

# Rounding the final corner to series production: The new BMW M8. Long version.



BMW M GmbH is busy drawing up a new chapter in the history of its beguiling high-performance sports cars, embodied by an early prototype of its upcoming flagship at the Estoril grand-prix racing circuit in Portugal. The mission statement of the new BMW M8 Coupe (fuel consumption combined: 10.8 – 10.7 l/100 km [26.2 – 26.4 mpg imp]; CO<sub>2</sub> emissions combined: 246 – 243 g/km\*) is to elevate the dynamic élan, agility and precision offered by a sports car to a new level.

The M8's development journey to series production will lead it directly from the race track to the road, the new car absorbing the extensive knowledge of BMW M GmbH in motor sport competition and the experience amassed in the conception of the BMW M8 GTE along the way. The decision to develop the production model alongside the BMW M8 GTE – which has already competed in the FIA World Endurance Championship (WEC) and IMSA WeatherTech SportsCar Championship (IWSC) in North America – has allowed the vehicle concept, powertrain and chassis technology of the new BMW M8 to be geared squarely to maximum performance and unfettered track capability.

The new BMW M8 will be powered by a V8 engine with M TwinPower Turbo technology. The high-revving unit develops maximum output of more than 440 kW/600 hp, which it transfers to the road in tandem with the new M xDrive all-wheel-drive system – tuned specifically for the M8.

The development of the new BMW M8 has focused on combining top-drawer dynamics with unimpeachable directional stability and unshakeable traction. The basic blueprint provided by the BMW 8 Series Coupe provides the ideal platform on which to achieve these goals. The vehicle concept has all the ingredients – in terms of weight minimisation, centre of gravity, weight distribution, wheelbase length and track width – to deliver handling characteristics centring on standout lateral and longitudinal dynamics. The exceptional rigidity of the body structure, chassis components and chassis mountings with the body provides the perfect foundations for the car's extraordinary engine power to be used to deliver supreme performance at all

All figures relating to performance, fuel/electric power consumption and emissions are provisional.

\* The fuel consumption, CO<sub>2</sub> emissions, electric power consumption and operating range figures were determined based on the new WLTP test cycle and have been translated back into NEDC-equivalent values in order to ensure comparability between the vehicles. They may vary depending on the tyre format specified. With respect to these vehicles, for vehicle-related taxes or other data based (at least inter alia) on CO<sub>2</sub> emissions, the CO<sub>2</sub> values may differ from the values stated here (depending on national legislation).

times.

### **M-specific chassis tuning maximises dynamic prowess.**

A fundamentally reworked double-wishbone front axle / five-link rear axle chassis imbues the new BMW M8 with outstanding agility and precision. All the components involved in delivering M-specific kinematics and elastokinematics have been revised. A further increase in the track width at the front axle enhances directional stability, while the rear axle features bespoke toe links with stiffer rubber mounts, firmer anti-roll bars and more rigid wishbones. The result is neutral steering behaviour even at the dynamic limits and a linear build-up of transverse loads across the full range of lateral acceleration. Additional struts and an elastomer bearing on the rear axle mounts increase the rigidity of the chassis mounting. In addition, a new tower-to-bulkhead strut and a newly developed shear panel with integrated sill connection significantly increase front-end rigidity.

The electromechanical M Servotronic steering familiar from the BMW M5 but tuned specially for the new BMW M8 also plays a role in giving the car super-precise handling properties – even when the driver is taking an extremely dynamic approach to the job in hand. It delivers superbly accurate turn-in and provides the driver with clear feedback at all times. It also delivers exactly the right amount of steering torque for every situation. For parking and low-speed manoeuvres, for example, low steering effort is the order of the day, and in city driving the steering's instantaneous responses ensure the new BMW M8 is deliciously light on its feet. At the same time, a high level of steering comfort and excellent straight-line stability underscore the new high-performance sports car's everyday usability and appetite for covering long distances – traits we have come to expect from BMW M models. Comfort and Sport modes allow drivers to choose from two different set-up options when it comes to tailoring steering comfort and feedback to their personal preferences.

The standard chassis technology under the skin of the new BMW M8 also includes electronically controlled dampers. Adaptive suspension with model-specific tuning adapts the damper responses constantly to the driver's style and road condition. The dampers' baseline set-up can be adapted to the driver's particular tastes through Comfort, Sport and Sport Plus modes.

The M compound brakes specified as standard for the new BMW M8 deliver top-notch stopping power. As well as their minimised weight and substantially lower unsprung mass compared with conventional braking systems, they are also extremely comfortable to use, boast incredible feel and offer excellent braking stability even under high loads. The drilled, inner-vented brake discs working on the front wheels are 395 millimetres in diameter and feature six-

piston fixed callipers. The rear wheels work with single-piston floating callipers and 380-millimetre discs. The optional M carbon-ceramic brakes (measuring 400 millimetres at the front axle and 380 millimetres at the rear) stand out with their even greater stopping power, resistance to fade and thermal stability, not to mention an extraordinary ability to fend off the onset of wear.

The new BMW M8 comes with 19-inch M light-alloy wheels as standard. Like the optional 20-inch M light-alloy wheels, these are fitted with mixed-size M-specific ultra-high-performance tyres. All of which means extremely high cornering forces can be harnessed into superbly dynamic progress through the twists and turns.

### **V8 engine has M TwinPower Turbo technology and over 600 hp.**

The latest incarnation of the V8 engine developed by BMW M GmbH certainly rises to the occasion when it comes to power. The high-revving unit uses M TwinPower Turbo technology to develop maximum output north of 440 kW/600 hp. A cross-bank exhaust manifold optimises the responses of the two turbochargers positioned in the V between the banks of cylinders. The cooling system has been designed to work with optimum effectiveness in the M8 – and withstand the extra thermal loads experienced in track use.

A flap-controlled exhaust system lends extra voice to the emotionally rich V8 soundtrack. In traditional BMW M style, the M8 exhaust is a dual-branch affair with tell-tale twin tailpipes on either side of the rear apron. Needless to say, the exhaust system comes with a gasoline particulate filter in the relevant markets.

### **M xDrive all-wheel-drive system generates unerring traction.**

The V8 engine responds in an instant to its master's voice and unfurls its power along a linear curve into the upper reaches of the rev range via an eight-speed M Steptronic transmission with Drivelogic. The transmission shifts through the gears with great dynamism but also allows the driver to assume manual control of the process, using either the M selector lever or the shift paddles on the steering wheel.

The engine's power is fed to the road via the new M xDrive system, whose unwavering raison d'être is to serve up performance drivers can experience in pulse-accelerating depth. For the new BMW M8, the all-wheel-drive system has been furnished with an agile, rear-wheel-biased set-up. This combines the supreme ease of fully variable power transfer between the front and rear axles with the elevated sporting dynamics of classical rear-wheel drive.

M xDrive consists of a central transfer case with multi-plate clutch and splits power between the front and rear wheels as required. Drive is only sent to the front axle if the rear wheels have reached the limits of their ability to handle the task alone. In so doing, the system ensures the V8's power is turned into a peerlessly dynamic end product – but that the new BMW M8 can still be controlled effortlessly when the driver is pressing on.

In M Dynamic mode, the all-wheel-drive system sends even more power to the rear wheels, opening the door to controlled drifts. Switching off the DSC stability system brings 2WD mode into play. This turns the M8 into an outright rear-wheel-drive machine, liberated from the shackles of control systems and free to lay on a driving experience of absolute purity.

The Active M Differential at the rear axle, which also works fully variably and has a locking effect between 0 and 100 per cent, likewise plays its part in maximising agility and traction in all road and weather conditions.

### **BMW M8 displays familiar M design cues; three body variants planned.**

Like its powertrain and chassis technology, the exterior styling of the new BMW M8 is also in the final phase of development for series production. The dynamically stretched lines of the BMW 8 Series Coupe merge with distinctive, functional design elements. With large air intakes in the front end and M-specific features honed to optimise aerodynamics, the camouflaged BMW M8 prototypes already bear the classical visual hallmarks of a BMW M model.

The new BMW M8 Coupe is the flagship model in a wider family of high-performance sports cars from BMW M GmbH. Indeed, the BMW M8 Convertible and BMW M8 Gran Coupe are also currently under development.

The fuel consumption, CO<sub>2</sub> emissions and electric power consumption figures were determined according to the European Regulation (EC) 715/2007 in the version applicable. The figures refer to a vehicle with basic configuration in Germany. The range shown considers the different sizes of the selected wheels/tyres and the selected items of optional equipment, and may vary during configuration.

The values are already based on the new WLTP test cycle and are translated back into NEDC-equivalent values in order to ensure comparability between the vehicles. With respect to these vehicles, for vehicle-related taxes or other duties based (at least inter alia) on CO<sub>2</sub> emissions, the CO<sub>2</sub> values may differ from the values stated here (depending on national legislation).

Further information on official fuel consumption figures and specific CO<sub>2</sub> emission values of new passenger cars is included in the following guideline: 'Leitfaden über den Kraftstoffverbrauch, die CO<sub>2</sub>-Emissionen und den Stromverbrauch neuer Personenkraftwagen' (Guide to the fuel economy, CO<sub>2</sub> emissions and electric power consumption of new passenger cars), which can be obtained free of charge from all dealerships, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at <https://www.dat.de/co2/>.