The new BMW M4 GTS.
Contents.

1. Highlights.

- The new BMW M4 GTS offers a highly exclusive driving experience and, with its high-performance technology and motor sport genes, is clearly focused on track use. Production run of special-edition model limited to 700 units worldwide. Market launch from spring 2016.

- Six-cylinder in-line engine with M TwinPower Turbo technology, high-revving character and water injection increases output to 368 kW/500 hp, yet fuel consumption and emissions remain on a par with the BMW M4 Coupe (fuel consumption combined: 8.5 l/100 km* [33 mpg imp]; CO_2 emissions combined: 199 g/km*).

- Acceleration from 0 to 100 km/h (62 mph) in only 3.8 seconds, top speed limited to 305 km/h (189.5 mph).

- Developed and tuned on the Nürburgring-Nordschleife. Lap time: 7.28 min.

- World premiere of BMW Organic Light: first series-produced car with OLED rear lights.

- Kerb weight only 1,510 kilograms (DIN).

- Weight-to-power ratio of just 4.1 kilograms per kilowatt (3.0 kg/hp).

- Intelligent lightweight body design: bonnet, front splitter, roof, rear spoiler, instrument panel bracing tube and rear diffuser made from carbon-fibre-reinforced plastic (CFRP).

- Extra-lightweight, CNC-machined buttress-style struts made from aluminium for the adjustable CFRP rear wing.

- Sports exhaust system with muffler made from ultra-lightweight titanium; tailpipes with 80-millimetre diameter and laser-engraved M logo ensure the type of emotionally-rich soundtrack customers have come to expect from BMW M.

* Fuel consumption figures based on the EU test cycle, may vary depending on the tyre format specified.

- Lightweight M light-alloy wheels (front: 9.5 J x 19, rear: 10.5 J x 20) with optimised rigidity. Exclusive star-spoke 666 M design in Acid Orange, forged and polished.

- Mixed-size Michelin Pilot Sport Cup 2 tyres (front: 265/35 R19, rear: 285/30 R20) exclusively adapted for the BMW M4 GTS.

- Three-way M coilover suspension tailored specifically to the BMW M4 GTS, with adjustable compression/rebound characteristics and modified anti-roll bars and support mounts.

- Standard M carbon ceramic brakes with six pistons at the front wheels and four pistons at the rear wheels.

- Eye-catching front grille with M double bars in black; kidney grille surround and gills in high-gloss black.

- M carbon-fibre bucket seats with exclusive Alcantara/Merino leather covers and coloured M stripes in the seat backrests.

- Centre console in lightweight construction and featuring Alcantara covering and dark grey contrast stitching.

- Lightweight interior door panels and rear side trim, door pull loops with M stripes.

- Rear seat bench omitted. Glass-fibre-reinforced plastic (GFRP) rear panelling with Alcantara covering, combined with rear panel in carbon-fibre sandwich construction.

- Exclusive M sports steering wheel covered in Alcantara and with a perforated “12 o’clock” marker in Acid Orange.

- Instrument panel with Alcantara interior trim strip featuring perforated GTS badging in Acid Orange.

- Seven-speed M Double Clutch Transmission with Drivelogic for ultra-fast gear changes with no interruption in the flow of power. Launch Control provides maximum acceleration from rest.

- Other items of standard equipment: BMW Navigation system Professional, air conditioning, Park Distance Control (PDC) front and rear, automatically dimming rear-view and exterior mirrors, Adaptive LED Headlights with BMW Selective Beam (dazzle-free high beam assistant), BMW Individual high-gloss Shadow Line.

- Optional Clubsport Package with roll bar in Acid Orange, six-point harness and fire extinguisher at no extra cost (features included may vary subject to registration regulations in different countries).

- **BMW M4 GTS:** Six-cylinder in-line engine with water injection, M TwinPower Turbo technology (two mono-scroll turbochargers, High Precision Injection, VALVETRONIC variable valve control) and variable camshaft timing (Double-VANOS).
  Capacity: 2,979cc, output: 368 kW/500 hp at 6,250 rpm,
  max. torque: 600 Nm (442 lb-ft) at 4,000–5,500 rpm.
  Acceleration (0–100 km/h [62 mph]): 3.8 seconds,
  top speed (limited): 305 km/h (189.5 mph)
  Average fuel consumption combined: 8.5 l/100 kilometres* (33 mpg imp),
  CO_2 emissions combined: 199 g/km*, exhaust standard: EU6.

Further information on official fuel consumption figures, specific CO_2 emission values and the electric power consumption of new passenger cars is included in the following guideline: "Leitfaden über Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Guideline for fuel consumption, CO_2 emissions and electric power consumption of new passenger cars), which can be obtained from all dealerships, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at http://www.dat.de/en/offers/publications/guideline-for-fuel-consumption.html. Leitfaden CO_2 (Guideline CO_2) (PDF – 2.7 MB).

* Fuel consumption figures based on the EU test cycle, may vary depending on the tyre format specified.

2. The new BMW M4 GTS.
Focused motor sport expertise delivers the ultimate in driving dynamics. (Short version)

The BMW M4 GTS gives BMW M GmbH a new and exclusive technological showpiece which elevates the potential of the BMW M4 Coupe to another impressive new level. With its powerful, motor sport-inspired looks and high-performance technology, the BMW M4 GTS has its sights set squarely on the race track. A lap time of 7.28 minutes around the legendary Nürburgring-Nordschleife, the world's most exacting race circuit, is a clear statement of this special-edition model's exceptional abilities. At the same time, the sharpest BMW M4 of all – like its BMW M stablemates – can also hold its own on public roads. BMW M GmbH is launching the BMW M4 GTS in a special edition limited to 700 units to celebrate the 30th anniversary of the BMW M3, which has been in production since 1986. In so doing, it is highlighting the innovative flair of the BMW M engineers in developing trailblazing M technologies on the powertrain, chassis and lightweight construction front. The first high-performance special edition in the M3/M4 model range will also be available for the first time in the important North American market.

"Special-edition models like the BMW M3 GT, BMW M3 CSL, BMW M3 GTS and BMW M3 CRT have a decades-long tradition in our mid-size line-up – and that continues with the BMW M4," says Frank van Meel, CEO of BMW M GmbH. "They sharpen the character of the BMW M brand and embody an emotionally rich and exclusive driving experience. We've taken a radical route with the set-up of the BMW M4 GTS to create a sports machine for the race track that delivers top-end dynamics and inspirational performance. It allows us to demonstrate what is possible today with a road-legal car. Owners can drive their BMW M4 GTS to circuits such as Spa-Francorchamps, the Nürburgring or Laguna Seca – for clubsport events, for example – and then set lap times there that raise the bar to extremely high levels for road-legal cars."

Performance boost courtesy of innovative water injection.
At the heart of each and every BMW M model is its engine. The BMW M4 GTS uses the multi-award-winning six-cylinder in-line turbo engine from the BMW M3/M4, but adds innovative water injection technology to give the 3.0-litre unit a substantial power boost. The water injection system raises the engine's output significantly – to 368 kW/500 hp – and increases torque to 600 Nm (442 lb-ft), yet still keeps fuel economy and CO_2 emissions at the level of the BMW M4 Coupe (8.5 litres per 100 km* [33 mpg imp], 199 g/km*). This makes the BMW M4 GTS the most agile, radical and

* Fuel consumption figures based on the EU test cycle, may vary depending on the tyre format specified.

dynamically potent model in the range. It races from a standstill to 100 km/h (62 mph) in a mere 3.8 seconds and hits a limited top speed of 305 km/h (189.5 mph).

Lightweight design extends into the details.

Intelligent lightweight construction allows the BMW M engineers to limit the car's DIN kerb weight to 1,510 kilograms (ECE kerb weight: 1,585 kg). Its outstanding weight-to-power ratio of 3.0 kg/hp provides the perfect platform for a highly dynamic driving experience. The rigorous weight-saving measures extend through both the interior and exterior of the car. Inside, carbon-fibre bucket seats, a lightweight centre console, the lightweight construction of the rear seat panelling and boot area partition, and special lightweight door and side panel trim, including door pull loops in place of solid door handles, are clearly visible indications of the designers' commitment to weight-saving. The rigorous application of lightweight design can also be seen in details that are out of view. The instrument panel bracing tube is made from lightweight carbon fibre. And on the outside of the car, the newly designed bonnet, roof and adjustable front splitter are also constructed from carbon-fibre-reinforced plastic (CFRP). The adjustable rear wing, too, is cut from this light but extremely durable high-tech material. It rests on intricate, CNC-machined aluminium mounts fixed to the CFRP boot lid which likewise demonstrate how every detail, no matter how small, has been honed to minimise weight. Teaming up with the diffuser – again, made from carbon fibre – below the rear bumper, the rear wing optimises the flow of air and reduces lift at the rear axle. The exhaust system has a titanium muffler, which allows a weight saving of 20 per cent. Its emotionally rich soundtrack fits the M profile perfectly and envelops the inside and outside of the car in the ambience of the race track.

Performance-maximising equipment features.

The standard-fitted seven-speed M Double Clutch Transmission (M DCT) selects the optimum ratio for every driving situation with no interruption in the flow of power as it makes its way to the rear wheels. The driver can also select gears manually using either shift paddles on the steering wheel or the selector lever. The Drivelogic shift programs and Launch Control have been retuned to the engine's increased output. The weight-minimised, exclusive M light-alloy wheels in star-spoke 666 M Styling are forged and polished, and come in Acid Orange. They are fitted with Michelin Pilot Sport Cup 2 tyres (front: 265/35 R19, rear: 285/30 R20) which are adapted specifically to the BMW M4 GTS and therefore play a role in the car's outstanding mechanical traction and feedback through corners.

The three-way M coilover suspension specially tuned for the BMW M4 GTS can be adjusted to individual tastes and therefore also to the demands of

different race circuits. The lightweight M carbon ceramic brakes offer a well-defined pressure point and ensure outstanding deceleration even under sustained heavy loads, such as at the limit on the race track.

World-exclusive OLED technology, brilliant LED light.
The familiar two sets of twin circular headlights with four corona rings ensure the best possible illumination of the road surface. They combine cutting-edge LED (light-emitting diode) technology with BMW Selective Beam (dazzle-free high beam assistant) and Adaptive Headlights.

The L-shaped rear lights are just as distinctive as the design of the headlights. Indeed, innovative OLED rear lights will make their series-production debut in the BMW M4 GTS. OLEDs (organic light-emitting diodes) are a new kind of light source that light up over their full surface with a very homogeneous effect – unlike LED units, which emit their light in the form of points. The flat design of OLEDs (they measure just 1.4 millimetres in height) and the ability to trigger individual light modules separately open up fresh possibilities for lighting concepts and exudes the presence of exceptional precision. As such, the tail lights underline the width of the rear end, lend the car an even more eye-catching and powerful appearance and ensure it cuts a stand-out figure in both the light and dark.

The interior – focused, exclusive and committed to motor sport.
The carbon-fibre M bucket seats for the driver and passenger stick firmly with the lightweight construction theme inside the pure-bred, exclusive interior. They weigh around 50 per cent less than the sports seats in the BMW M4 Coupe, enable an ideal seating position and offer compelling long-distance comfort to go with their unbeatable levels of support. The exclusive Alcantara/Merino leather seat covering along with M stripes in the backrests, three-point seat belts and door pull loops highlight the profile of the BMW M4 GTS as a high-performance sports machine as well as the car's standalone character. The M4 GTS is fitted with different bucket-style M sports seats (including lightweight backrests with cut-outs) for the North American market, in line with local registration requirements.

The exclusive material Alcantara is also used for the M sports steering wheel, whose "12 o'clock" marker underlines the racing character of the BMW M4 GTS. In place of a rear seat bench, the BMW M4 GTS features a glass-fibre-reinforced plastic (GFRP) shelf and a rear panel in carbon-fibre sandwich construction. Both are covered in Alcantara, and together they enable a weight saving of around 40 per cent.

The optional Clubsport Package can further enhance the affinity of the BMW M4 GTS with the race track. It includes a roll bar in Acid Orange behind the front seats, a race-specification six-point harness** and a fire extinguisher.

Further information on official fuel consumption figures, specific CO_2 emission values and the electric power consumption of new passenger cars is included in the following guideline: "Leitfaden über Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Guideline for fuel consumption, CO_2 emissions and electric power consumption of new passenger cars), which can be obtained from all dealerships, from Deutsche Automobil Treuhand GmbH (DAT), Hellmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen and at http://www.dat.de/en/offers/publications/guideline-for-fuel-consumption.html. Leitfaden CO_2 (Guideline CO_2) (PDF – 2.7 MB)

** Not available on the US version.

3. Intelligent lightweight design across the board.
The route to high performance.

Intelligent lightweight engineering, already a vital consideration for the BMW M4, has been taken to new and even more uncompromising levels on the BMW M4 GTS. The goal was to minimise kerb weight in order to give the new model outstanding driving dynamics, top-class agility and highest efficiency. Rigorous lightweighting extends to even the smallest details of the BMW M4 GTS, delivering a DIN kerb weight of 1,510 kilograms (ECE kerb weight: 1,585 kg).

The low weight of the BMW M4 GTS improves not only performance but also dynamics and handling. Drivers perceive the benefits in the form of even more responsive steering, more precise cornering, shorter stopping distances and new levels of control when pushing the vehicle to its limits.

High-tech carbon construction reduces weight.
Like the BMW M4 Coupe, the BMW M4 GTS has a carbon-fibre-reinforced plastic (CFRP) roof that is more than six kilograms lighter than a corresponding metal roof. Lightweight, robust CFRP is also used for the bonnet, which is approximately 25 per cent lighter than the aluminium bonnet of the BMW M4. Both these lightweight components play an important role in lowering the centre of gravity and further improving axle load distribution. In the BMW M4 GTS, BMW reaps the benefits of its many years' experience in high-tech carbon construction. The use of CFRP continues under the skin as well, for example in components such as the instrument panel support.

The contoured roof line with the typical centre channel carries over into the boot lid, emphasising the very sporty personality of the BMW M4 GTS. The geometry of the boot lid, which is made of CFRP and plastic, is precisely designed to optimise the rear aerodynamics and to help direct air to the lightweight CFRP rear spoiler. The spoiler is attached to the boot lid by two CNC-milled aluminium supports, each consisting of an intricate strut arrangement that optimally combines high stiffness with very low weight.

Lightweight exposed carbon fibre is also on display in the adjustable splitter underneath the BMW M4 GTS's front apron and in the rear apron diffuser. Exterior lightweight design measures continue with the exclusive forged, machine-polished, low-weight 666 M star-spoke wheels in Acid Orange and the M carbon ceramic brakes, both of which not only cut down on overall

weight but also significantly reduce unsprung masses. The M engineers have also extended their uncompromising focus on lightweight engineering to the sports exhaust system, which features a titanium rear silencer. This high-end material combines light weight with robustness. The BMW M4 GTS's sports exhaust system produces an authentic racing sound and is 20 per cent lighter than a stainless steel component.

Extensive lightweighting continues under the skin.
Needless to say, lightweight engineering is not just confined to the visible areas of the body. For example, the BMW M4 GTS's single-piece propeller shaft is made of carbon-fibre-reinforced plastic (CFRP), which is even lighter than the corresponding component in the BMW M3/M4. The low mass and high stiffness of the CFRP tube means that the propeller shaft can be produced as a single-piece component, without a centre bearing. This achieves weight savings of 40 per cent over a conventional component, with a simultaneous reduction in rotating masses. This in turn results in improved powertrain dynamics and better response.

All weight-saving measures are designed with an eye to improved driving dynamics. A good example is the CFRP strut brace in the engine compartment. Weighing only 1.5 kilograms, it offers superior stiffness to a comparable aluminium component. At the same time it plays a key part in ensuring eager turn-in and excellent steering precision.

Authentic racing feel in the interior.
The many lightweight features in the interior of the BMW M4 GTS don't just save weight, they also exude an authentic racing feel. The most conspicuous example are the special M bucket seats. The all-carbon seat bucket is very strong and also approximately 50 per cent lighter than the standard BMW M4 sport seat. In between the seats, the BMW M4 GTS boasts a new, asymmetrically styled lightweight centre console that shaves around 30 per cent off the weight of the corresponding component in the BMW M4 Coupe.

A further weight-saving measure is the deletion of the rear seats. This area is now trimmed in glass-fibre-reinforced plastic (GFRP), with a carbon sandwich bulkhead to the rear. Both these elements are designed for reduced weight, a lower centre of gravity and maximum stiffness. The across-the-board lightweight engineering approach also extends to the door panel trim and rear side panel trim with modified design geometry and special lightweight construction based on renewable natural materials. Conventional door handles are replaced by door pull loops, while Alcantara trim makes an appearance only on the armrests. The weight of the door panel trim has been halved compared with comparable standard components.

4. Performance-enhanced version of the six-cylinder in-line engine.
Water injection delivers extra power and improved efficiency.

The BMW M4 GTS is powered by an M TwinPower Turbo engine capable of 7,600 rpm. Unusually high-revving for a turbocharged engine, it offers linear power delivery over a wide engine speed range. An innovative water injection system takes this six-cylinder in-line turbocharged unit to new performance heights by relaxing the thermal constraints on power and torque. The system has already proved itself on race tracks around the world on board the BMW M4 MotoGP Safety Car, this year's lead safety car in the world's top motorcycle racing series.

The engine develops its maximum power of 368 kW (500 hp) – an increase of 16 per cent over the BMW M4 – at 6,250 rpm. Peak torque has been increased by 10 per cent to 600 Newton metres (442 lb-ft), and is maintained over a very wide rev band (4,000 rpm to 5,500 rpm). The standard sprint from zero to 100 km/h (62 mph) takes 3.8 seconds, on the way to a governed top speed of 305 km/h (189.5 mph). Despite the significant extra power, the engine also excels on fuel efficiency, matching the BMW M4 Coupe's low EU combined fuel consumption of 8.5 litres/100 km* (33 mpg imp), which corresponds to combined CO_2 emissions of 199 g/km*, and complying with the EU6 emissions standard.

Innovative water injection system.
The BMW M4 GTS is the first production road car to be fitted with an innovative and trailblazing water injection system. With this system, which further improves the full-throttle power and fuel consumption of the turbocharged straight-six engine, the BMW M engineers have utilised the principle that water absorbs energy from the surrounding air when it evaporates. Water is injected as a fine spray into the intake manifold plenum chamber where it evaporates, significantly lowering the temperature of the intake air. This reduces the final compression temperature in the combustion chamber, which also reduces the risk of knock, allowing the turbocharged engine to operate with higher boost pressure and earlier spark timing. The result is increased power and torque, and a substantial improvement in efficiency. Despite the extra power output, thermal stress on all performance-related components is reduced. All of these features ultimately help to diminish wear and prolong engine life.

* Fuel consumption figures according to EU test cycle, may vary depending on the tyre format specified.

Increased power, reduced full-throttle fuel consumption.
The benefits of water injection can be utilised in various ways, depending on engine and vehicle type. In particular the engineers have considerable latitude when deciding how to balance their priorities between increased power and fuel efficiency. If water injection is taken into account in the design of a high-performance engine right from the start, it is possible to use turbochargers with a higher boost ratio and compression ratio. If the turbocharger produces peak power at peak rpm, it is possible to increase engine power by approximately eight per cent. At the same time, power losses due to an increase in ambient temperature (> 20° C) can be compensated by increasing the amount of water injected.

Technical background.
The output of an internal combustion engine is physically limited not least by the operating temperature in the combustion chamber. If a given operating temperature is exceeded, this will result in uncontrolled combustion (knock), leading to power losses and, in the worst case, to severe engine damage. This is particularly relevant in the case of turbocharged engines, where the intake air is heated in the turbocharger compressor to as much as 160° C. Although intercooling can be used to cool the boost air, the capacity of intercooling systems is physically limited. Depending on the design and size of the system, and the aerodynamics of the vehicle, it is possible to cool the intake air to a temperature below 70° C before it enters the plenum chamber. To raise engine power by increasing boost pressure is not an option as it would mean exceeding the knock threshold.

This is where the BMW M division's solution comes in: if water is injected in a fine spray into the intake plenum chamber, it is possible to reduce the temperature of the intake air by around 25° C. This further cooling of the boost air makes it possible to advance the spark timing closer to the optimal value. This results in a more efficient combustion process, while at the same time reducing the final combustion temperature. At the same time cool air is more dense, which increases the proportion of oxygen in the combustion mixture and results in a higher mean combustion pressure, leading to optimised power and torque development. Finally, this efficient in-cylinder cooling system also reduces the thermal stress on a range of basic components including not only the pistons, exhaust valves and catalytic converter but also, due to the lower exhaust gas temperatures, the turbocharger.

Water injection raises the knock threshold.
Using water injection to raise the knock threshold also goes a long way towards resolving a fundamental conflict in the design of high-performance

engines, caused by the fact that power output and fuel consumption are closely dependent on compression ratio. This is particularly true in the case of highly turbocharged engines like the M TwinPower Turbo six-cylinder in-line engine. Here, a high compression ratio provides high efficiency and low fuel consumption at low and medium throttle. In the full-throttle range, however, the compression ratio is limited by the knock threshold. Water injection provides a particularly effective way of raising the knock threshold in this range, allowing the compression ratio to be increased. This makes it possible to optimise the power output of the turbocharged engine over a wide operating range. The lower the octane rating of the fuel, the greater the potential of this technology.

In terms of practical implementation, the BMW M division's engineers opted for an arrangement whereby three water injectors in the intake plenum chamber each supply water to two of the straight-six engine's cylinders. This solution makes for uniform water distribution and a compact system design.

An underfloor stowage well in the boot of the vehicle houses a five-litre water tank, the water pump, sensors and valves. The pump and all the sensors and actuators are controlled by an expanded engine management system. The pump supplies water to the injectors at a pressure of approximately 10 bar. The injection quantity can be varied depending on load, engine speed and temperature, which helps to keep water consumption to a minimum. Under hard driving on the track, the water tank has to be topped up every time the vehicle is refuelled. Under normal everyday operating conditions, on the other hand, the intervals are much longer, depending on driving style. Even in fast motorway driving, the water tank only needs topping up at every fifth refuelling stop. Otherwise the system is maintenance-free, for maximum everyday practicality.

On safety grounds, the BMW M water injection system is equipped with a sophisticated self-diagnosis system. If the water tank runs dry, or in the event of a system malfunction, appropriate measures are taken to protect the engine. Boost pressure is reduced and the spark timing is retarded, allowing the engine to continue to operate safely at reduced power. Even when things are working normally, a variety of precautions are taken to keep the system fully functional. Every time the engine is switched off, all the water in the hose system is drained into the tank to prevent system components from icing up in sub-zero temperatures. The water tank is likewise frost-proof.

Further highlights of the turbocharged six-cylinder in-line engine. The turbocharged engine features a very rigid closed-deck crankcase design that makes it possible to develop higher pressure in the cylinder for improved

power output. And instead of liners, the cylinder bores feature a twin-wire arc-sprayed coating, which results in a significant reduction in engine weight.

A further technical highlight is the forged and highly torsionally rigid crankshaft which, as well as providing increased torque-carrying capacity, is also lighter in weight. The substantial reduction in rotating masses results in improved throttle response and acceleration.

On the track, the high performance capability of the BMW M4 GTS places extra demands on the engine oil supply system. In designing this system, the BMW M division has once again taken full advantage of its extensive motor sport experience. The aluminium oil sump is designed to limit the movement of the oil under the influence of strong lateral forces, while an oil suction pump and a sophisticated oil return system in the area of the turbocharger help to maintain stable oil circulation under extreme acceleration and deceleration. Oil is thus supplied continuously to all engine components in all driving situations, whether in everyday motoring or during hard driving on the track.

A typical performance car engine sound is provided by a rear silencer of lightweight, extremely robust titanium. The typical BMW M exhaust system design features four tailpipes, in this case each with an 80-millimetre diameter and laser-engraved M emblem. As well as providing a striking, emotionally charged and unmistakable BMW M sound over the entire engine speed range, the system also minimises exhaust back-pressure and gives precise feedback on engine load. The sound profile can be varied depending on which of the various preconfigured drive modes is selected.

M TwinPower Turbo technology.
The BMW M4 GTS engine's M TwinPower Turbo package comprises two fast-responding mono-scroll turbochargers, High Precision Injection, VALVETRONIC variable valve control and Double-VANOS continuously variable camshaft timing. The valve and camshaft timing work in tandem to seamlessly control intake valve lift. The result is smooth and efficient power delivery, very sharp response and reduced fuel consumption and emissions.

7-speed M double-clutch transmission with Drivelogic.
The BMW M Division's 7-speed M double-clutch transmission with Drivelogic (M DCT) sets standards in terms of smooth power delivery and track-ready design. In addition to automatic shifting, this highly advanced transmission also offers very fast manual shifting without torque interruption, using the steering wheel shift paddle. Manual mode also offers a specially configured Launch Control system that provides ultra-fast acceleration off the line, with optimal rev matching for the subsequent upshifts.

Drivelogic offers a choice of three shift programs.

The Drivelogic program for the 7-speed M double-clutch transmission offers three selectable shift programs, which can be engaged using the Drivelogic button on the centre console. These programs differ in terms of engagement speed and the rpm points at which the gearshifts take place. The spectrum ranges from extremely sporty to somewhat more relaxed, yet still dynamic shifting. As well as improving acceleration, this also makes for improved efficiency. A further M function, Stability Clutch Control, provides assistance in sporty driving situations. It automatically disengages the clutch when necessary to prevent oversteer and so stabilises the vehicle.

5. Chassis and driving dynamics. Unbeatable precision and clear feedback.

The BMW M division specialises in developing cars that combine very precise steering, excellent controllability even in extreme driving situations and outstanding agility with a refined driving experience and superb traction and stability. All BMW M models – including the new BMW M4 GTS – unite excellent track capability that has been tested on the Nürburgring Nordschleife (North Loop), the most challenging racing circuit in the world, with high standards of everyday driveability. At the same time, the BMW M4 GTS's enhanced performance and track capabilities are backed up by additional refinements on the chassis front.

Aluminium and carbon-fibre construction to support the "ultimate driving experience".
First and foremost, an ultra-dynamic driving experience depends on suspension systems that combine low weight with high stiffness. Like the BMW M3/M4, the BMW M4 GTS is equipped with lightweight aluminium control arms, wheel carriers and axle subframes. On the double-joint spring-strut front axle alone, this cuts weight by five kilograms compared with using conventional steel components. Play-free ball joints and specially developed elastomer bearings provide optimal, direct transmission of longitudinal and transverse forces. The aluminium stiffening plate, CFRP front strut tower brace and additional bolted connections between the axle subframe and body structure all make for a stiffer front end.

At the rear, all control arms and wheel carriers on the five-link axle are of forged aluminium, which reduces the unsprung masses of the wheel-locating components by around three kilograms compared with a conventional design. The racing-derived rigid connection between the rear axle subframe and the body, dispensing with rubber bushings, improves wheel location and tracking stability.

Specially designed for the BMW M4 GTS, the three-way M coilover suspension features mechanically adjustable compression and rebound settings, with precise independent adjustment of low-speed and high-speed compression. This allows the suspension to be customised to the characteristics of different tracks. Moreover, the anti-roll bars and support mounts are closely matched to the significantly increased engine power and are designed for the "ultimate driving experience".

Detailed refinements also extend to the steering system.
The steering system has also been adapted to the BMW M4 GTS's track-going capabilities. The steering torque curve, always critical for a smooth steering feel, has been further optimised by modifications to the front suspension kinematics and the incorporation of features such as asymmetric steering support mounts and a motorsport-derived, custom-designed, milled swivel bearing. This allows the axle geometry to be optimised for lateral dynamics and steering torque, which again translates to enhanced driving dynamics.

The swivel bearing also allows the use of 9.5 J front wheels. The higher damper clamp in conjunction with the ball joint in the front axle support mount results in substantially increased camber stiffness. It also provides faster response to lateral forces, which is already assisted by the wider wheels. For further improved lateral force generation, the BMW M engineers have retained the 19-inch front tyres, while the rear axle with 10.5 J wheels running on 20-inch tyres is adapted to the faster lateral force development by a minus two degree front camber setting.

Further enhanced rear-wheel drive with Active M Differential.
Other features helping to add extra edge to the driving dynamics include the rear differential's hollow lightweight output shafts and the Active M Differential. To optimise traction and stability, the latter uses an electronically controlled multi-plate limited-slip differential, which is adapted to the significantly enhanced performance capability of the BMW M4 GTS. The multi-plate limited-slip differential is proactively controlled with extremely high precision and speed. Its control unit is linked to the Dynamic Stability Control (DSC) system and takes into account accelerator pedal position, wheel speeds and vehicle yaw. All driving situations can therefore be precisely analysed and an impending loss of traction at one side of the vehicle identified at a very early stage. When necessary, the system reacts with split-second speed to vary the locking action, which can be anywhere between zero and 100 per cent. This prevents wheel spin on low-traction surfaces, on split-traction surfaces with a big difference in friction coefficient between the left and right rear wheels, on tight hairpin bends or during fast steering manoeuvres. The optimised traction also provides superb stability in challenging conditions and allows extra-dynamic acceleration out of corners.

Electronic assistance systems adjustable to personal driving style.
M Dynamic Mode (MDM), a special DSC mode, can be activated whenever drivers want an extra-sporty driving experience. Whereas DSC focuses on correcting understeer or oversteer, M Dynamic Mode allows more wheel slip for controlled drifting. This mode caters to sporty-minded drivers, although –

unlike DSC OFF mode – the system still intervenes if the vehicle reaches a critical stability threshold. But whichever setting is chosen, responsibility for ensuring vehicle stability always lies with the driver. The DSC system and the Anti-lock Braking System (ABS) have been configured to take account of the BMW M4 GTS's increased performance and its newly developed three-way coilover suspension.

Tyre development was integrated into the suspension set-up right from the start. For high-performance sports cars like the BMW M4 GTS, steering feel and precision are a particularly important priority when developing the front tyres, alongside lateral stability and the transmission of braking forces, while for the rear tyres the focus is on traction, lateral stability and directional stability. To meet the very highest standards on the tyre front, the BMW M4 GTS is equipped with low-weight, high-stiffness forged wheels running on mixed-size Michelin Pilot Sport Cup 2 tyres (front: 265/35 R19; rear: 285/30 R20). The 19-inch front wheels (9.5 J x 19) improve steering precision, while the 20-inch (10.5 J x 20) rear wheels provide outstanding traction and an optimal transfer of drive power to the road. The Cup tyres complement the fine-tuned suspension set-up by ensuring optimal traction and precise feedback for exceptionally agile handling.

The electromechanical steering system was also developed in-house by the BMW M division. Strong points of this specially configured steering system, which forms the key control interface between driver and vehicle, include its direct steering feel and precise feedback. To further improve driver feedback, there is no elastic section in the BMW M4 GTS steering column. The integrated Servotronic function electronically adjusts the level of power assist according to road speed, providing optimal steering characteristics at all speeds. The Servotronic button on the centre console offers three different settings, each with its own specific profile: COMFORT, SPORT and SPORT+. These settings can be programmed into the M1 and M2 buttons in the M Drive menu. They can then be activated while driving by pressing the appropriate steering wheel button. In each case the level of steering assistance is adapted to the current requirements and the driver's personal preferences.

Choice of drive settings – from moderately sporty to extremely sporty.

The characteristics of the electronic accelerator pedal can be customised using the M Motordynamic Control system. On the road, the settings can be configured for a more temperate sporty performance. For track use, on the other hand, priority can be given to instantaneous and explosive power delivery. It is also possible, using the M Drive menu or the DSC OFF button, to

choose one of three different settings for the Dynamic Stability Control (DSC) system (DSC, MDM or DSC OFF), while different shift characteristics for the seven-speed M double-clutch transmission can be selected using the Drivelogic button on the centre console. In this way, drivers can choose their own personal combination of drive settings, putting the accent either on the extreme sporty performance of which the BMW M4 GTS is capable or on somewhat more tempered dynamism. Via the M Drive menu, two sets of preferred personal configurations can be programmed into the M1 or M2 steering wheel buttons for instant access. The personalised settings for all the relevant systems can then be activated while driving at a single touch of the appropriate button.

High-performance brake: excellent stopping performance and long life.

In keeping with its outstanding performance potential, the BMW M4 GTS is equipped as standard with lightweight, optimised, ultra-high-performance M carbon ceramic brakes, which are designed for a further enhanced track capability and longer life. The brakes are made of carbon-fibre-reinforced silicon carbide (C/SiC).

The brake discs are made up of two elements: the support body with the cooling ducts has a high carbon fibre content, while the inner and outer friction layers have a high ceramic content. The brake disc hub is of compound design and made of aluminium. It is connected to the brake disc ring by radial friction bearings. This design, with the special friction layer, gives the carbon ceramic brake disc an operating life several times that of a conventional brake disc. The modified rear brake system of the BMW M4 GTS features modified specifications for an improved friction coefficient. At the same time, the front brake guards have been adapted to improve ventilation**.**

Visually, the M carbon ceramic brakes can be distinguished by their gold-painted six-piston (front) or four-piston (rear) brake callipers with coloured M logo. Particularly during high-performance driving on the track, they boast excellent controllability, outstanding deceleration and stable, fade-resistant performance. Being much lighter than a conventional brake system, they also contribute to the all-round reduction in unsprung masses and therefore also to further enhanced driving dynamics.

6. Clear design language.
BMW M design accentuates top performance and sporty looks.

The design of the new BMW M4 GTS creates a visual showcase for the impressive performance of the BMW M4 GTS and its special place within the BMW M product family. It paints a picture of uncompromising sports performance and highlights the car's superior performance with vivid clarity. The exterior appearance of the new BMW M4 GTS thus accentuates the core elements of the BMW M design language and leaves no doubt as to its high-performance intent.

Three-dimensional front-end design.
Viewed from the front, the visual features that most grab you about the BMW M4 GTS are its muscular contours and the prominent three-dimensionality of its lines, which lend it a particularly expressive face. Characteristic design elements, such as a cutting-edge take on the familiar twin circular headlamps with LED technology, the eye-catching front grille with M double bars in black and the powerfully sculpted front apron with its trio of large air intakes, dedicated to cooling the high-performance engine and brakes, immediately set it apart as the work of BMW M and spotlight its even loftier sporting pretensions. Needless to say, the BMW M4 GTS also features the striking M exterior mirrors in twin-stalk style and hallmark powerdome on the bonnet. The carbon-fibre-reinforced plastic (CFRP) bonnet is painted in body colour and features a large air outlet. Thanks to the use of CFRP, the bonnet weighs 25 per cent less than an aluminium equivalent, which helps both to lower the car's centre of gravity and further improve the balance of weight between the front and rear axle. The air outlet in the bonnet optimises the airflow and reduces lift at the front axle. The front end's weight-minimised splitter is made from lightweight exposed carbon fibre, has a contrasting stripe in bright Acid Orange running along its leading edge and can be set in two positions for road and track. The splitter divides the onrushing air, channelling part of it deliberately under the car to optimise aerodynamics. Here, the airflow is accelerated on its way to the carbon-fibre diffuser at the rear.

Low-slung silhouette, dynamic lines.
The flanks of the BMW M4 GTS pick up the dynamic verve of its front end and extend it rearwards. Hallmark BMW proportions – long bonnet, long wheelbase, set-back greenhouse, short overhangs – are emphasised by M design elements. Muscular wheel arches and dramatic surfacing translate the dynamic potential of the BMW M4 GTS into tangible form. This potential

is further accentuated by the M gills – in high-gloss black like the kidney grille surround – which fulfil both a stylistic and functional role. The gills house Air Breathers, which team up with Air Curtains in the front apron to optimise airflow through the wheel arches and enhance aerodynamics in the process.

The combination of a dark-coloured, clear-coated CFRP roof and contoured roofline gives the BMW M4 GTS a hunkered-down look, with the cant rails painted in body colour perceived as the car's highest point. The flowing roofline lends an extra elegance to the ultra-sporty appearance of the BMW M4 GTS. The large, forged M light-alloy wheels (19-inch at the front, 20-inch at the rear), featuring distinctive star-spoke design in Acid Orange and polished surfacing, appear to fill the wheel arches even more completely and give the BMW M4 GTS a compact, powerful appearance. The car's lines pick up speed again as they stream rearwards, accentuate the body's aerodynamic flow and, at the same time, add muscle to the rear end.

Rear wing and diffuser made from lightweight CFRP.
The tail end of the BMW M4 GTS can be distinguished clearly from that of the BMW M4 Coupe. On the boot lid, for example, an adjustable carbon-fibre rear wing resting on intricate, CNC-machined aluminium struts provides a head-turning attraction. The strut construction shares an intricate feeling of lightness with the weight-minimised M light-alloy wheels. The rear wing can be adjusted through three positions – one for road driving and two others that can be selected according to individual preference on the track. Identifying features of the BMW M4 include the flared rear wheel arches which, together with the car's wide track, underline its confident appearance. The double-chamber exhaust system, with its two pairs of tailpipes, is another signature BMW M feature. Here, the titanium tailpipes – with their 80-millimetre diameter and laser-engraved M logo – are another reference to the standalone character of the BMW M4 GTS.

They are framed by a clearly structured rear apron and flank the exposed carbon-fibre diffuser. The diffuser forms a single aerodynamic unit with the rear wing and front splitter, which is likewise made from carbon fibre. They work together to optimise airflow and, in so doing, improve downforce and roadholding.

The boot lid of the BMW M4 GTS also performs an integral aerodynamic role. Its specifically contoured lines channel the air at the rear of the car and improve airflow to the rear wing. In this way, the pair of lines spawned by the powerdome on the bonnet and extending over the CFRP roof in clearly defined contours reach their journey's end at the boot lid.

World premiere for OLED rear lights.
The rear lights of the BMW M4 GTS are the first of any series-produced vehicle to feature BMW Organic Light with OLED technology. OLEDs (organic light-emitting diodes) generate their light using wafer-thin layers of semi-conducting organic materials. Unlike LEDs, which emit their light in the form of points, OLEDs light up over their full surface with a homogeneous effect. Their flat design (they measure just 1.4 millimetres in height) and the ability to trigger individual light modules separately open up fresh possibilities for a characteristic and distinctive BMW lighting design – both in daylight and during the hours of darkness.

Pure-bred, exclusive interior offers flawless ergonomics.
The flawless ergonomics and clear driver focus of the BMW M4 GTS interior are evidence of its design brief to deliver top-class functionality. Pure-bred, ergonomically focused but also exclusive, the interior architecture takes its cues from motor sport. Standard-fitted carbon-fibre bucket seats for the driver and passenger are an early indicator of the car's individual character. And the racing seat configuration underlines the commitment of the BMW M4 GTS to maximising driving dynamics. The specific construction of the seats enables a very low-set seat surface and offers an ideal seating position with excellent lateral support and compelling levels of comfort over long distances. The high-gloss black, openly visible structure of the carbon-fibre-reinforced plastic in the seat backrests plays its part in the pared-down yet high-quality interior ambience – a feeling strengthened still further by the exclusive seat covers in Merino leather with contrast stitching in anthracite-coloured Alcantara and M stripes in the backrests. The M stripes on the standard-fitted three-point seat belts perform a similar function.

The M sports steering wheel, likewise covered in exclusive, anthracite-coloured Alcantara, represents a clear nod to motor racing and is exceptionally grippy. A perforated stripe in contrasting Acid Orange at the "12 o'clock" position on the wheel marks the steering's central positon, which comes in handy when the driver is pushing hard on the track. The Alcantara-covered interior trim strip has a perforated GTS badge with Acid Orange highlighting. The new centre console of the BMW M4 GTS is asymmetric in design and lightweight in construction. Like the handbrake lever gaiter, it is covered in anthracite-coloured Alcantara with edging adorned with dark grey contrast stitching.

The interior door panels and rear side panels also include lightweight design elements produced specially for the BMW M4 GTS. These display a new, purist geometry and are made from renewable raw materials. For example, the handles normally found on the inside of the doors are replaced here by pull

loops which, like the seat belts, also come in black and feature longitudinal stripes in the signature M colours. Together with the Alcantara covering used for the armrests only, the door trim deepens the stripped-back and purpose-driven character of the interior. The omission of a rear seat bench takes this approach to another new level. The rear seat surfaces are replaced by an innovative glass-fibre-reinforced plastic (GFRP) shelf, combined with a rear panel made in a carbon-fibre sandwich construction. Lowering the car's weight and centre of gravity, while also ensuring unbeatable rigidity, once again took priority here.

Clubsport Package.
BMW offers a Clubsport Package for the limited-run, special-edition BMW M4 GTS at no extra charge, underlining its motor sport ambitions. A central feature of the Clubsport Package is the roll bar, which is made from high-strength steels and mounted behind the front seats. Its Acid Orange paint finish provides another colour accent, and its influence is not confined to the interior; visible from the outside, it also helps shape the overall perception of the BMW M4 GTS and signals the car's sense of purpose and racing intent. As well as providing additional occupant protection, the roll bar also serves as an anchorage point for the six-point harnesses. Also part of the Clubsport Package, these harnesses hold the driver and passenger securely in their carbon-fibre bucket seats, even in the heat of battle on the track. In this way they not only enhance the safety of the driver and passenger, but integrate them into the car to optimum effect. This, in turn, highlights even more clearly the benefits of the bucket seat shape in supporting the shoulders and pelvis through quickly taken corners. The advantages of these bucket seats are particularly noticeable on the race track, where they defy high levels of lateral acceleration to keep the driver and passenger secure in their seats. And that enables the driver to concentrate fully on utilising the dynamic potential of the BMW M4 GTS.

A fire extinguisher containing two kilograms of extinguishing agent is another safety feature of the Clubsport Package. It is fitted centrally behind the front seats within easy reach of both driver and passenger.

Wide range of carefully selected standard equipment.
The BMW M4 GTS underlines its impressive dynamic calibre with a range of specifically selected and exclusive equipment fitted at the factory. As well as the high-quality Alcantara/Merino leather interior trim, this includes the BMW Navigation system Professional, air conditioning, Adaptive LED Headlights with BMW Selective Beam (dazzle-free high beam assistant), Park Distance Control (PDC) front and rear, automatically dimming rear-view and exterior mirrors and BMW Individual high-gloss Shadow Line trim. A

selection of signature BMW M equipment features such as M door sill finishers, an M footrest, an M gearshift lever, M-specific circular instruments with white graphics, an M sports steering wheel with Alcantara covering and a central position marker in Acid Orange, plus electroplated-look gearshift paddles, round off the overall package. Four colour shades are available for the exterior paintwork. As well as the exclusive Frozen Dark Grey Metallic paint finish, customers can also choose from Sapphire Black metallic, Mineral Grey metallic and Alpine White.

Further individual touches can be added to the BMW M4 GTS by specifying optional equipment details. Like the no-cost Clubsport Package, the BMW Head-Up Display with M-specific display – including information such as rpm or the gear currently engaged – helps drivers to focus all of their attention on the track and the next braking point. The optional BMW ConnectedDrive Services employ intelligent features, such as the Concierge Service, to help drivers book hotels or look for restaurants. Meanwhile, the BMW M Laptimer app is the perfect tool for the BMW M4 GTS at its principal hunting ground. This app records driving data on the track, enables precise driving style analysis and helps drivers to improve their lap times. The data can be shared with friends or acquaintances via Facebook, Twitter or e-mail.

7. The history of BMW M3 special editions.
Setting the pace in the sports car class for 30 years.

The BMW M4 GTS takes BMW M GmbH back to its roots. Founded in 1972 under its original name of BMW Motorsport GmbH, it has since caused heads to turn far and wide – and not only with the iconic BMW M1 racing car. It has also been responsible for the development of the first turbocharged engine to power a car to the Formula One World Championship title, and for turning the Group A BMW M3 into the world's most successful touring car to date. Production of the first BMW M3 (E30) got under way in 1986, establishing in the process the template for an all-new class of car: high-performance machines dressed up as series-produced compact sedans and coupes. The BMW M3 – and now the BMW M4 – has since set the benchmark in its segment throughout its lifespan and across every model generation. Despite numerous attempts, none of its imitators have yet managed to dislodge the BMW M3/BMW M4 from the No. 1 spot on the wish lists of sporty drivers.

1988: BMW M3 Evolution (E30).
BMW is continually honing the abilities of the M3 to ensure it remains at the pinnacle of motor racing. In 1988, BMW M GmbH brought the BMW M3 Evolution onto the market in a limited-run special series of 500 units. Its four-cylinder in-line engine with 2.3-litre displacement now developed 162 kW/220 hp – 19 kW/25 hp more than the standard M3. The increase in power was the result of a series of modifications to components that included the valves, pistons, cylinder head and camshaft. Added to which, the body and glazing were subjected to weight minimisation measures. The BMW M3 Evolution had a more powerfully formed front spoiler than the standard M3 and a larger, adjustable rear spoiler.

1990: BMW M3 Sport Evolution (E30).
The development of the M3 reached its latest high-water mark in 1990 with the arrival of the BMW M3 Sport Evolution, available only in Gloss Black or Brilliant Red. The new arrival developed up to 175 kW/238 hp from its four-cylinder in-line engine, now with 2.5-litre displacement – up more than 22 per cent compared with the standard BMW M3 at the time. The intelligent lightweight construction of components including the front wings, muffler, front spoiler, boot lid and rear wing brings the kerb weight down by around 35 kilograms. The adjustable splitter on the front spoiler and 16-inch light-alloy wheels with Nogaro Silver star in the centre of the rim were among the most distinctive external features of the BMW M3 Sport Evolution. Inside, the

front bucket seats with integral head restraints, red seat belts and suede leather covers for the sports steering wheel, handbrake lever and gearshift lever knob underlined the car's sporting prowess. Another attraction of this M3 version – of which only 600 were produced – was the "Sport Evolution 1990" badge on the centre console.

1995: BMW M3 GT (E36).
The second generation of the BMW M3 saw a straight-six engine take over as the sports car's power source. With capacity of 2,990cc, four-valve technology and VANOS camshaft timing on the intake side, the engine generated a formidable 210 kW/286 hp and enabled acceleration form 0 to 100 km/h (62 mph) in 5.9 seconds. In 1995, BMW M GmbH launched the BMW M3 GT special-edition model in a run of just 350 units. Output was boosted to 217 kW/295 hp and the engine previewed some of the technical details of the upcoming 3.2-litre unit. The car's doors were made from aluminium and the interior was decked out in Mexico Green Nappa leather. As for exterior paint shades, the special edition was available in British Racing Green or Silver only.

2003: BMW M3 CSL (E46).
BMW returned to the idea of a limited-run special-edition BMW M3 in mid-2003, this time using the E46 model generation as the donor car. The CSL affix was a reference to the legendary BMW 3.0 CSL (for "Coupe Sport Leichtbau") of the early 1970s. In keeping with this moniker, denoting lightweight design, the BMW M3 CSL introduced a series of weight-saving parts to the mix. The centre console, interior door trim and rear-view mirror were made from carbon-fibre-reinforced plastic (CFRP), the rear window featured thin glass, the boot lid with integral spoiler lip was now lighter and weight had also been cut from the boot trim. All in all, the judicious use of lightweight parts allowed the car's kerb weight to be reduced by 164 kilograms to 1,385 kilograms.

The power produced by the 3,246cc six-cylinder in-line engine, meanwhile, had risen to 265 kW/360 hp. Modification of the intake air ducting was necessary to cool the upgraded engine, which led to the creation of a distinctive circular aperture in the aerodynamically optimised front apron to enhance the supply of air to the airbox. Externally, the BMW M3 CSL stood apart from the BMW M3 with its exposed carbon-fibre roof and special "Sport" 19-inch M light-alloy wheels with Michelin Sport Cup tyres.

On opening the door, the two bucket seats and lightweight rear seats in an Amaretta/cloth combination immediately caught the eye. The doors came with carbon-fibre inserts, the M sports steering wheel had a grippy Alcantara

covering and the centre console was now of a more compact and lightweight construction. Another distinctive feature of the steering wheel was the “M” button used to activate M Track Mode. This adapted the responses of the power steering and the parameters of Dynamic Stability Control (DSC) to allow an even sportier driving style. The modified Launch Control system helped the BMW M3 CSL to race from 0 to 100 km/h (62 mph) in just 4.8 seconds and hit the 200 km/h (124 mph) mark in a mere 16.7 seconds. The CSL chassis brought magnetic pulse-formed rear control arms and some of the tuning work took place at the Nürburgring-Nordschleife. The result of these modifications could be seen in independent tests. Indeed, the BMW M3 CSL set what was then the fastest lap of the Nordschleife for its output class (7 min 50 sec).

2010: BMW M3 GTS (E92).
In 2010, BMW M GmbH introduced the direct successor to the BMW M3 CSL in the form of the BMW M3 GTS. Like its predecessor, it was designed to deliver peerless dynamic performance. Lightweight construction once again played a central role, reducing the car’s DIN kerb weight to 1,530 kilograms – 125 kilograms lower than that of the standard BMW M3. An increase in the cylinder stroke pushed the displacement of the V8 engine from 4.0 up to 4.4 litres, boosting output by 22 kW/30 hp to 331 kW/450 hp.

The BMW M3 GTS came as standard with a bolted-on roll bar in place of a rear seat bench, and this could be optionally upgraded to a full roll cage. Furthermore, mounts for four- and six-point Schroth seatbelts were fitted. And finally, the fire extinguisher holder behind the front seats underlined the clear track focus of the GTS. The car’s racing ability was also enhanced by revised aerodynamics. A front spoiler with carbon-fibre splitter teamed up with the carbon-fibre rear wing on the boot lid to reduce lift and ensure high cornering speeds.

BMW M GmbH produced the BMW M3 GTS largely by hand, with the cars built individually in the factory to customer specification. Type approval for road use in Germany was on a case-by-case basis.

2011: BMW M3 CRT (E92).
The BMW M3 CRT – produced in a run of just 67 units from May 2011 – combined the technology of the BMW M3 GTS with the body of the four-door BMW M3 Sedan. The CRT also had a carbon-fibre bonnet with apertures next to the powerdome and a splitter below the front apron, but the large rear spoiler on the boot lid was usurped by a carbon-fibre spoiler lip. In place of a roll bar, the BMW M3 CRT came with a rear seat bench containing two

moulded individual seats. With a kerb weight (DIN) of 1,580 kilograms, the BMW M3 CRT was around 45 kilograms lighter than the BMW M3 Sedan.

2016: BMW M4 GTS (F82).

In 2016, BMW M GmbH will present the next in its line of sports car special editions in the shape of the BMW M4 GTS. The new car takes the concept of BMW M3/BMW M4 models radically accentuating their sporting genes another step into the future in innovative style. For 700 enthusiasts with a taste for extra-high output, sharp handling and unbeatable performance, this will be the must-have car.

The BMW M4 GTS sees BMW M GmbH not only celebrating 30 years of the BMW M3/M4 success story but also presenting a perfect model to mark the centenary of the BMW brand.

8. Specifications.
The new BMW M4 GTS.

		BMW M4 GTS
Body		
No of doors/seats		2/2
Length/width/height (unladen)	mm	4689/1870/1383
Wheelbase	mm	2812
Track, front/rear	mm	1596/1604
Ground clearance	mm	108
Turning circle	m	12.2
Fuel tank capacity	app ltr	60
Cooling system incl heater	ltr	10.0
Engine oil[1)]	ltr	7.0
Weight, unladen, to DIN/EU	kg	1510/1585
Max load to DIN	kg	390
Max permissible weight	kg	1900
Max axle load, front/rear	kg	975/1000
Max trailer load, Braked (12%)/unbraked	kg	---/---
Max roofload/max towbar download	kg	---/---
Luggage comp capacity	ltr	445
Air resistance[2]	c_d x A	0.34 x 2.25
Power Unit		
Config/No of cyls/valves		In-line/6/4
Engine technology		M TwinPower Turbo technology: two MonoScroll turbochargers, High Precision Injection, VALVETRONIC fully variable valve control, Double-VANOS variable camshaft timing, water injection
Effective capacity	cc	2979
Stroke/bore	mm	89.6/84.0
Compression ratio	:1	10.2
Fuel		min. RON 95
Max output	kW/hp	368/500
at	rpm	6250
Max torque	Nm/lb-ft	600/442
at	rpm	4000–5500
Electrical System		
Battery/installation	Ah/–	69/Luggage compartment
Alternator	A/W	209/2926
Driving Dynamics and Safety		
Suspension, front		Three-way M coilover suspension with aluminium double-joint spring-strut axle and M-specific elastokinematics
Suspension, rear		Three-way M coilover suspension with five-link axle in lightweight construction
Brakes, front		M carbon ceramic disc brakes vented with six-piston floating callipers
Brakes, rear		M carbon ceramic disc brakes vented with four-piston floating callipers
Driving stability systems		Standard: DSC incl ABS and M Dynamic Mode, CBC (Cornering Brake Control), DBC (Dynamic Brake Control), Dry Braking function, Fading Compensation, Start-Off Assistant, Active M Differential linked to Integrated Chassis Management (ICM)
Safety equipment		Standard: airbags for driver and front passenger, side airbags for driver and front passenger, head airbags for front seats, three-point inertia-reel seatbelts on all seats with belt latch tensioner and belt force limiter
Steering		Electric Power Steering (EPS) with M-specific Servotronic function
Steering ratio, overall	:1	15.0
Tyres, front/rear		265/35 ZR19 98Y 285/30 ZR20 99Y
Rims, front/rear		9.5J x 19 Light Alloy 10.5J x 20 Light Alloy

			BMW M4 GTS
Transmission			
Type of transmission			Seven-speed M double-clutch transmission with Drivelogic
Gear ratios	I	:1	4.806
	II	:1	2.593
	III	:1	1.701
	IV	:1	1.277
	V	:1	1.000
	VI	:1	0.844
	VII	:1	0.671
	R	:1	4.172
Final drive		:1	3.462
Performance			
Power-to-weight ratio		kg/kW	3.0 (4.1)
Output per litre		kW/ltr	123.5
Acceleration	0–100 km/h	sec	3.8
In 5th gear	80–120 km/h	sec	3.0/3.8
Top speed		km/h	305
BMW EfficientDynamics			
BMW EfficientDynamics standard features			Brake Energy Regeneration, electromechanical power steering, Automatic Start/Stop function, Optimum Gearshift Indicator in manual mode, intelligent lightweight construction, on-demand operation of ancillary units, map-regulated oil pump, Li-ion battery, differential with optimised warm-up behaviour, aerodynamics (Air Curtains, Air Breathers, underside panelling, front spoiler, rear wing with gurney flap)
Fuel Consumption ECE[3]			
With standard tyres			
Urban		ltr/100 km	11,2
Extra-urban		ltr/100 km	7,0
Combined		ltr/100 km	8,5
CO_2		g/km	199
Emission rating			EU6

Specifications apply to ACEA markets/data relevant to homologation apply in part only to Germany (weight)

[1] Oil change
[2] Provisional data
[3] Fuel consumption and CO_2 emissions depend on the selected tyre format

9. Output and torque diagrams.
The new BMW M4 GTS.