



The Ultimate
Driving Machine



THE BMW M5.

 THE FIRST 30 YEARS.

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INTRODUCTION.

The high-performance saloon, the executive express, the Q-car – all epithets that have been used to describe the BMW M5. A car that has reigned supreme for over 30 years with the ultimate expression of performance and exclusivity, disguised as an executive saloon. With the debut of the sixth generation, it will continue the illustrious bloodline that started in 1984 with the launch of the first M5 – the E28 M5.

The new 2018 M5 Saloon has more than twice as much power and torque as the original and can accelerate to 62mph in almost half the time – but the same fundamentals remain – providing the driver with track car dynamic abilities along with unparalleled touring comfort.

The M5 has always delivered high performance combined with a luxurious but sporting driving environment and has been a showcase for race-proven technology. A car that is equally at home on the motorway as it is on track.

The E28 M5 first saw the light of day in 1984. The provenance of its engine demonstrated that this was to be no ordinary performance car – its 24-valve twin-cam straight-six was a development of the engine found in BMW M's very first road car project, the stunning M1 supercar. Since that time, every generation of M5 has used pioneering technology to further enhance the driving experience.

Engines have ranged from straight-sixes to a naturally aspirated V8 and V10 and on to the latest innovative turbocharged V8s but they have all adhered to M's high-revving philosophy.

There is far more to a performance car than its engine and BMW M engineers have carefully honed and refined the chassis of each and every M5 and thanks to technically sophisticated suspension, the model has always set the benchmark for handling agility and driver involvement.

New technology has been incorporated into every generation of the BMW M5 including innovative engine management systems, bespoke suspension setups and an increasing use of electronics within the cars. Formula 1 and motorsport technology has always been intrinsically linked with the M5. As an example, some of the E60 generation M5 engine components were cast in BMW's F1 foundry.

With the new M5 BMW M's engineers have once again incorporated new developments and for the first time four-wheel drive and an automatic transmission will feature on the new car.

It's a demonstration that BMW M has never shied away from changing the building blocks of the M5. Each and every change that has been wrought over the years provided the M5's driver with an unrivalled driving experience and for over 30 years it has reigned supreme as the ultimate high-performance saloon.





BMW E12 M535i – LAYING THE FOUNDATIONS.

While the BMW name has always been synonymous with performance, the debut of the high-performance saloon is a relatively recent phenomenon. During the late 1960s and early 1970s, machinery such as the 2000Tii and 3.0Si demonstrated there was an appetite amongst BMW's customers for a more performance orientated saloon. But it was the arrival of the BMW M535i at the 1979 Frankfurt Motor Show that paved the way for the ultimate high-performance dynasty, the M5.





The first 5 Series model, known by the engineering number E12, was the first BMW to be known as a 'Series' and was a handsome four-door that replaced the 1960s 'New Class' four-door model. Although the range-topping BMW 528i was an excellent model there was clearly potential for an even more performance-focused incarnation of the E12 and this was launched with the assistance of BMW Motorsport. BMW Motorsport had been in existence since 1972 and had overseen BMW's on-track success with legendary machinery such as the 3.0 CSL and its first road car was the iconic M1 mid-engined supercar. The second was the E12 M535i.

The BMW M535i was launched in 1980 and featured a host of bespoke improvements from BMW Motorsport including the fitment of the biggest six-cylinder engine BMW produced at the time, the 3,453cc 'M30' engine. This was a single overhead camshaft 12-valve unit that was also fitted to the flagship BMW 735i and developed 218hp at 5,200rpm and 300Nm of torque at 4,000rpm. In the M535i, performance was vivid with the zero to 62mph sprint taking 7.6 seconds, while its top speed was 138mph. Proving that performance did not necessarily carry a heavy penalty at the pumps the BMW M535i was capable of returning 33mpg at a constant 56mph.

Naturally enough there's more to any great car than simple performance figures and BMW Motorsport ensured the M535i was more than up to the task with bespoke upgrades to the 5 Series. Cars were partially assembled on the BMW production line at Dingolfing before being shipped to BMW Motorsport's facility on Preussenstrasse in Munich for hand-finishing. The engine was mated to a Getrag five-speed manual gearbox with a 'dog-leg' shift pattern and a limited slip differential was fitted.

While the already excellent MacPherson strut and semi-trailing rear arm suspension set up was retained, BMW Motorsport added bespoke springs and Bilstein dampers along with wider 14-inch alloy wheels. Externally the BMW M535i could also be distinguished by a deeper front spoiler and a large rubber rear spoiler. Both provided additional downforce, along with discreet M535i badging on the bootlid and front grille.

Inside it was similar to the BMW E12 range bar, with the addition of Recaro front seats and the same steering wheel as fitted to the M1 supercar.

By 1981, production of the BMW M535i had ceased with 1,410 examples having been produced. The E12 M535i proved there was a market for a high-performance saloon and thus paved the way for an M version of the next generation 5 Series.



BMW E28 M5 – THE FIRST GENERATION

With the arrival of the BMW E28 M5 a true executive express was born, building on the talents of the E12 M535i. Here was a four-door saloon with the power and performance to humble a mid-range Ferrari yet still capable of accommodating four passengers and their luggage in comfort. It remains the blueprint for one of the most successful dynasties of sporting saloon to have graced the planet.

Officially announced at the 1985 Amsterdam Motor Show the E28 M5 production had already started late in 1984 and those first few lucky customers had in their possession what was the fastest four-door saloon in the world.

At the heart of the BMW E28 M5 was the now legendary M88 twin overhead camshaft 24-valve straight-six featuring individual throttle butterflies for maximum response. This engine had featured in the M1 supercar and with further fettling by BMW Motorsport's engineers it now boasted 286hp at 6,500rpm and 340Nm of torque at 4,500rpm. Performance was vivid with zero to 62mph taking just 6.5 seconds while its top speed was a heady 152mph.

In order to fit under the E28 5 Series' bonnet, the engine was canted over by 30 degrees, and as befitted a road car, the M1's dry-sump lubrication was changed to a more traditional wet-sump set up. Further changes from the M1 included a pair of 264-degree camshafts, unique con rods and pistons and the use of the newest Bosch ML-Jetronic fuel injection system. Transmission was by a five-speed manual (with a traditional gate) and a limited slip differential was installed to aid traction.

As per the E12 M535i, the E28 5 Series' suspension set up was retained but again had bespoke springs and dampers and for the E28 M5 there were revised anti-roll bars, too. While the E12 M535i had essentially the same brakes as a 528i for the E28 M5, its increased performance demanded larger front discs and four-piston callipers.

The E28 M5 was hand finished at BMW's Motorsport facility – at Preussenstrasse pre-1986, and following that at M's new home at Garching, where it still occupies today. The hand-built nature of the E28 (finished bodies were shipped to M for the engine, gearbox, suspension and interior to be fitted) meant that further personalisation for owners was possible, too. Externally there was very little to differentiate the M5 from its 518i sibling with a third of the M5's power. For customers who did want to stand out from the crowd there was also an optional M-Technic aerodynamic kit.

Inside the E28 M5 laid the framework for future models with sports seats and bespoke M instrumentation with the now-famous red needles and a smattering of the iconic M badges. In total 2,241 E28 M5s were manufactured.



BMW E34 M5 – THE SECOND GENERATION.

The E28 5 Series was an evolutionary design but the all-new BMW 5 Series, the E34, that made its debut to critical acclaim in 1987 had an altogether more modern and rounded look.

After the success and praise from all who had driven the E28 incarnation, there was little doubt that an M5 would be produced and it was launched in 1988 with UK deliveries starting in 1989. As with its predecessors, the E34 M5 was hand-built at M GmbH's Garching headquarters.

Of all the M5 generations, the E34 had the most changes during its seven-year production span and was initially available with a 3.6-litre version of the E28 M5's engine. Despite capacity only increasing by 82cc, virtually every component of the twin-cam six-cylinder engine, now known as the S38 was updated and it featured a special valve in its intake manifold for improved low-range response along with the latest Bosch Motronic engine management. It was also the first M5 to come equipped with a catalytic converter fitted for all markets. In this form it developed 315hp and 360Nm of torque endowing it with a 6.3 second acceleration time and a top speed electronically limited to 155mph.

Transmission was via a five-speed manual gearbox with a 25 percent locking limited slip differential fitted as standard. Suspension was updated with 25 percent firmer

springs, bespoke shock absorbers and a self-levelling set-up at the rear while brakes were updated over the normal E34 items.

Externally it was another exercise of discretion, although the M5 could be distinguished by the lower part of its front spoiler, rear bumper and sills painted in a contrasting colour to the rest of its body while it also had bespoke 17-inch M System wheels with 'turbine' covers designed to cool the brakes.

Despite strong sales – over 8,000 3.6-litre models were produced – BMW M thoroughly refreshed the E34 M5 and a 3.8-litre version was introduced in late 1991.

Its 3,795cc S38 is the largest straight-six BMW has ever produced and developed 340hp and 400Nm of torque. Larger throttle bodies, a raised compression ratio, Bosch



3.3 management and a change to a distributor-less ignition system with one coil for each cylinder were the main changes and performance rocketed with zero to 62mph taking just 5.4 seconds. Externally it could be distinguished by a new style of wheel – M System II – which were also designed to aid brake cooling but had a cleaner, more modern design.

The 3.8's suspension was upgraded to include Adaptive M Suspension, an M-tuned Electronic Damper Control setup that chose the optimum shock absorber settings based on loads on the body, road speed and steering input – now a common fitment but very advanced for its time. Further changes were made to the 3.8 in 1994 when a six-speed manual transmission was adopted, along with floating front brake discs to improve heat dissipation. The E34 M5

was also the first generation to sport a Touring body style – introduced in 1992 – and only available as a 3.8-litre model.

The E34 was also the first M5 to feature special edition models – two 3.6 versions, to celebrate on-track successes of Joachim Winkelhock and Johnny Cecotto – while the 3.8 was the basis for a '20 Jahre' model in 1992 to celebrate 20 years of BMW Motorsport. The last special edition was a run of 50 cars produced for BMW UK, the Limited Edition, painted in either Rosso Red or Orinoco metallic.

In total 12,254 E34 M5s were made (of which just 891 were the Touring model) and its passing also saw the end of the venerable straight-sixes' dynasty as the engine of choice for the BMW 5 Series super saloon, an incredible feat for an engine that could trace its roots back to the 1960s.

BMW E39 M5 – THE THIRD GENERATION.

With the arrival of the BMW E39 M5 a new direction was taken for the high-performance saloon with the use of a V8 for the first time and an increased use of electronic systems in the car. It would also be the first M5 that was not hand-finished at M's Garching facility as the E39 incarnation was produced on the normal 5 Series production line at Dingolfing – the simple fact was that the car had become too popular for hand-assembly to continue to be viable.

The E39 M5 made its debut in 1998 at the Geneva Motor Show and entered production later that year. Like its predecessors it was a lesson in discreet performance, with front and rear bumpers very similar in design to the E39 Sport models. The styling cues were there for those who wanted to see them – 18-inch M double-spoke alloy wheels, bespoke door mirrors and the quad exhaust set up as first seen on the M Roadster and M Coupé.

At its heart was a heavily reworked version of the 540i's 4.4-litre V8, but BMW M engineers had lengthened its stroke and increased its bore for a swept volume of 4,941cc. Thanks to an increased compression ratio, individually electronically controlled throttle butterflies, Double VANOS variable valve timing and an advanced engine management system, it developed 400hp at 6,600rpm and a very healthy 500Nm at 3,800rpm. Its vital statistics were a zero to 62mph time of 5.3 seconds and similar to its predecessor, it was limited to 155mph.

The V8 was linked to a six-speed manual and a limited slip differential but unlike the outgoing E34 M5, the E39 didn't feature an electronic set-up for its suspension. Instead it utilised the standard E39 Saloon's multi-link set up, suitably fettled for an M5 application with bespoke springs and dampers, uprated anti-roll bars and a more direct recirculating ball steering set up coupled to Servotronic speed-sensitive power assistance.

The steering setting could be adjusted along with the throttle sensitivity via the M Driving Dynamics control (a 'Sport' button on the centre consul) – possible for the first time on an M5 thanks to the use of the fly-by-wire throttle system. That wasn't the end of electronic assistance though as for the first time on an M5 Dynamic Stability Control (DSC) was fitted which incorporated ASC Automatic Stability Control along with the ability to brake individual wheels to help correct understeer or oversteer.

Inside, there were the trademark M5 instruments with red needles and an LED indicator for the variable red line around the higher reaches of the rev counter to indicate how many revs could be used as the M5 went through its warm up cycle. It was more luxuriously appointed than previous M5 models, with leather offered as standard in most markets, along with heated, electric front seats and automatic air conditioning and satellite navigation.

Unlike the E34 M5, no special versions of the E39 M5 were offered but it was still an overwhelming sales success, with 20,482 examples registered worldwide.

Transmission was via a five-speed manual gearbox with a 25 percent locking limited slip differential fitted as standard. Suspension was uprated with 25 percent firmer springs,







BMW E60 M5 – THE FOURTH GENERATION.

The fourth incarnation of the M5 is unique for many reasons but its most outstanding feature is its incredible V10 engine that brought BMW's F1 technology to the road. The E60 M5 made its show debut in Concept form at Geneva in 2004 with the full production model revealed at the Paris motor show later that year. Like the E39 before it the E60 M5 was built on the normal 5 Series production line at Dingolfing.

The jewel in the E60 M5's crown was its S85 V10 engine, which drew heavily on BMW's then current V10 F1 engine. With a 5.0-litre capacity it developed 507hp at a heady 7,750rpm and 520Nm of torque at 6,100rpm and it had a maximum engine speed of 8,250rpm – at which point each of the V10's 10 pistons would be travelling a distance of 20 metres per second. Its engine management system comprised three 32-bit microprocessors capable of 200 million operations per second which allowed it to fully open or close the throttle valves in just 120 milliseconds leading to an incredibly responsive engine.

The transmission was as advanced as the engine, a seven-speed Sequential M Gearbox (SMG III) that featured five automatic modes and six manual ones and even a launch control function. It was capable of shift times that were 20 per cent faster than the SMG II transmission in the BMW E46 M3 and was operated either via steering wheel mounted paddles or with the gear lever. As befitted, such an advanced machine the E60 M5 had a high-tech limited slip differential, the M Variable Differential Lock, to direct power to the wheel with most traction.

As per the M5 blueprint set down by previous generations the E60 M5 featured a suspension set up that was honed by M's engineers to provide high grip levels and entertaining handling. It featured Electronic Damper Control allowing the driver to choose between Comfort, Normal and Sport modes while the assistance level provided by the Servotronic steering could also be adjusted by the driver.

The E60 M5 was also the first M Car to feature M Drive, a customisable button on the steering wheel which, when pressed, would automatically select the car's settings pre-programmed via the car's iDrive system by the driver. Thus the driver had the choice of 11 gearbox modes, two engine power modes, three throttle response modes, three suspension settings, two steering modes, three DSC positions and even what was displayed in the car's advanced Head-Up Display.

Externally the E60 M5 bore a resemblance to the M Sport equipped 5 Series models but its front spoiler was more aggressive and fog lights were deleted to allow for improved cooling air flow. The front wings were wider than on the standard E60 models and featured M gills aft of the front wheels and the rear bumper had a central diffuser in between the trademark quad exhausts.

Inside there were a number of highlights including a Head-Up Display, a 200mph speedometer and optional seats with active bolsters that would tighten when high lateral loads were encountered. In 2007 a Touring model was introduced and in 2009 a special celebratory '25th Anniversary Edition' M5 was announced to commemorate 25 years of the M5 – just 27 were made (24 Saloons and three Tourings) and all were painted in matt Frozen Grey. Overall the E60 M5 was a technological tour de force that brought F1 know how to the road and by the time the V10-engined machine ceased production in 2010 20,589 examples had been manufactured, 1,025 of those being the Touring model.



BMW F10 M5 – THE FIFTH GENERATION.

With the debut of the F10 BMW 5 Series in 2010, it was only a matter of time before the range-defining M5 was launched and fans of the executive express didn't have to wait long as it was revealed in Concept form at the 2011 Shanghai Motor Show. The full production model was debuted the same year at the Frankfurt Motor Show.

With the debut of the F10 BMW 5 Series in 2010, it was only a matter of time before the range-defining M5 was launched and fans of the executive express didn't have to wait long as it was revealed in Concept form at the 2011 Shanghai Motor Show. The full production model was debuted the same year at the Frankfurt Motor Show.

Topping the E60 M5 would be quite a feat but BMW M's engineers demonstrated they were more than up to the task once the new 560hp M5 was revealed. It featured a twin-turbo V8 with a 4.4-litre capacity making it the first M5 to be produced with forced induction, but the addition of turbocharging to endow the M5 with prodigious torque – 680Nm available all the way from 1,500 to 5,750rpm. Performance was right up there with junior exotica with zero to 62mph taking a scant 4.4 seconds and while top speed was limited to 155mph in some markets, an M Driver's Package could be specified taking its maximum speed to 190mph. All the more extraordinary was a combined economy of 28.5mpg.

The engine was a thoroughly revised version of the V8 first seen in the X5 M and X6 M and had a new cylinder head, Valvetronic variable valve control, revised VANOS, larger twin-scroll turbochargers and larger intercoolers. This was mated to a seven-speed M Double-Clutch Transmission (M-DCT) with drive being transmitted via an advanced Active M Differential, effectively a multi-plate clutch with electronic controls that used the DSC sensors to precisely adjust the differential from completely open to 100 percent locked.

The F10 M5's underpinnings used the same basic architecture as the standard F10 5 Series but virtually every component was modified and uprated by BMW M and like the E60 M5 the F10 model also featured Electronic Damper

Control and the M5's steering rack was 25 percent faster than the normal F10 set up. Brakes were bigger than ever with 400mm drilled and vented front discs clamped by six-piston callipers. In 2013 M Carbon Ceramic brakes with gold callipers were offered as an option – another first for an M5.

Another option that was added in 2013 was the Competition Package that offered even higher performance thanks to revised engine management and boost mapping that increased power to 575hp. There was much more to the Competition Package than a power upgrade though as it had shorter and stiffer springs and stiffer damping rates, thicker anti-roll bars and a quicker steering rack as well as recalibrated Active M Differential software and retuned M Dynamic Mode for the DSC stability control. While the standard M5 came with 19-inch wheels as standard (20-inch forged wheels were an option) the Competition Package had a unique new seven-spoke 20-inch design.

There were several special editions of the F10 M5 too such as the UK's M Performance Edition in unique colours and trims and in 2014 a '30 Jahre Edition' was announced to celebrate 30 years since the introduction of the E28 M5. The '30 Jahre' was based on the Competition Package but had even more power and torque – now up to 600hp and 700Nm – and all were painted in Frozen Dark Silver metallic. Black Merino leather was combined with Anthracite Alcantara for the interior along with '30 Jahre' trim and an Alcantara steering wheel. Just 300 were produced with 30 for the UK market. During its six-year life 19,533 examples of the F10 M5 were manufactured before making way for the all-new sixth generation F90 M5.



THE NEW 2018 BMW M5.

The new BMW M5 Saloon is equipped with an enhanced V8 engine, a new M-specific, all-wheel drive system known as M xDrive and performance statistics that surpass all previous incarnations.

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Key to this heightened level of performance is the introduction of M xDrive and its adaptability thanks to a central control module and the variety of different dynamic modes that can be selected. When first started, the car is in four-wheel-drive mode with the Dynamic Stability Control (DSC) switched on. But it comes with various driving dynamics modes, up to a track-friendly pure rear-wheel drive without DSC.

Power comes from the latest 4.4-litre V8 engine with BMW M TwinPower Turbo technology. It delivers a maximum torque of 750Nm, accelerating the new M5 from zero to 62mph in just 3.4 seconds, making it the fastest M5 yet. Power is transferred to the road via a new eight-speed M Steptronic transmission with Drivelogic.

All of this performance is wrapped in a design that adheres to the form follows function mantra of all BMWs. The front design serves to splice the oncoming air in the most aerodynamic fashion while at the same time providing the breathing and cooling requirements for a 600hp engine and its braking system, and the downforce required of a high performance saloon.



Model	Power (hp)	Torque (Nm)	0-62mph (Seconds)	Top Speed (mph)	Combined (mpg)	CO ₂ Emissions (g/km)	OTR Price
BMW M5	600	750	3.4	155*	26.9	241	£89,645

* Electronically limited.

ENGINES AND TRANSMISSION.

Thanks to various tuning enhancements, the latest BMW M5's 4.4-litre V8 M TwinPower Turbo is more powerful than ever. It develops a maximum torque of 750Nm from just 1,800rpm through to 5,600rpm – a 70Nm increase over the previous M5.

The engine characteristics can be changed by pushing the Drive Performance from the basic setting 'Efficient' to 'Sport' and 'Sport Plus', both of which provide a faster turbo response.

BMW's M engineers have developed new turbochargers and a higher injection pressure of up to 350bar. This allows shorter injection times and better fuel atomisation, making it both faster and more efficient.

Improved lubrication and cooling systems include an oil pan with a small front silencer and an indirect charge air cooler, which is more powerful than its predecessor, despite its smaller size. The oil supply, which is operated by a variable pump, is designed for racing track applications and allows high G acceleration with no risk of oil starvation.

The exhaust manifolds have also been modified to ensure the best transfer of exhaust gas energy into the two turbochargers. Through the use of a resonator between the two rear silencers, the M engineers have also reduced the car's mass. The exhaust note is flap-controlled and is influenced by the different driving modes to enhance the driving experience further. An M Sound Control button allows the driver to reduce noise levels at the push of a button.

Power is transmitted to the road via the newly developed M xDrive all-wheel drive system. M xDrive brings the front wheels into play only when the rear wheels reach their limits of adhesion.

The main components of M xDrive are based on the intelligent all-wheel drive BMW xDrive system and Active M differential, controlled by a central M-specific vehicle dynamics control system. The drivetrain is stiffer and stronger than the previous model, while the transfer case constantly controls the torque distribution between the front and rear axles. The Active M differential splits distribution of the drive between the rear wheels.

With M xDrive, the DSC intervenes only when necessary in extreme situations, so that the high engine power can be converted almost without power loss.

Enthusiastic drivers can configure M xDrive at any time according to their needs. In the default setting with DSC and 4WD switched on, the new M5 is similar to the typical M rear-wheel drive dynamic characteristics when accelerating out of a corner. At the same time, the car remains forgiving. The superior traction of the all-wheel drive system also provides impressive acceleration values from zero to 62mph in just 3.4 seconds and zero to 124mph in just 11.1 seconds.

If the driver switches to M Dynamic mode (MDM, 4WD Sport), the M5 becomes sharper and more agile. More torque is fed to the rear axle and the rear wheels give more wheel slippage. This allows controlled drifts and playful handling, but with controlled oversteer.

The pure rear-wheel-drive 2WD mode is designed for track use by experienced drivers and is dedicated entirely to pure driving pleasure without restrictive control systems.

The new eight-speed M Steptronic transmission with Drivelogic has extremely quick shift times and optimises change points to deliver the best performance. Thanks to a higher final drive ratio, the eight-speed M Steptronic transmission also delivers reduced fuel consumption.

It allows fully automatic shifting in 'D' mode and sequential switching in 'S' mode. This is possible both with the new short gear selection switch on the centre console as well as via M-shift paddles on the steering wheel.

The shift characteristics of the gearbox can be changed via the Drivelogic gear shift lever on the gear selector. Drivelogic Mode 1 stands for efficient driving with comfort shift times. Mode 2 supports fast driving with shortened shift times. Mode 3 is optimised for track driving with extremely short shift times. Those who prefer manual shifting in 'S' mode can also make multiple downshifts to the lowest possible gear, for example when braking into tight corners. An integrated oil cooler ensures the gearbox is protected even when used on the racetrack.

SUPERIOR CHASSIS TECHNOLOGY – A NEW ERA OF DRIVING DYNAMICS.

BMW's M engineers made great driving dynamics and the best possible stability their goal in the chassis development of the new M5. Much of the testing took place on the in-house race track in Miramas in France, as well as on the toughest chassis test track in the world, the Nordschleife of the famous Nürburgring.

The precision and agility of previous M5 generations have been further developed for the new M5. Features include M xDrive, eight-speed M Steptronic transmission with Drivelogic, M-specific variable damper control (three driving modes: Comfort, Sport, SportPlus) with electronically controlled shock absorbers and M Servotronic steering (three driving modes: Comfort, Sport and Sport Plus).

The electromechanical M Servotronic steering system provides the right steering torque for every driving situation. The new M5 has incredible turn-in, coupled to excellent steering feedback, yet in city and short-distance traffic it adapts to offer low steering forces during manoeuvring and parking.

The double crossbar axle, seen on the BMW 5 Series Saloon, was significantly revised for use in the M5. BMW M engineers have re-designed all components leading to even greater driving stability.

The five-bar rear axle has also been adapted to M-specific requirements. New steering systems with stiffer rubber pads also meet the increased demands on driving dynamics and steering

precision, such as harder stabilisers and lower, stiffer anti-roll bars. The rear axle has an elastomer bearing, specially developed for the M5. An additional steel cross strut and an aluminium cross brace increase the stiffness of the rear axle and improve its response.

Also not visible from the outside, but still critical to the car's handling, are other bodywork measures. For example, a domed aluminium front panel reinforces the front of the vehicle as well as the two front struts.

The tyres were developed especially for the M5 too, with 275/435 R20s at the front and 285/30 R20s at the rear. They are mounted on light-metal cast Double-spoke bicolour wheels. These wheels are also optionally available in Jet black.

Brake pads have been developed using a special M compound, characterised by significantly lower weight compared to conventional cast iron brakes. At the front and rear, perforated and internally ventilated brake discs are mounted within blue-painted six-piston callipers with a distinctive M logo designation.

M Carbon ceramic brakes are also available as an option, distinguished by matt Gold-coloured callipers with M logo designation. These are 23kg, increasing driving dynamics and suspension comfort, among other things. BMW M Carbon ceramic brakes have even better performance, less fade and improved thermal stability.









SPORTY DESIGN WHERE FORM FOLLOWS FUNCTION.

The design of the new BMW M5 is specific to M. For example, the completely redesigned front bumper with its enlarged air openings has the task of supplying the cooling systems and brakes with sufficient cooling even in race track applications. The track width is greater than the car's predecessor, the front wings are aluminium for weight reduction and carry characteristic M-sport cooling gills.

The bonnet is also made of aluminium, while the roof consists of a very light and stable carbon fibre reinforced plastic (CFRP) – the first time such an innovation has been used in a BMW M5.

The rear diffuser was also redesigned, while the M-specific rear apron and the M rear spoiler,

coupled to purposeful sill panels, all enhance the sporty and powerful appearance of the M5. The exterior mirrors are also M-specific and designed dynamically. The hexagonal, central air intake is not only separate from the side air intakes, but also integrates the oil cooler – a beautiful combination of form and function.

The interior focuses entirely on the driver. Absolute control under all driving conditions is the maxim. At the same time, the new M5 offers space for up to four passengers, a large boot and high levels of comfort akin to those of the 5-Series saloon, combining the best of both worlds as a high-performance sports car and business vehicle.





EQUIPMENT WITHOUT COMPROMISE – THE DRIVER IS THE FOCUS.

The M5 enjoys tremendous levels of standard equipment, all geared towards driving dynamics. The focal point is the driver's seat, from which all switches and buttons can be operated in an ergonomically designed way.

All vehicle functions are located directly in the driver's field of vision. The large digital display from the BMW 5-Series was reconfigured specifically for M. It informs the driver about dynamic modes, the all-wheel drive M xDrive and the Drivelogic setting. The speed warning alarm is adjustable and shift lights inform the driver when it is the optimal time to change gear in manual shift mode. The data can also be reflected in the head-up display.

Almost all of the dynamics systems can be configured via the central touch-screen display, centre console button and M-Sport steering wheel.

The M5 is now started with a red start button, marking out its sporting intentions, while two red

lacquered buttons M1 and M2 next to the shift paddles on the M multifunction steering wheel control the driving settings, including xDrive and DSC, as well as engine, transmission, damper and steering characteristics, plus the head-up display.

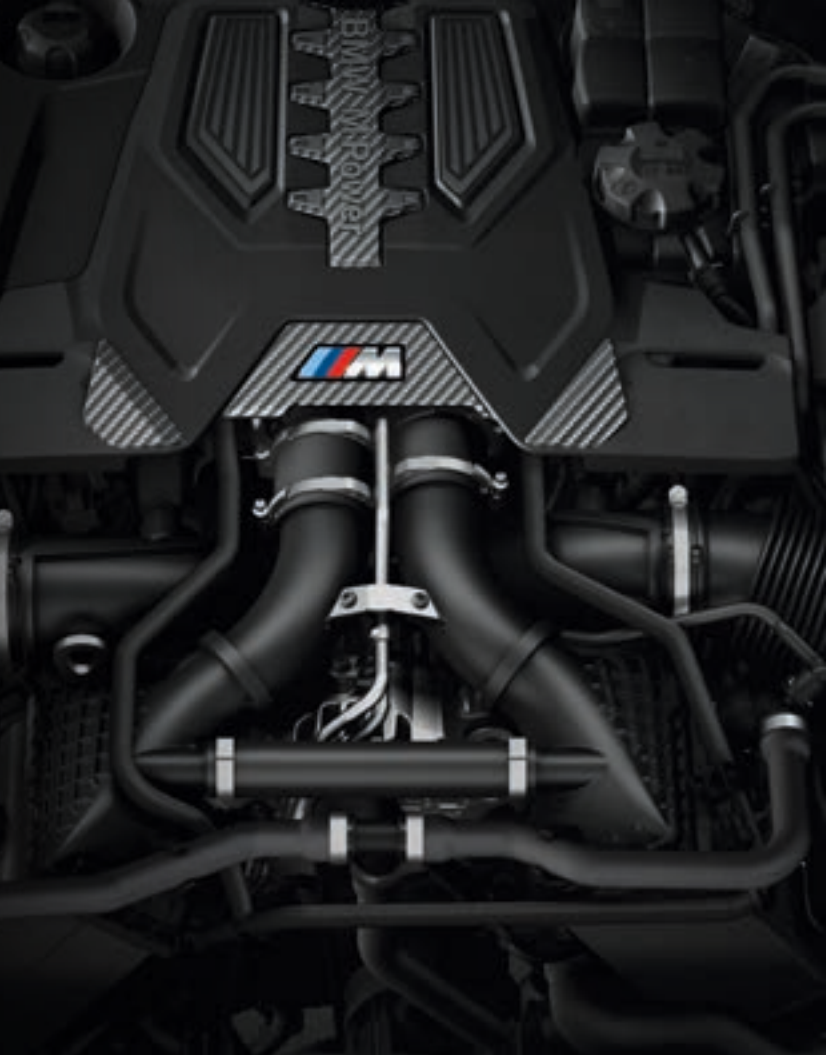
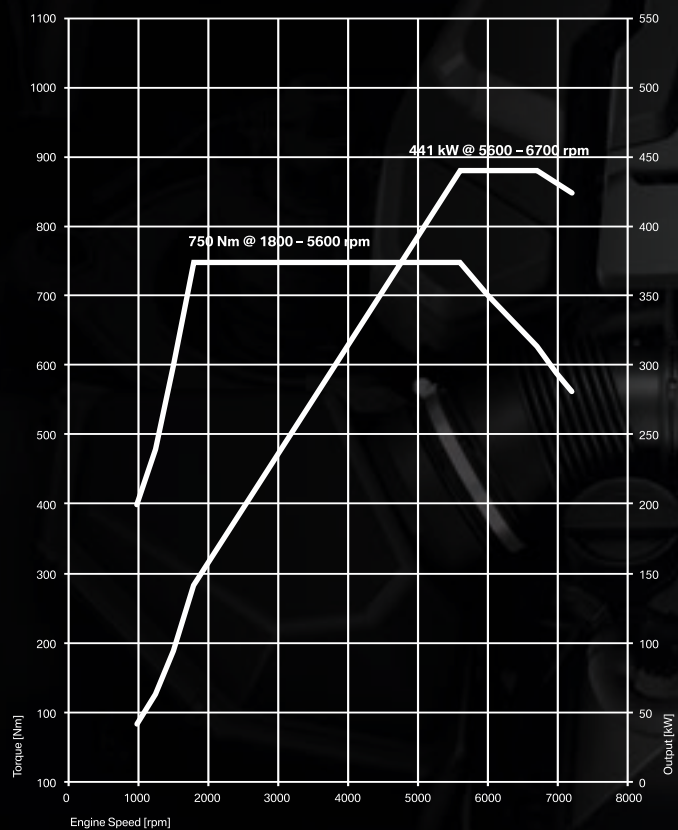
The M multifunctional seats are now offered as standard and provide better support in the shoulder area. With its racing cup shape and the more pronounced side edges of seat and backrest, the M multifunctional seat offers even greater lateral support for keen drivers, with an illuminated M5 logo, finished in Fine grain Merino leather. The seats feature electric adjustment, seat heating, and a memory function. The seat depth can be electrically adjusted, along with the seat backrest width to offer the best lateral support to all shapes and sizes of driver.

The new M5 is available in a variety of exterior colours, some of which are exclusively reserved for the model. A brand new shade is Marina Bay blue metallic, an intense blue colour. Also available on request are matt colours such as Frozen Dark Silver or Frozen Arctic Grey

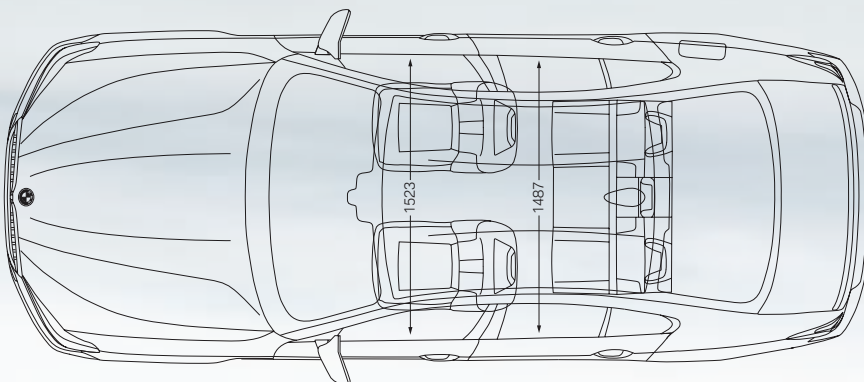
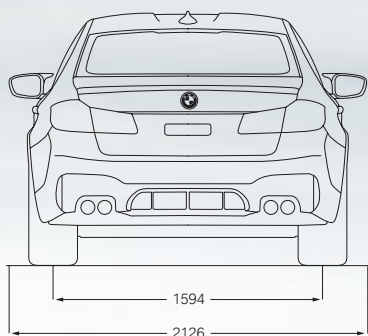
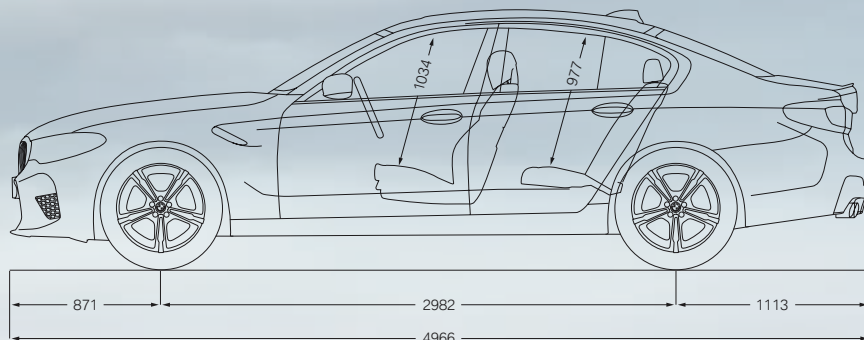
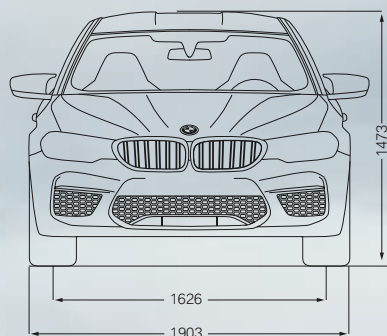




OUTPUT AND TORQUE DIAGRAM.



VEHICLE DIMENSIONS.



TECHNICAL DATA.

Engine type		S63B44T4
Transmission type	–	M8HP75 (Automatic)
Nr. of gears	–	8
Nr. axles	–	2
Powered axles	–	2
Seats	–	5
Number of Doors	–	4
Veh. length	mm	4966
Width	mm	1903
Height	mm	1473
Width inc. mirrors	mm	2126
Wheelbase	mm	2982
Overhang front	mm	871
Rear overhang	mm	1113
Turning circle	m	12.6
Ground clearance	mm	132
Shoulder width front	mm	1490
Shoulder room rear	mm	1420
Elbow width front	mm	1523
Elbowroom rear	mm	1487
Legroom front	mm	1052
Legroom rear	mm	928
Max. headroom front	mm	1034
Maximum headroom rear	mm	977
Headroom front (With sunroof)	mm	996
Maximum headroom second	mm	954
Knee clearance	mm	90
Luggage volume	m³	0.53
Fuel tank capacity (approx.)	litre	68
Curb weight (DIN)	kg	1855
Curb weight (EC)	kg	1930
Rear Weight distribution (empty car)	%	45.2
Gross veh. weight	kg	2440
Payload	kg	585
Axle load limit front	kg	1215
Rear axle load limit	kg	1260
Gross veh. weight /w.trailer	kg	2530
Rear axle load w. trailer	kg	1420
Payload w. trailer	kg	675
Trailer load braked 12%	kg	2000
Trailer load braked 8%	kg	2000
Trailer load unbraked	kg	750
Trailer nose weight	kg	90
Roof load	kg	100

Petrol engine		
Cylinders	–	8
Valves p.cyl.	–	4
Stroke	mm	88.3
Bore	mm	89
Displacement	cm³	4395
Compression rate	:1	10
Rated engine power	kW	441
Engine power	PS	600
Engine power	BHP	591
at rpm	1/min	5600-6700
Engine torque	Nm	750
Engine torque	ft lbs	553
at rpm	1/min	1800-5600
0-62mph	s	3.4
Top speed	mph	155*
Useable fuel quality	–	ROZ91-98
Recommended fuel quality	–	ROZ98
Engine oil capacity	litre	10
Output per litre	kW/dm³	100.3
Power to weight ratio	kg/kW	4.2
Transmission type	–	M8HP75 (Automatic)
Gear ratios 1st gear	–	5
2nd	–	3.2
3rd	–	2.143
4th	–	1.72
5th	–	1.313
6th	–	1
7th	–	0.823
8th	–	0.64
Reverse gear	–	-3.478
Final drive ratio	–	3.154
Track front	mm	1626
Width of the rear track	mm	1594
Wheel offset front	mm	26
Wheel offset rear	mm	28
A	m²	2.44
Cx	–	0.31
Air resistance	m²	0.76
Alloy Wheels: 22B, 2AQ		
Fuel consumption – urban	mpg – l/100km	19.48 – 14.5
Fuel consumption – extra urban	mpg – l/100km	34.44 – 8.2
Fuel consumption – combined	mpg – l/100km	26.90 – 10.5
CO₂	g/km	241
Emission classification (type-certified)	–	EU6
SCR (Yes/No)	–	No

STANDARD EQUIPMENT.

ENGINE

BMW M TwinPower Turbo V8 petrol engine
High-precision injection
VALVETRONIC with Double-VANOS
Twin TwinScroll turbo
Catalytic converter
Digital Motor Electronics (DME)
Engine cover with M designation
Light aluminium engine block and cylinder head
Oil Sensor for level and grade

TRANSMISSION

Eight-speed M Steptronic transmission with DRIVELOGIC
Rear-biased M specific xDrive setup

WHEELS AND CHASSIS

Double wishbone front axle
Dynamic Damper Control
Electro-mechanical parking brake with automatic drive-away release and auto-hold function
Integral rear axle
M Servotronic steering
20" M light alloy wheels Double-spoke style 706 M Bicolour with mixed tyres

SAFETY & TECHNOLOGY

Active Guard
Airbags comprising:
 Head airbags for first and second row seats
 Driver, front passenger, rear and side
 Impact-dependent airbag system
 Passenger seat airbag deactivation, front
Alarm system (Thatcham 1) with remote control and engine immobiliser
Anti-roll bars, front and rear
BMW Icon Adaptive LED headlights
Brake Assist
Brake Energy Regeneration
Brake Force Display
Brake lights with LED technology, Dynamic
Comfort access
Cruise control with brake function
Crash sensor activating central locking release, hazard warning lights, fuel cut-off and interior lighting
Daytime running lights, LED
Deformation zones – front and rear with door reinforcements and bumpers that regenerate to their original shape in impacts of up to 2.5 mph

Dynamic Stability Control (DSC) comprising:

 Anti-lock Braking System (ABS)
 Automatic Stability Control (ASC)
 Brake Assist function
 Cornering Brake Control (CBC)
 Dynamic Brake Control (DBC)
 Dynamic Traction Control (DTC)
 Electronic Brake-force Distribution (EBD)
 Engine Drag Torque Control (MSR)

Driving Assistant

First Aid kit and warning triangle

Follow-me-home headlight function

Head-up Display

Head restraints – front, anti-whiplash

High-beam Assistant

Locking wheel bolts (Thatcham approved)

Mobility kit

On-Board Diagnosis (OBD)

Park Distance Control (PDC), front and rear

Parking Assistant Plus

Rain sensor with automatic headlight activation

Reversing Assist camera

Seat belts – front, inertia reel with pyrotechnical belt latch tensioner, belt force limiter & belt restrainer

Seat belts – rear, three with inertia reel

Side impact protection

Speed limiting function

Two-tone horn

Tyre pressure monitoring

Windscreen washer jets, heated

SEATS

Armrests:

 Front and rear, integrated in door trim

 Centre console, includes storage compartment

 Rear centre, includes 2 cup holders

Child seat ISOFIX attachment, rear outer seats (includes top tether)

Full Merino leather upholstery

Lumbar support, driver and front passenger

M multifunctional seats for driver and front passenger

Seat adjustment, electric, with memory

Seat heating, front

INTERIOR EQUIPMENT

Air conditioning, automatic with four-zone control

Ambient interior lighting – 11 pre-defined selectable light designs including 6 colours

Battery in luggage compartment with jump start facility in engine bay

Cup holders (2 front & 2 rear)

Digital Cockpit

Door sill finishers illuminated with M5 designation

Electric windows – front and rear, with open/close fingertip control, anti-trap facility and comfort closing function all round

Floor mats, velour

Footwell lights, front and rear

Headlining, BMW Individual Anthracite Alcantara

Interior trim finishers Aluminium Carbon structure with highlight trim finisher Pearl Chrome

Lockable glove compartment with light

M leather steering wheel

Multi-function controls for leather steering wheel

Power sockets, 12v – 1 x front, 2 x rear and 1 x luggage compartment (Additional 1 x double USB adapter with 2A charging current)

Reading lights, front and rear

Rear-view mirror, automatically dimming

Steering column with electric adjustment of height and length

EXTERIOR EQUIPMENT

Active Air Stream kidney grille – Chrome surround with chrome fronted double black vertical slats and M5 badging

All round anti-corrosion system

Door handle illumination

Carbon fibre roof

Exhaust tailpipes – 2 x twin chrome

Exterior trim, High-gloss Shadowline

M specific exterior mirrors – foldable, electrically adjustable and heated, includes integrated direction indicators

Metallic paintwork

M rear spoiler

Side gills with M5 designation

Tailgate operation, automatic

AUDIO AND COMMUNICATION

20GB hard disc drive (HDD) memory

Access to BMW Connected+ for 12 months from vehicle production (subscription required)

BMW ConnectedDrive Services comprising:

- BMW Emergency Call
- BMW Online Services
- BMW TeleServices
- Concierge Service
- Real Time Traffic Information
- Remote Services

BMW Gesture Control

BMW Professional radio with single CD player (with MP3 and DVD playback capability)

Control Display – 10.25" colour touch sensitive display screen

DAB digital radio

Enhanced Bluetooth with wireless charging

Favourite buttons

iDrive Touch Controller with shortcut buttons

Loudspeaker system – harman/kardon

Navigation System – BMW Professional Multimedia

On-Board Computer (OBC) comprising:

- Average speed
- Fuel consumption and range
- Information display – analogue instruments combined with liquid crystal display
- Journey computer
- Outside temperature display
- Personal Profile functions

WiFi hotspot preparation



OPTIONAL EQUIPMENT.

	M5	Price
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BMW EFFICIENT DYNAMICS

Auto Start-Stop	●	Std
Brake Energy Regeneration	●	Std
High-precision direct injection	●	Std

Individual BMW EfficientDynamics features may be excluded, depending on the optional equipment chosen.
Your BMW Retailer will be pleased to provide you with more information.

PAINTWORK

Metallic Available in Black Sapphire, Bluestone metallic, Donington Grey, Marina Bay Blue, Singapore Grey or Snapper Rocks Blue	met	●	Std
Non-metallic Available in Alpine White	uni	○	£0
BMW Individual Available in Almandine Brown, Azurite Black, Champagne Quartz or Rhodonite Silver	ind	○	£1,095
Available in Brilliant White ¹ , Frozen Arctic Grey ¹ , Frozen Cashmere Silver ¹ , Frozen Dark Brown ¹ , Frozen Dark Silver ¹ or Pure Metal Silver ¹		○	POA

UPHOLSTERY

Full Merino leather Available in Aragon Brown ² , Black ² or Silverstone ² Not with 776	X3	●	Std
BMW Individual full Merino leather Available in Caramel ^{1,2} , Smoke White ^{1,2} or Tartufo ^{1,2}	LC	○	£775

PACKAGES

Comfort package Comprises: – 248 Steering wheel heating – 3DS BMW Display key – 4HA Seat heating, front and rear – 420 Sun protection glass – 465 Split-folding rear seats	ZGM	○	£1,195
M Driver's package Comprises: – Top-speed increase to 190mph ³ – Optional BMW Driver Training ⁴	7ME	○	£2,095
Premium package Comprises: – 323 Soft-close doors – 4NM Ambient Air package – 4T7 Massage function, front – 4U1 Ceramic finish for controls – 453 Seat ventilation, front	ZGK	○	£1,995

INTERIOR TRIMS

Aluminium Carbon Structure with Dark Chrome highlight	4WM	○	£495
Aluminium Carbon Structure with Pearl Chrome highlight	4WN	●	Std
FineLine Ridge Fine-wood with Pearl Chrome highlight	4LF	○	£0

Key

● = Standard ○ = Optional ¹ = Expected availability from March 2018 production. ² = With a Black colour world. ³ = Not available until the running-in inspection has been completed.
⁴ = For course specific information please visit www.bmw-drivingexperience.com.

	M5	Price
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BMW INDIVIDUAL INTERIOR TRIMS

Piano Black	4ML	○	£495
Sen Light Brown Fine-wood	XEW	○	£495
Plum Brown Fine-wood with Pearl Chrome highlight	4WY	○	£495

TRANSMISSION

Eight-speed M Steptronic transmission with DRIVELOGIC	2TB	●	Std
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STEERING AND CHASSIS

M Carbon ceramic brakes	2NK	○	£7,495
Mobility kit	2VC	●	Std
Tyre Pressure Monitoring	2VB	●	Std
Variable Damper Control (VDC)	223	●	Std

SAFETY AND TECHNOLOGY

Active Cruise Control with Stop&Go function Included in 5AT	5DF	○	£965
BMW Icon Adaptive LED Headlights	552	●	Std
Driving Assistant Comprises: – Approach Control warning – Crossing-traffic warning, rear – Lane Change warning – Lane Departure warning – Prevention of rear collision – Speed-limit information	5AS	●	Std
Driving Assistant Plus Comprises all functionality of Driving Assistant (5AS), plus: – Active Cruise Control with Stop&Go function – Crossing-traffic warning, front – Crossroads warning – Evasion Aid – Lane Change Assistant – Lane Keeping Assistant with active side collision protection – Steering and Lane Control Assistant – Wrong-way warning Not with 5DF	5AT	○	£1,470
Dynamic Safety	5AL	○	£280
Head-up Display	610	●	Std
High-beam Assistant	5AC	●	Std
Night Vision with pedestrian recognition	6UK	○	£1,595
Parking Assistant Plus Comprises all functionality of Parking Assistant (5DM), plus: – Remote 3D View ¹ – Surround View	5DN	●	Std
Park Distance Control (PDC), front and rear	508	●	Std
Reversing Assist camera	3AG	●	Std

Key

● = Standard ○ = Optional Not with = these options are not available for ordering together ¹ = Only with 6AP.

OPTIONAL EQUIPMENT (CONT).

		M5	Price
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SEATS

Lumbar support, driver and front passenger Included in 4MA	488	●	Std
M multi-functional seats, front	4MA	●	Std
Massage function, front	4T7	○	£795
Seat adjustment, electric, with memory	459	●	Std
Seat heating, front	494	●	Std
Seat heating, front and rear	4HA	○	£325
Seat ventilation, front Only with 465	453	○	£510
Through-loading ski bag Only with 465	4UY	○	£75
Through-loading system	465	○	£335

EXTERIOR EQUIPMENT

Comfort Access with smart opener	322	●	Std
Exterior mirrors – folding, with anti-dazzle	4T8	●	Std
Exterior trim, High-gloss Shadowline	760	●	Std
Exterior trim, Matt Aluminium	3MB	○	£0
M Carbon engine cover	1MD	○	£1,025
M rear spoiler	754	●	Std
M Sport exhaust system	1MA	○	£1,100
Model designation deletion	320	○	£0
Soft-close doors	323	○	£435
Tailgate operation, powered	316	●	Std
Towbar, fully electric	3AC	○	£855

INTERIOR EQUIPMENT

Additional 12V power socket	575	●	Std
Air conditioning, automatic with four-zone control	4NB	●	Std
Ambient Air package Air ionisation and scent package provide a pleasant fragrance and improved air purification for the vehicle interior. Intensity of the scents can be controlled in three stages via iDrive controller or via a button in the air conditioning control panel.	4NM	○	£265
Ambient lighting	4UR	●	Std
BMW Display key	3DS	○	£235
BMW Individual rear seat reading lights	4M8	○	£305
Ceramic finish for controls	4U1	○	£420
Digital Cockpit	6WB	●	Std
Electric glass sunroof¹	403	○	£0
Headlining, BMW Individual Alcantara Anthracite	776	●	Std
Interior rear-view mirror with automatic anti-dazzle function	431	●	Std
M seat belts	4GQ	○	£260
Smoker's package	441	○	£40
Sunblinds – rear windscreen and rear side windows	416	○	£410
Sun protection glass	420	○	£390
Universal remote control²	319	○	£195

STEERING WHEELS

Steering wheel heating	248	○	£185
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Key

● = Standard ○ = Optional Only with = these options must be ordered together. ¹ = Removes Carbon-fibre roof.

² = To confirm compatibility of devices please refer to www.homelink.com

	M5	Price
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AUDIO AND COMMUNICATION

Apple CarPlay® preparation ^{1, 2, 3}	6CP	○	£235
BMW Emergency Call ⁴	6AC	●	Std
BMW Gesture Control	6U8	●	Std
BMW Online Services ^{1, 3}	6AK	●	Std
BMW TeleServices ⁴	6AE	●	Std
Bowers & Wilkins Diamond Surround Sound System	6F1	○	£3,090
Concierge Service ^{1, 3}	6AN	●	Std
DAB digital radio	654	●	Std
Enhanced Bluetooth with wireless charging	6NW	●	Std
Loudspeaker system – harman/kardon	688	●	Std
Microsoft Exchange email ^{1, 3}	ZME	○	£150
Navigation system – BMW Professional Multimedia	609	●	Std
Online Entertainment ^{1, 5}	6FV	○	£160
Real Time Traffic Information (RTTI) ^{1, 3}	6AM	●	Std
Rear seat Entertainment Experience	6FH	○	£1,995
Remote Services ^{1, 4}	6AP	●	Std
TV function	601	○	£890
WiFi hotspot preparation ⁶	6WD	●	Std

LIGHT ALLOY WHEELS

20" M light alloy Double-spoke style 706 M, Bicolour	22B	●	Std
20" M light alloy Double-spoke style 706 M, Black	2AQ	○	£325



20" M Double-spoke style 706 M, Bicolour



20" M Double-spoke style 706 M, Black

Key

● = Standard ○ = Optional ¹ = Requires a free BMW ConnectedDrive account. ² = Compatibility and functions may vary due to the model year of the iPhone® and the version of software installed on it. Functions using a data connection will use data from the SIM card in the iPhone®. Additional data charges may be applied by the mobile network provider.
³ = Active for three years, renewable thereafter. ⁴ = Available and active for the lifetime of the vehicle. ⁵ = Includes subscription to a chosen music partner for one year.
⁶ = Data subscription costs apply and must be purchased separately. Content correct at time of going to print. Prices subject to change.





THE BMW GROUP

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 30 production and assembly facilities in 14 countries; the company has a global sales network in more than 140 countries.

In 2017, the BMW Group sold over 2,463,500 passenger vehicles and more than 164,000 motorcycles worldwide. The profit before tax in the financial year 2017 was € 10.655 billion on revenues amounting to € 98.678 billion. As of 31 December 2017, the BMW Group had a workforce of 129,932 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy.

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