

BMW M at the 42nd Tokyo Motor Show 2011. Contents.



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Note: Unless otherwise stated, the vehicles described in this press kit reflect engine and equipment specifications for the Japanese market. Specifications in other markets may vary.

1. **BMW M at the 42nd Tokyo Motor Show 2011. (Short version)**



The latest crop of models from BMW M GmbH give drivers a wide variety of ways in which to experience the unique fascination generated by the transfer of race track technology to the road. The 42nd Tokyo Motor Show (3 – 11 December 2011) is set to welcome the latest example of high performance designed to be enjoyed on a daily basis. Hosted by the Japanese capital's International Exhibition Center, the show will stage the Asian premiere of the fifth-generation BMW M5. Powered by a high-revving V8 engine with M TwinPower Turbo technology, the new M5 uses the seven-speed M Double Clutch Transmission with Drivelogic to channel its 412 kW/560 hp to the rear wheels. Here, the new Active M Differential distributes drive as required to each wheel and therefore ensures optimum traction in ultra-dynamic driving situations and on slippery surfaces. The result? The new BMW M5 sets a fresh benchmark in terms of dynamics, assurance and poise in the exclusive high-performance sedan segment.

BMW M cars capture the imagination with drive and chassis technology derived directly from motor sport and backed up by peerlessly sporty styling and bespoke design features inspired by technical necessity. Each model marries its engine output, chassis and aerodynamics to precisely choreographed effect. Its well-resolved overall concept ensures that the car's high-performance blend of talents delivers that inimitable M feeling, both on the track and in everyday use on the road. Hallmark M design features for the interior along with a control concept offering extensive scope for configuring the car's set-up to personal tastes represent the icing on the cake of the high-octane driving experience.

BMW is showcasing the hallmark characteristics of its M cars at the Tokyo Motor Show 2011 through a rich variety of vehicle concepts. The fourth generation of the legendary BMW M3 sports car is powered by a 309 kW/420 hp naturally aspirated V8 engine, whose power is transferred to the rear wheels by the optional seven-speed M Double Clutch Transmission with Drivelogic. The BMW X6 M, meanwhile, embodies the exclusive combination of a high-performance engine with M TwinPower Turbo technology and an intelligent all-wheel-drive system. Output of 408 kW/555 hp is harnessed by a dynamic-oriented xDrive set-up and chassis technology including Dynamic Performance Control and Adaptive Drive.



2. BMW M at the 42nd Tokyo Motor Show 2011. (Long version)

2.1 Leading power: The new BMW M5.

A change in leadership is nigh in the exclusive segment that brings together ultra-dynamic business sedans with track-oriented drive and chassis technology. The new BMW M5 is poised to build on the tradition of its predecessors and once again redefine the performance experience available in a four-door car. Displaying the conceptual harmony, state-of-the-art technology and astonishingly dynamic handling for which BMW M cars have become renowned, the fifth-generation BMW M5 stirs the passion of keen drivers for top performance and blends it, in inimitable style, with the universal qualities of a top-class premium sedan. The most powerful engine ever fitted in a series-produced model from BMW M GmbH, the innovative Active M Differential – which optimises power transfer to the rear wheels – and model-specific chassis technology developed on the back of extensive racing expertise all secure the BMW M5 a dominant position in the high-performance sedan market.

The new BMW M5 is a high-performance sports car whose exceptional dynamic potential is geared squarely to the demands of track use yet which also sets a new benchmark in everyday driving with its supreme touring comfort and innovative equipment features. It also sets the pace in its class in terms of efficiency. The car's history of success in a segment founded more than 25 years ago by the original BMW M5 is set to continue in thrillingly contemporary style.

High-revving V8 engine with M TwinPower Turbo technology – setting new standards in output and efficiency.

Under the bonnet of the new BMW M5 lies a newly developed, high-revving V8 engine with 4.4-litre displacement and the M TwinPower Turbo package of Twin Scroll Twin Turbo technology, a cross-bank exhaust manifold, High Precision Direct Petrol Injection and VALVETRONIC fully variable valve control. Maximum output reaches 412 kW/560 hp at 5,750 – 7,000 rpm and peak torque of 680 Newton metres (502 lb-ft) is on tap between 1,500 and 5,750 rpm. The rev band, which offers extremely dynamic acceleration between the arrival of peak torque and the availability of maximum output, is therefore almost three times as wide as that of the predecessor unit.

The instantaneous power delivery and sustained thrust familiar from M cars are the key to acceleration of 0 – 100 km/h (62 mph) in 4.4 seconds (0 – 200 km/h/124 mph: 13.0 seconds). Average fuel consumption in the EU test cycle stands at 9.9 litres per 100 kilometres / 28.5 mpg imp (CO₂ emissions:

232 g/km). While output has increased by around 10 per cent and maximum torque is up by more than 30 per cent, the new BMW M5 burns over 30 per cent less fuel than its predecessor.

The significantly improved balance between the performance-focused M experience and the car's fuel consumption stems from the exceptionally impressive efficiency of the new V8 engine and from far-reaching Efficient Dynamics technology including the Auto Start-Stop function in conjunction with the standard seven-speed M Double Clutch Transmission with Drivelogic. In order to mould the engine's imposing power delivery into inspiring performance characteristics, the new BMW M5 boasts chassis technology – including electronically controlled dampers, M-specific Servotronic steering, a stability control system with M Dynamic Mode and high-performance compound brakes – developed from racing expertise, designed to minimise weight and tuned to the output profile of the powerplant.

Innovation delivers unbeatable traction in dynamic driving situations: the Active M Differential.

BMW M cars are equipped with a specially developed differential with variable locking function for the rear axle to deliver the sharpest possible driving dynamics and therefore allow the driver to enjoy the benefits of rear-wheel drive to the full. To this end, the new BMW M5 includes the latest innovation in this field in the form of the Active M Differential, which uses an electronically controlled multi-plate limited-slip differential to distribute drive power to the left and right rear wheels precisely and according to the driving situation at hand.

The rear axle's multi-plate limited-slip differential works with extremely high precision and speed. Its control unit links up with the DSC (Dynamic Stability Control) system and also takes into account the position of the accelerator pedal, the rotational speed of the wheels and the car's yaw rate. Every driving situation is therefore precisely analysed and an impending loss of traction on one side of the car identified at an early stage. The degree of lock – which may be anywhere between 0 and 100 per cent – is adjusted as required within a fraction of a second, enabling wheel spin to be prevented on slippery surfaces, in instances where the right and left rear wheel have widely differing friction coefficients, in tight bends and when changing direction with particular vigour. Optimising traction in this way also provides unbeatable driving stability in challenging conditions and allows impressively dynamic acceleration out of corners.

M-specific design, individual control concept, exclusive equipment.

This technology combines with model-specific design features – which make a direct contribution to optimising the supply of cooling air and enhancing aerodynamic characteristics – to create the conceptual harmony typical of BMW M cars. The precise interplay of the drive system, chassis and design has been refined in extensive and detailed testing on the Nordschleife circuit at the Nürburgring, to ensure unbeatable longitudinal and lateral acceleration, handling characteristics and braking performance.

The interior design, control concept and innovative equipment features of the new car also play their part in creating the exclusive M experience. Sports seats, an M leather steering wheel, and an M-specific instrument cluster and centre console lend the cockpit a classical sports car feeling. The DSC mode, engine performance characteristics, Dynamic Damper Control mapping, M Servotronic responses and M DCT Drivelogic shift program can all be adjusted independently via buttons on the centre console. Added to which, drivers can use M Drive to store a set-up composed of these parameters, plus their preferred setting for the standard-fitted Head-Up Display. The new BMW M5 comes as standard with two M Drive buttons on the steering wheel. These allow drivers to configure the car to their tastes – by giving it a much sharper sporting edge or a comfort-biased set-up, for example – and to call up the settings in an instant, in response to the driving situation, by pressing the relevant M Drive button.

High-quality, precisely finished materials, generous levels of space and the extensive range of equipment fitted as standard generate the premium ambience laced with cutting-edge luxury of a BMW 5 Series model. Customers can also give their car the personal touch, since virtually the full range of options for the BMW 5 Series Sedan are also available for the M5, including a host of driver assistance systems and mobility services from BMW ConnectedDrive.

2.2 A passion to perform at the highest level: The BMW M3.



Outstanding driving characteristics and a unique history define the character of the BMW M3. It is now 25 years since the first generation of the legendary BMW 3 Series-based sports car was unveiled. On the race track it duly developed into the most successful touring car on the planet, while on the road it took on the status of standard-bearer for a new breed of car. Like its predecessors, the fourth-generation BMW M3 represents the essence of a high-performance sports car you can drive every day. Offering the ultimate in track-derived dynamic performance, a design exuding power and authority and a driving experience without compare in its segment, the M3 displays a particularly close allegiance to the philosophy embodied by the letter M.

A high-revving, naturally aspirated V8 engine provides the heartbeat of the BMW M3.

At the core of the BMW M3 is an impressive V8 engine boasting outstanding power delivery and exceptional dynamics. The specially developed powerplant generates output of 309 kW/420 hp from its 3,999 cc displacement. Peak torque of 400 Newton metres (295 lb-ft) is reached at 3,900 rpm, and some 85 per cent of this is available through an impressive rev range of 6,500 rpm.

Credit for the eight-cylinder engine's most striking characteristic must go to the high-revving concept to which BMW M cars traditionally adhere. Indeed, a 8,400 rpm red line allows the engine to generate imposing levels of thrust. The V8 in the BMW M3 uses a special low-pressure variant of the Double-Vanos variable camshaft control system. This technology cuts charge cycle losses, which in turn increases the engine's output, torque and efficiency. Extremely short adjustment times serve to sharpen the engine's responses.

The new powerplant also features eight individual throttle valves, giving the engine extra sharpness across the rev range and ensuring an instant response to the driver's request for high engine output. A volume flow-controlled, pendulum-slide cell pump supplies the eight-cylinder engine with lubricating oil, delivering only the precise quantity required by the engine. Wet sump oil lubrication, optimised for dynamic performance, secures the required oil supply to the engine, even in extreme braking manoeuvres and under high centrifugal forces through corners.

Six-speed manual gearbox as standard, M DCT Drivelogic as an option.

The BMW M3 can be ordered with the M Double Clutch Transmission with Drivelogic as an alternative to the standard six-speed manual gearbox. The optional seven-speed unit changes gear with an uninterrupted flow of power and, in so doing, opens the door to even more dynamic acceleration. M DCT Drivelogic also has a positive influence on the efficiency of the BMW M3 and offers shift comfort of a similarly outstanding level to a BMW automatic gearbox.

The BMW M3 with M DCT Drivelogic needs just 4.6 seconds for the sprint from 0 to 100 km/h (62 mph) (manual gearbox: 4.8 seconds). Average fuel consumption, meanwhile, stands at 11.9 litres per 100 kilometres (23.7 mpg imp) for both gearbox variants.

Variable M differential lock, bespoke chassis technology, high-performance compound braking system.

The BMW M3 sends the power generated by the engine to the road surface via its rear wheels. Dividing the steering and drive forces between the front and rear axle creates an ideal platform for extremely dynamic driving characteristics, impressive directional stability and secure handling. The rear axle differential of the BMW M3 features the variable M differential lock. This system reacts to changes in rotation speed between the left and right rear wheels, develops up to 100 per cent lock – as required and fully variably – and, in so doing, provides optimum traction on all road surfaces and through dynamically taken corners.

The suspension for the BMW M3 was developed on the basis of the BMW 3 Series Coupé's construction, but virtually every component was comprehensively redesigned. The aim here was twofold: to allow for higher drive forces and to reduce weight extensively. As a result, almost all of the components of the double-joint spring strut front axle are made from aluminium. The five-arm rear axle likewise uses lightweight design methods and is also a new construction from the ground up, with the exception of one track-control arm. The BMW M GmbH engineers have even succeeded in saving weight in the construction of the high-performance braking system featuring compound discs.

The car's lightweight chassis is complemented by the steering's Servotronic system, which adjusts the level of power assistance according to the car's speed, and the Dynamic Stability Control (DSC) system. Electronic Damper Control (EDC) is also available as an option.

Distinctive design, roof with visible CFRP construction.

Taking the dimensions and basic form of the BMW 3 Series Coupé as a starting point, almost all of the body elements of the BMW M3 were newly developed and redesigned. Below the standard bi-xenon headlights, large air intakes cater for the eight-cylinder engine's increased appetite for intake and cooling air. Further hallmark M design elements are the bonnet stretched taut over the V8 engine with a defined "powerdome" and two additional openings, the powerfully flared wheel arches, the narrow air intakes in the front side panels, the aerodynamically optimised exterior mirrors, the side skirts drawing the eye to the car's driven rear wheels, the 18-inch light-alloy wheels and the rear trim – with a diffuser between the two pairs of exhaust tailpipes.

The BMW M3 Coupé is the world's first volume-produced vehicle with a roof made from carbon fibre-reinforced plastic (CFRP). The CFRP roof is significantly lighter than a steel equivalent. This weight saving at the body's highest point noticeably lowers the car's centre of gravity and optimises its handling properties.

An interior exuding exclusivity and sporting intent.

The four seats in the BMW M3 offer the driver and passengers a high level of comfort over long distances and excellent lateral support through quickly taken corners. The rear seat bench (made up of two individual seats) comes complete with a lightweight through-loading system developed specially for the BMW M3. The cockpit features M-specific circular instruments, complete with a variable engine temperature warning display in the rev counter. Arranged on the side of the centre console angled towards the driver are the switches governing the engine dynamics, DSC mode and, if specified, the EDC settings. The optional M Drive button – used to call up a set-up configuration stored by the driver – is positioned on the cross spokes of the M leather steering wheel along with the remote control buttons for the audio system and mobile telephone. Customers looking to add a personal touch to the interior can also choose from a selection of features including high-quality audio and navigation systems and a wide variety of driver assistance systems and mobility services from BMW ConnectedDrive.

2.3 A new way to experience high performance: The BMW X6 M.



The BMW X6 M represented the arrival in the BMW X segment of the high-performance character for which BMW M GmbH cars are renowned. The fusion of the M philosophy with the innovative Sports Activity Coupé concept paved the way for an exclusive driving experience. The BMW X6 M set a new dynamic benchmark in its class, leading the way in terms of acceleration, lateral dynamics and steering, stopping power and efficiency – factors also crucial in achieving success in motor sport. It embodies the ultimate in its segment, providing performance and dynamic reserves unmatched by its rivals and giving the driver a feeling of limitless poise and assurance in everyday driving.

The M high-performance engine with M TwinPower Turbo technology developed for the BMW X6 M generates maximum output of 408 kW/555 hp at 6,000 rpm from its 4,395 cc displacement. Power is transferred to the road via the BMW xDrive intelligent all-wheel-drive system, working in tandem with Dynamic Performance Control. This technology merges seamlessly with the M-specific chassis construction – including Adaptive Drive and newly developed Servotronic steering – to deliver the driving properties for which BMW M models are rightly famed, complete with unrivalled directional stability and precisely controllable self-steering responses even under extremely enthusiastic driving.

Instantaneous responses, linear power delivery: V8 engine with M TwinPower Turbo technology.

The M TwinPower Turbo technology featured in the V8 engine includes two twin-scroll turbochargers, positioned with the catalytic converters in the V-shaped space between the cylinder banks, a cross-bank exhaust manifold patented by BMW and High Precision Direct Petrol Injection. This unique construction principle generates both the immediate responses typical of M cars and extraordinarily high torque, which comes on tap at low engine speeds and remains constant into the upper reaches of the rev range. Indeed, peak torque of 680 Newton metres (502 lb-ft) is available between 1,500 and 5,650 rpm.

The six-speed M Sport automatic gearbox offers optimised gearshift dynamics and outstanding shift comfort, underlining the car's sporting genes. An innovative torque reduction concept ensures extremely short gearshift times by briefly cutting fuel injection and ignition. The driver shifts gears using

either the electronic gear selector lever or the M-specific aluminium shift paddles on the steering wheel.

The BMW X6 M races from 0 to 100 km/h (62 mph) in 4.7 seconds. The all-wheel-drive system and chassis technology are tuned precisely to the output characteristics of the V8 engine. In addition to its even power delivery under extremely dynamic driving, this allows the car to ensure an equally linear build-up of lateral forces when the driver calls on maximum power through corners.

BMW xDrive with M-specific set-up and Dynamic Performance Control.

The xDrive all-wheel-drive system of the BMW X6 M was given a special set-up and the extra services of Dynamic Performance Control to enhance the car's ultra-sporty driving characteristics. Its stand-out virtues include superior dynamics combined with unbeatable directional stability and excellent traction. And driving pleasure is given a further boost by levels of agility unmatched in this class and exceptionally neutral self-steering responses.

The intelligent all-wheel-drive system provides variable distribution of engine power between the front and rear wheels. Dynamic Performance Control regulates the power split between the rear wheels and allows the driver to accelerate out of corners with particular verve. Linking the system up with DSC (Dynamic Stability Control) adds to the car's dynamic potential. Meanwhile, M Dynamic Mode (MDM) can be activated by pressing the DSC button on the centre console. This mode generates the hallmark self-steering responses of M cars by raising the intervention thresholds of DSC (i.e. the point at which it applies brake inputs and reduces engine output), as well as by tweaking xDrive to send more power to the rear wheels and bringing in the services of Dynamic Performance Control. MDM ensures maximum cornering speeds and extremely late DSC interventions when driving at the limit.

Bespoke chassis construction, Adaptive Drive as standard.

The suspension, with its double-track control arm front axle and integral IV rear axle, boasts M-specific elastokinematics. The BMW X6 M comes as standard with air suspension and self-levelling on the rear axle, as well as Adaptive Drive with electronically adjustable dampers (EDC) and active anti-roll control. The innovative three-way support mounts give both the springs and dampers particularly sensitive responses.

The car's Servotronic steering, which also comes in a model-specific configuration, provides speed-sensitive power assistance. The lightweight high-performance braking system ensures outstanding stopping power,

combined with excellent feel and resistance to fade. The BMW X6 M is fitted as standard with model-specific mixed tyres on 20-inch light-alloy wheels.

Extensive configuration options, M Drive button on steering wheel.

Switching between Normal and Sport mode using the EDC button on the centre console adjusts the Servotronic and damper settings. The power mode for the engine and transmission management can also be activated at the touch of a button, with the driver choosing between the Sport and Efficient programs. In addition, drivers can use the M Drive menu to give the car their desired set-up configuration by adjusting the settings of EDC and Servotronic, DSC and the power mode, and the optional Head-Up Display. This configuration can then be stored and called up again using the M Drive button on the steering wheel.

The driver-focused interior features M seats, an M leather steering wheel and M driver's footrest, plus the M-specific cockpit with an instrument cluster containing a variable engine temperature advance warning display in the rev counter, special vehicle function displays and white display illumination. The BMW X6 M comes as standard with items including heated front seats with electric seat adjustment and memory function, 2-zone automatic climate control, a BMW Individual instrument panel with leather cover, Merino leather with extended features, M door sill finishers, an M driver's footrest, Brushed Aluminium Shadow interior trim strips and hands-free tailgate opening. The options list, meanwhile, includes the navigation system Professional, BMW Individual high-end audio system, 4-zone automatic climate control, M-specific Head-Up Display, Merino full leather trim, active seat ventilation, electrically operated glass roof, trailer coupling with removable trailer hitch ball, and a wide variety of driver assistance systems and mobility services from BMW ConnectedDrive.