance of the fast-revving V10 power unit in the BMW M6 Convertible forms a perfect match with the optimum gear and final drive ratios, thus ensuring perfectly dosed transmission of engine power to the drive wheels at the rear.

The entire power and performance concept as such is derived directly from motorsport: In the process of developing its maximum output, the V10 power unit revs all the way to 8,250 rpm, reaching engine speeds otherwise only found in a purebred racing car. And in terms of specific output, more than 100 hp per litre is truly outstanding for a normal-aspiration engine. Variable double-VANOS camshaft control, in turn, ensures an optimum gas cycle at all times. Last but not least, individual throttle butterflies on each cylinder with full electronic control give the V10 yet another particular highlight typical of motor racing.

High-speed power unit and seven-gear SMG.

The high-speed power unit offers supreme output in all situations and under all conditions. And since fast acceleration also calls for a fast and precise gearshift, the BMW M6 Convertible comes as standard with BMW's Sequential M Gearbox (SMG) complete with Drivelogic. Seven-speed SMG conveys the power of the engine to the rear wheels ideally via the drivetrain, offering the driver the option to shift gears manually, if required with an extremely fast and efficient gearshift. At the same time the automated Drive function makes rapid but smooth cruising a particular experience in motoring comfort.

SMG is activated either via the selector lever or through gearshift paddles on the steering wheel. Both in the manual and automated mode, the interruption of power flowing to the drive wheels when shifting gears is reduced to an absolute minimum.

SMG Drivelogic gives the driver no less than 11 different driving programs allowing him to individually adjust the gearshift characteristics of SMG to his preferred style of motoring. Six of the 11 programs can be pre-selected within the manual gearshift function (S-mode), the driver shifting gears by hand according to his personal preferences. The only exception is the Launch Control function for maximum acceleration from a standing start. The gearshift functions required for this purpose are completely automatically by the gearbox at the ideal point and with optimum slip control. The D-mode, finally, offers the driver another five automatic driving programs.

“M” for maximum muscle.

Perfect interaction of the V10 power unit and seven-speed SMG gives the driver maximum pleasure at the wheel: Acceleration from 0–100 km/h comes in 4.8 seconds and the BMW M6 Convertible completes the standing-start kilometre in 22.9 seconds. This supreme performance continues all the way to the car's top speed limited electronically to 250 km/h or 155 mph.

Lap times on the **Nordschleife** of Nurburgring almost as fast as in the BMW M6 Coupé clearly confirm the supreme performance of this outstanding Convertible. Focusing on every detail, however, the engineers at BMW M have succeeded in giving the M6 Convertible that extra touch of smoothness and serenity on the road, a quality cherished by the driver and his passengers above all beyond the race track, where the BMW M6 Convertible takes even severe bumps with unparalleled complacency. Indeed, the only feedback from the road going to the driver and passengers is the information essential for driving in truly sporting and athletic style.

Variable M Differential Lock and DSC with M Dynamic Mode.

The variable, speed-sensing M Differential Lock gives the M6 Convertible supreme driving stability and optimum traction especially when accelerating out of a bend. Even in the most demanding situations, therefore, the differential provides a decisive edge in traction, for example with the drive wheels running on surfaces varying extremely in their frictional coefficient. In such a case the M Differential Lock immediately builds up growing locking force with an increasing difference in speed between the two drive wheels, thus maintaining the car's traction and pulling force at all times.

The BMW M6 Convertible proudly features the new generation of BMW Dynamic Stability Control (DSC). While the first stage of DSC is designed for maximum driving safety, the M Dynamic Mode is appreciated above all by the sporting driver. And it almost goes without saying that the driver is able to switch off DSC completely if he wishes.

Electronic Damper Control (EDC) also offers freedom of choice, no less than three control programs enabling the driver to set the suspension to different modes ranging from really sporting and firm all the way to relatively comfortable.

Clearly, the driver does not always need all the power of the V10 in every situation. In city traffic or when cruising through the countryside, for example, the comfort-oriented P400 performance program is the ideal choice. P400 is automatically activated as soon as the driver starts the engine and, as the name indicates, immediately offers 400 hp output. Then all the driver has to do is press the Power Button in order to call up the full power and dynamism of the ten-cylinder, with this extra power offering a significantly more spontaneous and dynamic response.

High-performance brakes like in motorsport.

Reflecting the car's outstanding performance, the BMW M6 Convertible comes with a high-performance brake system featuring cross-drilled, weight-optimised compound brake discs. On the road, this means a stopping distance of just under 36 metres or 118 feet from 100 and less than 140 metres or 459 feet from 200 km/h.

The two-stage brake display in the rear lights ensures extra safety and helps to prevent accidents from behind: As soon as the driver applies the brakes hard, the illuminated area in the brake lights becomes larger than in a regular braking manoeuvre, telling motorists following from behind to apply the brakes harder, too. A further safety feature is the very bright and fast-reacting LEDs in the brake lights not requiring any maintenance and absolutely free of wear.

Quality, not quantity: finest mix of materials.

The perfect balance of weight also contributes to the superior driving characteristics of the BMW M6 Convertible. This perfection in weight alignment is based on an intelligent mix of materials for the body-in-white, inter alia with the help of modern plastic materials of the highest quality. And despite their lower weight, these components are stiffer and stronger than comparable components made of conventional materials, ensuring not only precise driving dynamics, but also optimum vibration control and a very high standard of crash safety.

Electronically controlled safety systems.

The seat belts on all four seats come with belt force limiters. The integrated restraint systems on the front seats also feature belt latch tensioners, with two-stage frontal and side airbags reducing the risk of injury. These safety components are controlled and masterminded by Advanced Safety Electronics (ASE), a safety and information system exactly determining the intensity of a collision should the worst ever come to the worst and activating the restraint systems quickly and precisely where they are required.

2. A Stunning Appearance: Design, Body, Features.



- **High-performance convertible with four seats and softtop.**
- **Soft roof with fin look.**
- **Exclusive materials and colours to meet the greatest demands.**

Supersports or luxury convertible? The connoisseur opting for the BMW M6 Convertible is not even required to make such a decision. Quite simply because this ultra-high-performance convertible combines athletic power with breathtaking looks, mastering the art of showing its muscle in supreme, relaxed style.

A BMW M Car always offers its qualities in full, catering for every requirement. In the BMW M6 Convertible this means, first, joy of sports driving pleasure all the way to the very limit of driving physics and, second, open-air motoring in true style without the slightest restriction. So avoiding any compromise, the BMW M6 Convertible holds a truly exceptional position in the supreme class of high-performance four-seater convertibles.

Classic roof in innovative style.

The classic soft roof on the BMW 6 Series Convertible is interpreted here in particularly innovative style: The BMW M6 Convertible also boasts the innovative look and unique qualities of the fin roof with all its optical and technical benefits. The softtop has the same dynamic roof contours as the coupé, the wide C-pillar boasting the Hofmeister “kick” so typical of BMW just as proudly as in the rear side windows of the coupé.

Vertical rear window between the fins.

A special solution for the rear window perfectly supplements the unique fin roof structure: Instead of a conventional rear window which would have been very large due to the low slant of the roof and would therefore have taken up a great deal of space in the rear compartment, the BMW M6 Convertible features a much smaller, vertical rear window moving up and down electrically regardless of the position of the roof. This ensures a pleasant, draught-free supply of fresh air to the interior also when the softtop is closed, providing an effect similar to that of a sliding roof, but with an even lower level of noise. When driving with the roof down and with passengers sitting at the rear, in turn, the rear window moved up to its elevated position protects the rear-seat passengers sitting low in their seats from possibly unpleasant draughts. Indeed, the vertical window offers functional benefits even in winter, remaining virtually always free of ice and snow. And last but not least, it is electrically heated for optimum visibility at all times.

Although the soft roof covers a large and spacious passenger compartment, it folds up into compact dimensions, even the roof bars and folding mechanism taking up very little space. A further advantage is that the roof does not have the usual tensioning bars otherwise to be found on a softtop, with fins at the side providing this tensioning function. The result is a relatively large luggage compartment offering no less than 300 litres or 10.5 cubic feet capacity even with the roof down. And with the roof closed and the roof compartment folded up, luggage capacity is an even more generous 350 litres or 12.3 cubic feet.

High tech for high comfort.

To give the soft roof the same noise and heat insulation as even the best retractable hardtop or fixed roof, the watertight, rubberised top layer is padded and reinforced by an inner layer of polyurethane (PUR). This innovative insulation between the outer roof and the interior lining ensures far better and more effective insulation than conventional fleece padding.

The electrically operated roof opening and closing mechanism is activated both by remote control and by a button in the instrument panel. When opened, the complete softtop disappears into the roof compartment, the entire process of opening and closing the roof including operation of the rear and side windows as well as the roof compartment lid and locking/unlocking the roof on the windscreen frame taking less than 25 seconds. A further advantage is that the roof mechanism can be operated also while driving, enabling the driver to open or close the roof at a speed of up to 30 km/h or 20 mph.

To enhance the pleasure of open-air motoring when driving alone or with a passenger at the front to an even higher standard, a wind deflector optimised in the wind tunnel is available as an option. Fitted above the rear seats, the wind deflector is a fine mesh net structure held within a frame of powder-coated aluminium profile bars connected to one another by glass-fibre-reinforced cornerpieces and plastic hinges. Folded up twice, the wind deflector fits conveniently into a bag in the luggage compartment.

The exterior – sophisticated understatement all round.

The BMW 6 Series Convertible is one of the most attractive cars in the world. And now the BMW M6 Convertible raises this appeal to an even higher standard, visibly displaying its extra muscle and performance. But at the same time the modifications made to the car, reflecting the typical standard of BMW M, are discreet and not exaggerated, just a small number of conspicuous highlights enhancing the overall presence and elegance of the M6 Convertible. Hence, this new high-performance open-air sports car ideally renders all

the features so typical of BMW M – supreme performance, elegant design, and outstanding driving pleasure. In every respect the car offers aesthetic looks borne out by sheer dynamism and exclusivity revealing its supreme driving characteristics at very first sight.

Measuring 1,855 millimetres or 73.0" in width and only 1,377 millimetres or 54.2" in height, the very low and wide body of the BMW M6 Convertible is made even more dynamic and adventurous in design by the strong curvature at the bottom of the dual headlights. Ring-shaped parking lights around the high and low beams show that the M6 Convertible is a genuine member of the BMW family, the headlights themselves being somewhat reminiscent of pupils. The direction indicator units extending across the headlights as slender horizontal lines merge as a kind of "eyeliner" into the muscular, curved wheel arches.

Again reflecting the true style of BMW M, the front air dam extending far down to the road is very powerful in design and comes with large air intakes providing an ample supply of air to the high-speed power unit. Flaps – that is small spoiler lips on the front air dam – serve to reduce lift forces on the front axle, thus enhancing driving stability also at high speeds.

Muscular, sporting, elegant.

Measuring 4,871 millimetres or 191.8" in length, the BMW M6 Convertible is more than 5 centimetres or 2 inches longer than the BMW 650i Convertible. This extra length is attributable above all to the aerodynamically optimised rear air dam giving the entire silhouette of the car an even sleeker, stretched look. As on the Coupé, the sideline initially moves up steeply and then gently follows the contours of the engine compartment lid. The A-pillar moved slightly to the rear and the wide C-pillar give the closed roof a sporting and elegant look also from the side. Fully retractable side windows merging into one another without a visible edge or dividing line give the entire silhouette of the car a touch of lightness, as if it were almost hovering in space. At the rear the sideline ends in a short spoiler integrated in the rear lid and emphasising both the entire rear sculpture and the rear lights wrapped around the side of the car. The upper edge of the rear lights merges smoothly into the V-shaped shoulderline extending down in a gentle curve.

Aerodynamic perfection to the last detail.

Widely flared to the outside, the side-sills give the car a very sporting, low-slung appearance. The lift forces acting on the front axle are incidentally also lowered even by the striking rear-view mirrors optimised in the wind tunnel, while at the rear the most significant eye-catchers are the four exhaust tailpipes again so typical of BMW M. The diffuser and the flaps on either side

again serve to improve the car's aerodynamic qualities. Acting in conjunction with the spoiler integrated in the luggage compartment lid and the smooth underfloor, this likewise serves to reduce lift forces on the rear axle, the diffuser at the same time ensuring a smooth flow of air from the final drive.

Compared with the BMW 650i Convertible, the light units in the bumpers are slightly higher up and the numberplate is integrated in the rear air dam. Thanks to their airflow contours, even the rear lights improve the car's aerodynamic qualities. In particular, however, they serve to enhance driving safety with a particular effect, two-stage brake lights helping to prevent collisions from behind: Whenever the driver applies the brakes hard, the area illuminated in the brake lights becomes correspondingly larger, clearly showing motorists following from behind that the driver is braking hard and telling them to do the same. Incorporating very bright and fast-acting light-emitting diodes not requiring any maintenance and free of wear, all other lights at the rear of the car ensure a clear and reliable signalling effect.

Quality, not quantity: optimum mix of materials.

Combining a wonderful balance of innovative materials, the BMW M6 Convertible offers virtually perfect weight distribution. Apart from tailored rolled blanks keeping panel thickness at various points exactly in line with the respective requirements, an intelligent combination of aluminium and special plastic materials provides all the features and qualities required. One example is the lightweight aluminium front section of the car weighing approximately 45 kilos or 99 lb less than a conventional steel structure at the front. The next example is the spring support bearing both the front axle and dampers and made of pressure-cast aluminium alloy. The doors and front lid, in turn, are made of aluminium, the front side panels of thermoplastic, the rear lid and roof compartment lid of a sheet moulding compound (SMC). The front and rear bumpers are made of carbon-fibre-reinforced plastic manufactured exclusively at BMW's Landshut Plant north of Munich. In this process individual layers of carbon-fibre-reinforced plastic are applied one after the other on a core segment, cast in resin and hardened before the core is removed. The result is an extremely light and strong hollow profile support offering the same function, strength and efficiency as a heavier support unit made of steel or aluminium.

Special support arms such as push and pressure rods as well as double side-sills give this open four-seater superior body stiffness under all conditions. A further feature exclusive to the BMW M6 Convertible is the additional reinforcement on the underfloor. Two of the support arms already featured on the "standard" BMW 650i Convertible have been further reinforced, and both the front axle subframe as well as the engine supports have been adjusted to the higher loads and forces of really dynamic motoring.

These improvements are sufficient to take the enhanced level of dynamic performance – with an increase in engine output by 140 horsepower over the BMW 650i Convertible – into account. The bottom line, therefore, is that the M6 Convertible is fundamentally just as stiff and resistant to vibrations as an extremely strong and sturdy two-seater roadster, and at the same time offers optimum vibration comfort and a very high standard of safety in a collision.

With unladen weight (according to the EU standard) of 2,005 kilos or 4,421 lb, the BMW M6 Convertible weighs 220 kilos or 485 lb more than its fixed roof high-performance counterpart from BMW M. The reason for this difference lies almost entirely in the roof structure – while the BMW M6 Convertible “only” has a softtop, this also means a strong and sturdy bar structure and an electric motor to open and close the roof. Compared with the BMW 650i Convertible, however, the M6 Convertible is just 80 kilos or 176 lb heavier, since the engineers at BMW M have succeeded in almost completely setting off the extra weight of the more powerful engine and ensuring a harmonious balance of weight. As a result, the BMW M6 Convertible boasts axle load distribution of almost 50 : 50, that is very close to a perfect balance.

Maximum safety, even in a rollover.

Benefiting from its stable body structure, the BMW M6 Convertible meets the highest standards also in terms of passive safety. Ultra-strong bearing arms use their full deformation length at both front and rear for optimum safety and protection at all times. The entire front end structure is designed to give the car's occupants optimum safety in a collision, the intelligent combination of high- and ultra-high-strength steel, aluminium, thermoplastics, and SMC also serving to enhance the car's safety qualities. As an example, two V-shaped extrusion-pressed aluminium bars in the doors significantly reduce the risk and extent of intrusion in a collision from the side.

The windscreen frame is made of profile sections optimised through interior high-pressure moulding to withstand maximum loads. Together with the A-pillars made of high-strength steel and the rollbars behind the rear headrests, the windscreen forms the basic structure and configuration providing a safe passenger compartment also in the event of a collision. Tailored rolled blanks on the rear bulkhead, on the seat supports and longitudinal arms strengthen the body panels at all points where loads and forces flow into the body. High-strength steel, in turn, reinforces the side panels inside, in the middle, and in the extension of the side-sills leading out to the front. The rollover safety system made of a high-strength aluminium alloy, finally, extends across almost the entire width of the car, incorporating an extra-strong crossbar, holding the rollbars as such in position, and serving in conjunction with the bulkhead in the body-in-white to enhance body stiffness.

In the event of a rollover, the rollbars move up within fractions of a second from a module behind the rear seat headrests and rest firmly in position, held in place by positive engagement. Proper activation of the rollbars is ensured by Advanced Safety Electronics (ASE), instantaneously moving up the rollbars and tightening the belt latch tensioners as a function of the wheels resting firmly or possibly losing their touch on the road. This initiates the safety function required even before the car as such has moved to a potentially dangerous angle. Should the car not roll over, the belt latch tensioners are deactivated and the rollbars return automatically to their initial position.

ASE: optimum protection at exactly the right time.

The safety belts on all four seats come with belt force limiters, the integrated restraint systems on the front seats also feature belt latch tensioners. The reinforced front seat backrests, in turn, smoothly convey forces and loads to the floorpan of the car. The upper belt pivot point is connected to the headrest and thus adjusts perfectly to the body size of the respective passenger, ensuring optimum belt geometry and an ideal belt angle.

Both the driver and front passenger are protected by two-stage front airbags adjusted in volume to the severity of an accident. Additional airbags at the side serve to reduce the risk of injury on chest and hip level. All safety components are enhanced in their action by BMW's innovative Advanced Safety Electronics (ASE), a networked airbag control system featuring lightwave conductors and decentralised satellites for precise recognition of crash conditions and quick, target-oriented activation of the car's restraint systems. These superior safety qualities are finally supplemented by BMW Assist sending out an automatic or manual emergency call in the event of an accident.

Paintwork and interior: exclusive and individual.

Exclusive paintwork is a typical feature and, indeed, an important tradition of BMW M. Precisely this is why M metallic paint in Indianapolis Red, Sepang Bronze, Interlagos Blue, and Silverstone offer a particularly attractive visual highlight on the BMW M6 Convertible. A further choice is Alpine White non-metallic paint, and the M6 Convertible is of course also available in Sapphire Black, Metallic Silver Grey, Monaco Blue, and Stratos Grey, that is the "regular" colours of the BMW 6 Series. The BMW M6 logo, finally, comes in the side grilles, at the rear of the car, and in the illuminated door cutout trim.

Stylish elegance and individual flair – these are also the qualities which dominate the interior of BMW's most powerful open four-seater. Indeed, the BMW M6 Convertible offers all the style and noblesse appreciated so much by the aficionado of exclusive convertibles, with qualities ranging from a wide range of seat positions and interior spaciousness all the way to extremely

attractive comfort features. A further, equally significant point, is the tasteful combination of exclusive materials, the interior of the car being characterised by surfaces and lines emanating a distinctive touch of solidity and dynamism. Long, swinging lines extend through the car both along the centre console and in the door linings, surrounding the driver and passenger with powerful shapes symbolising the car's performance. The result is the same dynamic flair within the interior as on the body of the car, while at the same time the colours and shapes of the interior extend smoothly into the roof compartment lid. The bottom line, therefore, is that the BMW M6 Convertible offers a truly harmonious impression of all-round perfection both outside and inside.

The seat upholstery in the BMW M6 Convertible is equally exclusive and functional. Naturally featured as standard, the extended leather upholstery and trim not only looks and feels simply perfect, but also braves even the worst wind and weather conditions in a convertible. Coming in exclusive Merino quality, leather upholstery is available in Black, Silverstone, and Sepang, covering the seats, centre console and handbrake lever gaiter as well as the door panels, armrests and sun visors. At the rear, in turn, the interior side panels are also finished in leather.

Either Black or Basalt Grey outside, the roof is combined with a Black interior lining. And special features on the M models bound to catch the eye of the beholder at first sight are the exclusive seams on all seats as well as the M logo in the headrests.

Available as an option, full leather upholstery covering an even wider range of features and surfaces inside the car comes in a choice of five colours, the three standard colours being supplemented in this case by Indianapolis Red and Portland Natural Brown. Here, case even the instrument panel, A-pillars, the upper windscreen panel including the sun visors, the door and rear side panels as well as the roof fastening locks are all finished in leather. And as a further option both the trim strips and surface panels within the interior are available in Black Piano paint, in Madeira and Carrara wood, and, finally, in carbon fibre.

Perfect seats for dynamic motoring.

The seats for both driver and front passenger have been optimised specifically for the BMW M6 Convertible. Compared with the seats in the BMW 650i Convertible, the foam sections on the shoulder siderests offer particularly good support under dynamic driving conditions with the seats now hugging the occupant's body even more firmly and securely. The seat themselves adjust electrically in length, height, seat bottom and backrest angle. An electrically controlled lumbar support, in turn, ensures additional

comfort and an even better fit with the occupant's body, the infinitely controlled system of air chambers providing a particularly ergonomic seating position supporting the back muscles and removing loads from the back-bone. Three-stage seat heating, finally, warms up both the seat bottom and backrest as well as the support elements at the side of the occupant's back.

Dynamic driving pleasure for four.

Up to four occupants are able to enjoy the very best in driving pleasure in the BMW M6 Convertible, the passengers at the rear also experiencing all the pleasures of motoring in style: Sitting comfortably in deeply contoured leather seats separated from one another by seat cushions, they enjoy good side support ensured, inter alia, by the sporting contours of the backrests. And thanks to easy access on the driver's and front passenger's seats, both rear seats are easy to reach, ensuring convenient access to and exit from the seats at the rear.

Like in all BMW M Cars, the battery and the tyre repair system are housed in the luggage compartment. Offering capacity of 300 litres or 10.5 cubic feet, the luggage compartment in the BMW M6 Convertible is certainly most spacious even with the roof down. And once the roof is closed, with the roof compartment folded in, luggage capacity increases to an even larger 350 litres or 12.3 cubic feet, conveniently accommodating a set of one large and one small hard-shell suitcase or one medium-sized hard-shell suitcase plus two 46-inch golf bags. Four lashing points in the floor of the luggage compartment serve to securely hold down individual items of luggage.

Through-loading in conjunction with a ski-bag available as an option enables the driver to conveniently accommodate two pairs of skis up to 2.05 metres or 81 inches in length, or a snowboard. The luggage compartment opens by remote control or by a handle integrated in the BMW logo on the rear lid.

The storage compartments, boxes and other spaces available within the interior for all kinds of odds and ends are also more than generous. Offering capacity of 4.8 litres, the glove compartment alone is larger than normal even though the CD changer and the car's fuses are accommodated behind the glove compartment as such.

Driver-oriented cockpit with all the flair of Formula 1.

Within the driver-oriented cockpit, all essential functions are placed in exactly the right ergonomic arrangement on or around the steering wheel. The control elements for all functions also relevant to the front passenger are concentrated around the centre console, which also accommodates the iDrive Controller serving to activate and mastermind the car's comfort

functions via the Control Display. In its purist and straightforward aluminium design, the iDrive Controller and, indeed, the centre console as such stands out clearly in both its looks and touch from the Controller in the BMW 650i Convertible. The Control Display presents the functions and settings currently active in the menu structure enhanced on the M6 Convertible by MDrive Management.

The lights and position indicator showing the gear currently in mesh are activated in the gear selector lever as soon as the driver switches on the ignition. Four push buttons next to the SMG selector lever serve to directly control the Power, DSC, EDC, and Drivelogic dynamic drive functions.

Both the speedometer and rev counter come in chrome surrounds, the driver receiving clear information from white figures on a black face and indicator needles finished in traditional BMW M red. The white corona lights on the cockpit are switched on permanently, and the presentation of engine speed in the rev counter reflects yet another highlight so typical of BMW M: The yellow pre-warning field and the red warning field display the range of engine speed the driver is currently advised to observe in the BMW M6 Convertible as a function of the current engine oil temperature. With engine oil warming up, the range of engine speed available increases accordingly, allowing the driver to use all of the engine's power and performance.

Between the speedometer and rev counter the driver will find all the controls and displays typical of a sports car, such as the oil level indicator, the mileage counter, and the SMG display presenting the gear currently in mesh, as well as the Drivelogic function.

The optional Head-Up Display (HUD) gives the driver essential driving information directly in his field of vision. Then, simply pressing a button, the driver is able to choose either the standard display or specific BMW M information and data projected on to the windscreen. The special BMW M display highlights the dynamic engine speed band and also presents the optimum gearshift points through its shift-light function carried over directly from Formula 1. And last but certainly not least, the display informs the driver at all times of the gear currently in mesh and the speed of the car.

The M leather steering wheel is the perfect interface between a sporting, ambitious driver and his high-performance car. A steering wheel of this quality allows the driver not only to steer the car precisely in every situation and under all conditions, but also, thanks to the multi-function buttons, to mastermind a whole range of the car's functions. Supplementing

this superiority, the SMG paddles allow the driver to shift gears easily and conveniently at the touch of a button, always keeping his hands on the steering wheel. This, reflecting BMW's clear philosophy, is the appropriate rendition of ergonomics enhancing not only sheer driving pleasure, but also traffic safety.

Pressing a button on the multifunction steering wheel, the driver also activates the MDrive function, turning a comfort-oriented convertible into a thoroughbred sports car and vice versa at the touch of a button: Via MDrive, the driver is able to call up various settings of the car's dynamic drive systems configured in advance in iDrive. These are the Power button, SMG Drivelogic, DSC Dynamic Stability Control, EDC Electronic Damper Control, the Head-Up Display, and the key memory system.

The BMW M6 Convertible is a truly unique vehicle even in standard trim. And to enhance the car to an even higher level of personal style and perfection, the customer has the choice of a wide range of special features for the BMW 6 Series as a whole and for the BMW M6 in particular.

Two outstanding examples are Adaptive Headlights literally guiding the car round a bend and cruise control. In addition, the customer also has the choice of various audio systems tailored specifically to the Convertible and a wide range of communication features. And like the BMW M6 Convertible itself, these outstanding features obviously offer the highest level of all-round perfection and quality.

3. Superior All Round: Chassis and Suspension.



- **Superior suspension qualities typical of BMW M.**
- **High standard of motoring comfort and dynamic qualities.**
- **Variable M Differential Lock.**

From casual cruising with nothing but the sky above all the way to dynamic motoring in search of the last few seconds – no other open 2+2-seater offers the same wide range of driving opportunities as the BMW M6 Convertible. Simply because just the slightest movement of the gas paddle brings out all the motorsport DNA of the BMW M6, while at the same time this unique four-seater serves as both an exclusive and comfortable luxury convertible for the most discerning connoisseur.

The unique driving experience offered by the BMW M6 Convertible comes from the combination of incredible refinement and running smoothness, on the one hand, and unparalleled dynamism and performance, on the other. In everyday traffic the BMW M6 Convertible merely needs to briefly indicate its supreme performance potential, the omnipresent supremacy of the car leaving no doubt about the unfathomable performance reserves naturally available at any time.

The creation of such a multi-faceted character is attributable, not least, to the chassis and suspension specialists of BMW M GmbH: Developing the BMW M6 Convertible, they have created a car with a huge range of dynamic qualities ideal for both the most demanding race track such as the **Nordschleife** of Nurburgring or serpentine mountain passes in the Maritime Alps, on the one hand, for casual cruising on Boulevard La Croisette, on the other, and, finally, for ultra-high speeds on the finish straight.

The suspension set-up – a masterpiece.

Focusing specifically on the BMW M6 Convertible, the engineers and suspension specialists at BMW M have chosen exactly the right spring, damper and anti-roll bar set-up offering the occupants all the sporting qualities of the car's Coupé counterpart and the comfort of refined motoring in luxurious style. In the process of chassis and suspension development, therefore, the engineers have brought together the most contradictory demands and qualities – on the one hand truly impressive performance requiring a firm and sporting set-up, on the other hand relaxed cruising with the highest conceivable standard of suspension comfort.

The chassis and suspension of the BMW M6 Convertible offers both: While direct feedback of road conditions contributes to the car's sporting qualities in typical BMW M style, open-air cruising with smooth and even gentle road contact is a genuine, fully relaxing pleasure. In all, therefore, the BMW M6 Convertible is a masterpiece in suspension engineering – as firm as necessary in order to get all the 507 horses on to the road, and as comfortable as would befit a four-seater luxury cabriolet.

At the same time the suspension is one of the lightest of its kind in the world – which is indeed highly important, considering that the Convertible inevitably weighs some 220 kilos or 485 lb more than the Coupé with its fixed roof lightweight body. But this additional weight comes largely at a point quite positive for the car's driving dynamics, the engineers at BMW M succeeding in the design and construction of the Convertible in lowering the centre of gravity to an even lower point than on the BMW M6 Coupé: The specific arrangement of the roof bars and the electric motor for opening and closing the roof moves axle load distribution conveniently to the rear, with 49.8 per cent of the car's overall weight resting on the rear axle.

The power-to-weight ratio is equally impressive: Applying the DIN standard in calculating the ratio between vehicle weight and engine output, we establish a figure of 3.8 kg or 8.4 lb per horsepower in the BMW M6 Convertible. And so it is no surprise that the car's lap times on the **Nordschleife** of Nurburgring, where all BMW M models are put through their paces, are almost as fast as the lap times of the Coupé.

Despite these race-like qualities, the driver and his passengers will experience the roadholding and driving characteristics of the BMW M6 Convertible as smooth, refined, and simply supreme: The suspension filters out any short and hard bumps resulting from bad road conditions with incomparable smoothness and style. All the feedback going to the customer is limited to the signals he needs in order to cope with the respective driving situation. In all, therefore, the Convertible offers truly outstanding roll comfort on all kinds of roads and surfaces, the driver benefiting from precise handling and enjoying truly unique motoring comfort at all times.

Less weight, high stiffness, precise handling.

With the exception of a few components subject to particularly high loads such as the tie-rods, wheel bearings or pivot points, the two-arm spring strut front axle of the BMW M6 Convertible is made completely of aluminium. The U-shaped front axle subframe takes up the steering mechanism, anti-roll bar, track control arms and thrust rods. A large aluminium panel gives the axle subframe maximum lateral stiffness and ensures particularly precise

response to the driver's commands. It also features two NACA intakes feeding cooling air, inter alia, to the car's transmission without in any way impairing the aerodynamic qualities of the underfloor. These slot-shaped air intakes tapering to the inside in order to enhance the flow of air were originally developed for aerospace requirements and are named after the National Advisory Committee for Aeronautics (NACA), the organisation which preceded NASA.

Servotronic with two control maps.

The steering system featured in the BMW M6 Convertible also meets all kinds of different requirements, Servotronic varying the degree of steering assistance via individual control maps as a function of road speed and engine revs. The result is a high level of steering assistance for smooth and comfortable manoeuvring as well as a supreme steering position keeping the car perfectly on track at high speeds. To the driver this means much easier parking, on the one hand, plus superior safety at high speeds, on the other, since the driver, benefiting from Servotronic, can hardly pull the steering too severely even in a sudden manoeuvre.

Two Servotronic control maps corresponding to the EDC mode currently active maintain the same steering qualities and feeling at all times. Providing very direct steering qualities and equally direct, precise feedback to the driver, the sports control map nevertheless ensures highly dynamic, sports-oriented performance, while the comfort set-up ensures superior driving comfort and refinement particularly appreciated when motoring with the roof down.

The rear axle – perfect set-up and intelligent lightweight technology.

The integral IV rear axle is also made almost entirely of aluminium and offers the very best in terms of tracking stability and motoring comfort. Cooling fins on the aluminium cover of the final drive reduce temperatures within the final drive unit by up to 15 °C versus a conventional design, dramatically cutting back all thermal loads acting on the transmission.

The final drive is connected to the SMG Sequential Manual Gearbox by a two-piece drive shaft featuring a Hardy disc at the front, an equidistant pivot arm at the rear, and a centre bearing. In the interest of minimum weight, the output drive shafts are a torsionally stiff, tubular structure.

M Differential Lock for extra safety and driving pleasure.

The final drive features BMW's Variable M Differential Lock. Whenever required, this unique drive unit is able to generate up to 100 per cent locking action, optimising both driving stability and traction particularly when accelerating out of a bend, for example when one of the drive wheels is about

to lock. Whenever the driver prefers a more sporting and dynamic style of motoring and on roads with a high frictional coefficient, the M Differential Lock also enhances the positive qualities of rear-wheel drive, thus offering extra safety and driving pleasure at all times.

On a conventional, torque-sensing differential lock the overall drive force and engine power conveyed to the road depends on the traction maintained by the wheel with the lowest level of friction on the road surface, that is the wheel slipping most. Clearly, this often limits traction most significantly particularly on snow, gravel or ice. The engine speed-sensing Variable M Differential Lock, on the other hand, gives the car a decisive increase in traction even on road surfaces varying most significantly in their frictional coefficient – in extreme cases even conveying all the power and momentum of the engine via the wheel with the better frictional coefficient.

Clearly, this gives the BMW M6 Convertible unusually good driving qualities in winter, the Variable M Differential Lock immediately building up increasing locking action between the drive wheels with an increasing difference in wheel rotation speed. This means that a wheel no longer conveying the full power of the engine – for example the inner wheel in fast bends – does not lead to a complete reduction of drive forces in an attempt to prevent the wheel from spinning. Instead, locking action is always controlled individually as required and drive power as well as traction are suitably maintained at all times.

DSC in M Configuration for enhanced safety.

The chassis and suspension of every BMW M model ensures superior dynamism and safety under all kinds of everyday driving conditions. Exceptional situations reaching the very limits of driving physics, in turn, are handled and optimised by BMW Dynamic Stability Control (DSC) permanently monitoring the car's driving conditions and intervening whenever necessary in engine management in order to reduce drive forces or activate the brakes on a specific wheel. DSC thus enhances driving safety for example on a slippery road, in abrupt manoeuvres, or with the car threatening to lose stability in a bend.

In the BMW M6 Convertible DSC Dynamic Stability Control is perfectly tailored to the car's weight and centre of gravity. It also incorporates a specific M configuration enabling the driver to choose various dynamic driving programs by means of the special MDrive control unit. So while the first stage of DSC is fundamentally the same as on the BMW 650i Convertible, the M Dynamic Mode (MDM) caters for the sports-minded, truly ambitious driver. Indeed, this exclusive, supplementary function offers the sports motorist an entirely new dimension of driving dynamics, allowing him to enjoy the car's maximum straight-ahead and lateral dynamics simply at the touch of a button on the MDrive control unit.

Enjoying this exclusive option, the driver will really experience the utmost limits of driving physics, DSC not intervening until the car reaches the ultimate point on the road and thus allowing the driver to handle the greatest possible power slide by slight countersteering on the steering wheel.

A warning signal in the instrument panel tells the driver that the M Dynamic function is active. And last but not least, the driver is able to completely deactivate DSC, as on all BMWs.

Power button for individual control of engine characteristics.

Last but certainly not least, the BMW M6 Convertible also reveals its supreme qualities in fast but relaxed motoring. In other words, the driver does not always require all the power of the V10 in order to enjoy exceptional driving pleasure under all conditions. Precisely this is why the extra-comfortable P400 performance program is automatically activated when starting the engine, offering initial engine power of 400 hp. Then all the driver has to do is press the MDrive button on the steering wheel or the Power button on the selector lever cover in order to enjoy the full 507 hp developed by the engine, with the gas pedal kinematics becoming even more responsive and spontaneous, ensuring extremely sporting and dynamic driving pleasure in the P500 program and, even more so, in the P500 sports program.

EDC Electronic Damper Control: from sporting and firm all the way to comfortable and smooth.

EDC Electronic Damper Control provides permanent, infinite electronic adjustment of the dampers. Simply pressing the MDrive button, the driver is able to choose the characteristics of the suspension in three steps from sporting and firm all the way to comfortable and smooth. Compared with the BMW M6 Coupé, damper adjustment is somewhat more oriented to motoring comfort, thus reflecting the character of the Convertible designed and conceived for supreme style and refinement on the road. In the sports program, on the other hand, the suspension set-up and characteristics are almost the same as on the Coupé.

A further advantage of EDC is that the car's vibration qualities and ride smoothness are maintained consistently at all times, regardless of current load conditions and throughout the entire lifecycle of the BMW 6 Series Convertible.

High-performance brakes like in motorsport.

Reflecting its supreme power and performance, the BMW M6 Convertible naturally boasts a high-performance brake system with weight-optimised compound brake discs measuring 374 x 36 millimetres (14.72 x 1.42") at the front and 370 x 24 millimetres (14.57 x 0.94") at the rear. Double-piston

swing callipers made of aluminium optimise both weight and stiffness, reducing unsprung masses and thus enhancing both the car's driving agility, motoring safety and driving comfort. The result of this technology is impressive stopping power and deceleration, the BMW M6 Convertible coming to a standstill from 100 km/h within 36 metres or 118 feet and just under 140 metres or 459 feet from a speed of 200 km/h.

Continuous, ongoing control of brake pad wear ensures lasting efficiency and function of the brake system maintaining its full quality at all times and under all conditions. In this case a sensor in the brake pads determines current wear conditions and transfers the information received to the DSC control unit serving, in turn, to monitor the current condition of the brake pads and specify the remaining mileage until new pads are required as a function of the driver's personal style of motoring. This information is used for BMW's Condition-Based Service (CBS) in order to determine when service and maintenance is required.

The wheels: light and good-looking.

Due to its large brake discs alone, the BMW M6 Convertible comes on extra-large and muscular wheels. The standard configuration is exclusive 19-inch forged aluminium wheels featuring five contoured double spokes for particularly graceful and delicate looks – and indeed, each of these wheels is 1.8 kilos or almost 4.0 lb lighter than a conventional cast aluminium wheel. As an option, the Convertible is also available with aluminium wheels in radial-spoke styling already featured on the BMW M5.

On dry and wet roads, tyres measuring 255/40 ZR 19 at the front and 285/35 ZR 19 at the rear transfer high lateral and longitudinal forces to the surface with optimum precision. Despite their high standard of roll comfort, these tyres provide optimum feedback to the driver, keeping the car perfectly on track all the way to the most extreme limit.

Tyre repair system taking the place of a spare wheel.

The tyre repair system consists of a Tyre Defect Indicator and the M Mobility System (MMS) warning the driver through both an optical and acoustic signal of any sudden or gradual loss of pressure in one of the tyres. The special hump geometry of the rims, in turn, keeps even a completely empty tyre on the wheel, enabling the driver to come to a standstill safely and securely even in such a situation.

The M Mobility System is housed conveniently in a compact box in the luggage compartment of the BMW M6 Convertible and serves to seal holes in the tyre of up to 6 millimetres in size. In practice, this allows the driver to repair nearly all punctures without having to change the wheel. The decision thus taken to do without a spare or emergency wheel saves more than 20 kilos or 44 lb in weight now no longer required.

4. Effortless Muscle: Drivetrain.



- **V10 power unit with high-speed engine concept.**
- **Seven-speed SMG gearbox.**
- **Formula 1 technology for the road.**

The V10 power unit developed by BMW M GmbH is one of the most fascinating engines ever offered in a four-seater production convertible. And this is no surprise, considering that this supreme engine is based on BMW's world-famous ten-cylinder Formula 1 power unit acknowledged as the most powerful engine in the highest category of motorsport until the change in rules and regulations in 2006.

The V10 proudly boasted in the BMW M6 Convertible shares not only the number of cylinders and their configuration, but also the high-speed engine concept with this supreme F1 power unit. The result is enormous power and pulling force from high engine speeds, a quality characteristic of all high-performance naturally aspirated engines from BMW M GmbH. The facts and figures alone are more than impressive, ten cylinders, five litres engine capacity, 373 kW/507 hp, maximum torque of 520 Newton-metres or 383 lb-ft, and top engine speed of 8,250 rpm telling a clear story.

As impressive as all this is on paper, the qualities of the engine are even more thrilling on the road: Just merely touching the gas pedal, the driver will enjoy all the qualities of a typical high-performance sports engine in the BMW M6 Convertible reminiscent even in its sound of the marque's former Formula 1 power unit.

Formula 1 technology for the road.

BMW M has always regarded the high speed engine concept – more power from higher engine speeds – as the best and most appropriate strategy. And truly reflecting this philosophy, the V10 power unit reaches engine speeds formerly regarded as quite impossible in a production engine due to the enormous forces acting on the materials and components alone: At 8,000 rpm, each of the ten pistons covers approximately 20 metres or 66 feet a second – almost twice as much as the pistons in a Formula 1 power unit. But while long-lasting driving qualities are a relative factor in motorsport, an M power unit will last the long life of a car built for many years of driving pleasure – in every climate, under all driving conditions, and with every style of motoring.

The high-speed engine concept offers decisive benefits: First, output per litre of 101 horsepower generally experienced only in motorsport, with the engine's maximum power of 507 hp or 373 kW coming from relatively small engine capacity of 4,999 cc. Second, the compact design and dimensions of the engine serve to reduce the overall weight of this high-performance power unit to just 240 kg or 529 lb.

Contrary to similarly powerful engines based on a different concept, the M high-speed concept allows use of a lighter powertrain and shorter transmission ratios, reducing the weight and masses to be accelerated in the car. This again directly benefits the driving dynamics of the BMW M6 Convertible, particularly the car's acceleration resulting from superior torque at high engine speeds and an appropriate overall transmission ratio. Outperforming other concepts, the fast-revving V10 power unit allows optimum gearbox and final drive transmission ratios, conveying impressive power and performance to the drive wheels at all times.

Developing peak torque of 520 Newton-metres or 383 lb-ft at 6,100 rpm, the V10 guarantees supreme power at all times, especially as 450 Newton-metres or 332 lb-ft comes from just 3,500 rpm and 80 per cent of the engine's maximum torque is maintained consistently throughout a wide speed range of 5,500 rpm.

As unusual as this is for a sports engine, the driver enjoys the full benefit at all times: The BMW M6 Convertible offers the very best in sporting performance and in relaxed cruising on a country road. Acceleration from 0–100 km/h, for example, comes in just 4.8 seconds and the BMW M6 Convertible completes the standing-start kilometre in 22.9 seconds. Acceleration from 80–120 km/h or 50–75 mph in fourth gear, in turn, takes just 4.7 seconds as yet further proof of the car's supreme performance.

Ten cylinders – the ideal concept for sports motoring.

Looking at the engine's dimensions and the number of components, ten cylinders are the optimum engine concept. A further advantage is that capacity of 500 cubic centimetres in each cylinder is ideal for a highly efficient combustion process, the M power unit combining two rows of five cylinders each in a 90° V-angle and with 17 millimetres or 0.67" cylinder bank displacement to form an extremely compact engine in ideal configuration. The 90° angle was chosen on account of its superior mass balance for minimum vibration and maximum comfort, offering the ideal combination of smoothness and component strength.

With high engine speeds, combustion pressures and temperatures subjecting the crankcase to extreme loads, the engineers at BMW M have opted for an exceptionally compact and torsionally stiff bedplate structure. Conceived for superior stiffness and finely balanced, the crankshaft is made of forged, high-strength steel, runs in six bearings, and weighs just 21.8 kilos or 48.1 lb. The weight-optimised box pistons, in turn, are cast out of a high temperature-resistant aluminium alloy and come with special iron surface coating. Piston weight is just 481.7 grams including the piston pins and rings. And the weight of the trapezoidal conrods made of high-strength steel has also been optimised to the last gram.

The single-piece aluminium cylinder heads boast four valves per cylinder, again typical of a BMW engine, and are operated by spherical cup tappets featuring hydraulic valve play compensation. Measuring 5 millimetres or 0.20" in diameter, the intake valves are particularly slender and therefore hardly impair flow conditions in the intake manifold.

The crossflow cooling concept minimises any loss of pressure in the cooling system, maintains consistent temperature distribution in the cylinder head, and reduces peak temperatures at all critical points. To ensure an optimum flow of coolant around each cylinder, the coolant flows from the crankcase via the outlet side through the cylinder head and across the collector rail on the intake side to the thermostat and the radiator.

Reliable supply of oil even in extremely fast bends.

Clearly, the V10 power unit in the BMW M6 Convertible guarantees exceptional performance at all times. And since this also means truly outstanding straight-ahead and lateral acceleration, the lubricant in the engine is sometimes forced so hard into the outer row of cylinders in a bend that as a result there might even be a shortage of oil in the sump. Starting at lateral acceleration of approximately 0.6 g, therefore, oil is drawn from the outer cylinder head in a bend and pumped back to the main oil sump.

Since extreme braking manoeuvres might also interrupt the reflow of oil, the quasi-dry sump lubrication system with one oil reservoir up front and one behind the front axle subframe provides the desired counter-effect, a reflow pump extracting oil from the front oil sump and pumping it to the rear sump wherever required.

High-pressure double-VANOS and single throttle butterflies.

BMW's variable double-VANOS camshaft control ensures optimum management of the gas charge cycle with extremely short adjustment times in the interest of enhanced performance, an even better torque curve, optimum response, greater fuel economy, and cleaner emissions.

Reflecting true motorsport technology, each of the ten cylinders features its own throttle butterfly, with each row of cylinders being masterminded by a separate adjuster. While being extremely demanding in mechanical terms, this is the best operating principle to ensure spontaneous engine response. To allow smooth and sensitive response of the engine at low speeds, on the one hand, and to ensure an immediate response of the car whenever the driver wishes to enjoy high power, on the other, the throttle butterflies are masterminded by fully electronic management with the position of the gas paddle being permanently monitored by sensors.

To reach their maximum opening point, the throttle butterflies take just 120 milliseconds – approximately the time even a routined driver requires to press down the gas paddle. Clearly, this means an immediate response on the road, the driver enjoying all the spontaneous power and performance of the engine. And at the same time electronic operation of the throttle butterflies keeps the transition from engine overrun to part load and vice versa extremely smooth and harmonious.

The V10 power unit draws in the air required through ten flow-optimised intake funnels leading out of two air collectors. The funnels and collectors are made of an extra-light composite material with a 30 per cent share of glass-fibre.

Twin-chamber stainless steel exhaust system.

As important as the intake side is for supreme engine performance, it is naturally just as significant to consider the exhaust system. In elaborate computer simulations, the two 5-in-1 fan-type manifolds have been optimised for equal length and smoothness. To ensure the same accuracy in manifold diameter, the seamless stainless steel types are shaped and configured from inside in an interior high-pressure moulding process, under pressures of up to 800 bar. As a result, wall thickness on the intake manifolds is just 0.8 millimetres or 0.03" – yet another clear sign of the painstaking attention the engineers at BMW M have given to even the smallest detail.

The exhaust system of the BMW M6 Convertible extends all the way back to the silencers in two chambers, finally leading to four tailpipes characteristic of all BMW M Cars. In all, four tri-metal coated catalytic converters clean the car's exhaust emissions in accordance with the EU4 standard.

Engine control unit unique the world over.

The high engine speeds and the large number of control and management functions obviously demand the utmost of the engine management system. Hence, the three 32-bit processors are able to handle more than 200 million instructions per second (MIPS), calculating the right ignition timing, cylinder

charge, injection volume and timing point individually for each cylinder. Camshaft angle and spread as well as the position of the single throttle butterflies are calculated by the system at the same time in a fully synchronised process.

Pressing the Power button, the driver is able to call up an even more sporting driving program using the full power and performance of the engine. This activates an even more progressive control map masterminding gas paddle travel and the throttle butterfly opening, and re-configures the dynamic engine management functions for an even more spontaneous response. This changeover function is also configured and retrieved by means of the MDrive button.

Electronic control of the throttle butterflies is based on the driver's commands in pressing down the gas pedal, being set to the ideal position and adjusted for the additional drive power required by the engine's ancillary units such as the a/c compressor or alternator. Functions such as idle speed control, exhaust gas management and knock control are likewise coordinated and harmonised to match the current Dynamic Stability Control (DSC) and Engine Drag Control functions. And last but not least, the engine management system performs various diagnostic functions and masterminds a number of peripheral units.

Another highlight in engine management: ion flow technology.

Yet another highlight in engine management is ion flow technology serving in particular to detect any inclination of the engine to knock, that is any undesired self-ignition of fuel within the cylinders. Ion flow technology thus determines any such knocking tendency via the spark plugs, also supervising the ignition process and determining any misfiring of the engine directly in the combustion process.

Data obtained in this way is transmitted to the engine management unit for further analysis. The engine controller will then intervene where required specifically on each cylinder, for example to adjust the ignition timing ideally to the combustion process via the knock control function. The final advantage is that spark plugs with such a dual function facilitate diagnosis of the engine in service and maintenance.

The ideal partner for lots of power: seven-speed SMG gearbox.

The concept of a high-speed power unit serves to convert the torque developed by the engine into optimum power and performance on the road through a short overall transmission ratio. And featuring the SMG Sequential M Gearbox with seven gears and Drivelogic, the BMW M6 Convertible has

exactly the right manual gearbox to convey all the power of the V10 ideally via the drivetrain to the wheels. It also allows manual selection of gears with an extremely fast gearshift as well as comfortable cruising with automatic selection of gears.

Using seven-speed SMG, the driver is able to shift gears both via the selector lever in the centre console and by means of paddles on the steering wheel. In the process he is not even required to press a clutch pedal and can even leave his foot on the gas pedal while shifting gears. When shifting down, the engine gives interim gas fully automatically, with gears shifting in a smooth process even faster than a skilled driver would be able to shift gears manually. The interruption of power flow inevitable when shifting gears is hardly perceptible, offering the driver even greater pleasure at the wheel also in shifting gears.

Shifting gears with SMG also enhances traffic safety: With the gearshift being equally fast and precise at all times, and therefore absolutely reproducible, the driver no longer has to concentrate as much as usual in choosing exactly the right gear, SMG thus ensuring a precise, safe and relaxed style of motoring.

Drivelogic: the driver determines how SMG shifts gears.

The Drivelogic function provides no less than 11 individual gearshift options adjusting the SMG gearshift characteristics individually to the driver's style of motoring. The first fundamental point is that these driving programs differ from one another through the gearshift time preselected – the higher the program, engine speed and load, the faster the gearshift. Six of the 11 gearshift options can be preselected within the sequential manual shift function (S-mode), ranging in their characteristics from well-balanced dynamics all the way to ultra-sporting performance.

In the S-mode the driver always shift gears manually, with the exception of the Launch Control function supplementing the purist and sporting S6 driving program and enabling the driver to accelerate with optimum performance from a standstill in the interest of the fastest possible acceleration times. In this case the driver is not even required to shift gears all the way to the top speed of the car, since the transmission shifts up automatically from first to seventh gear shortly before reaching maximum engine speed. A special display informs the driver in each case of the gear currently in mesh.

Five of the 11 drive programs offered by Drivelogic come in the automated D-mode, with the transmission shifting the seven gears automatically as a function of the driving program, the current driving situation, road speed, and the position of the gas pedal. Again, the individual programs in the D-mode vary through different levels of shift performance offering a higher or lower standard of dynamics, whatever the driver prefers.

The driver is also able to influence the automatic gearshift by taking back the gas paddle more slowly in order to shift up also in the D-mode. Conversely, he is able to shift back more quickly by pressing down the gas paddle in full.

Both in the S- and D-mode, the transmission shifts back automatically to first gear whenever the car comes to a standstill, then requiring the driver to merely press down the gas pedal in order to continue.

Special functions for enhanced safety and motoring comfort.

The seven-speed SMG gearbox supports the driver not only in offering supreme performance of the same standard as in motorsport, but also through a wide range of safety features. When shifting back on a slippery surface, for example, SMG instantaneously disengages the clutch to prevent the car from swerving due to high engine forces suddenly acting on the drive wheels.

On uphill and downhill gradients, the hill detection function changes the usual gearshift points, avoiding the “pendulum” gearshift phenomenon when driving uphill. Driving downhill, in turn, the transmission keeps the lower gears in mesh longer than usual in order to capitalise on the brake forces generated by the engine. And last but not least, D-mode adjusts the selection of gears to any uphill inclination of the road.

Specifications. BMW M6 Convertible.

Body		M6 Convertible
No of doors/seats		2/2 +2
Length/width/height (unladen)	mm	4,871/1,855/1,377
Wheelbase	mm	2,781
Track, front/rear	mm	1,567/1,584
Turning circle	m	12.5
Tank capacity	approx. ltr	70
Cooling system including heater	ltr	15
Engine oil	ltr	13
Transmission fluid	ltr	2.6
Final drive fluid	ltr	1.2
Weight, unladen, to EU standard ¹	kg	2,005
Max load to DIN standard	kg	450
Max permissible weight to DIN	kg	2,380
Max axle load, front/rear	kg	1,120/1,290
Max trailer load ²		
braked (12%)/unbraked	kg	–
Max roof load/max towbar dl	kg	–
Luggage comp to DIN	ltr	300–350
Air resistance	cd x A	0.731
Power unit		
Config/No of cylinders/valves		V/10/4
Engine management		MS S65
Capacity	cc	4,999
Bore/stroke	mm	92.0/75.2
Compression ratio	: 1	12.0:1
Fuel grade	RON	95–98
Max output	kW/hp	373/507
at	rpm	7,750
Max torque	Nm/lb-ft	520/383
at	rpm	6,100
Electrical system		
Battery/installation	Ah/–	90/luggage compartment
Alternator	A/W	170/2,380
Chassis and suspension		
Suspension, front		Two-joint spring strut axle with tiebar; small positive steering roll radii, compensation of transverse forces; reduction of brake dive
Suspension, rear		Aluminium integral axle with longitudinal arms and double track control arms, anti-squat and anti-dive
Brakes, front		Two-piston swing-calliper compound disc brakes
Diameter	mm	374 x 36, vented and cross-drilled
Brakes, rear		Single-piston swing-calliper compound disc brakes
Diameter	mm	370 x 24, vented and cross-drilled
Driving stability systems		ABS, CBC, DSC; Variable M Differential Lock
Steering		Rack-and-pinion steering with hydraulic assistance and Servotronic
Steering ratio, overall	: 1	13.0
Transmission		SMG III
Gear ratios	I	: 1 3.985
	II	: 1 2.652
	III	: 1 1.806
	IV	: 1 1.392
	V	: 1 1.159
	VI	: 1 1.000
	VII	: 1 0.833
	R	: 1 3.985
Final drive ratio	: 1	3.620
Tyres, front/rear		255/40 ZR19/285/35 ZR19
Rims, front/rear		8.5J x 19 EH 2 IS 12 forged aluminium/9.5J x 19 EH 2 IS 17 forged aluminium
Performance		
Power-to-weight ratio, DIN	kg/kW	5.2
Output per litre	kW/hp	74.6/101.5
Acceleration 0–100 km/h	sec	4.8
Standing-start km	sec	22.9
In 4 th gear 80–120 km/h	sec	4.7
Top speed	km/h (mph)	250 (155) ³
Fuel consumption in EU cycle		
Urban	ltr/100 km	22.8
Extra-urban	ltr/100 km	10.7
Composite	ltr/100 km	15.2
CO ₂	g/km	366
Miscellaneous		
Emission standard		EU4

¹Weight of car in road trim (DIN) plus 75 kg for driver and luggage.

²May be increased under certain conditions.

³Electronically limited.

6. Output and Torque Diagram.

