

Macan Turbo with Performance Package completes Porsche's SUV range

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Porsche is expanding its dynamic SUV range with the release of the Macan Turbo with Performance Package as its top model in the compact all-wheel drive segment. Not only does this flagship vehicle, the power output of which has been raised to 324 kW (440 hp), boast outstanding sporty driving characteristics, but the new Macan Turbo with Performance Package once again underlines the typical market spread offered by Porsche SUVs. Be it robust off-road use, sportscar-like dynamics on the race track or long-distance comfort in everyday driving, the Cayenne and Macan cover an unrivalled range of applications. They are equally at home both on and off the road, even on snow and gravel, all the while combining optimum traction with the very special driving experience of a Porsche.

Porsche Cayenne: the original sporty SUV

The success story of the Cayenne and Macan started with a brave yet visionary decision made by Porsche at the end of the 1990s. Having already enjoyed great success in the sportscar market, the company was looking for new growth opportunities and decided to enter the Sports Utility Vehicle (SUV) segment. Since the new model line had to meet the most diverse and exacting requirements, the development engineers made full use of their innovative strength, while also calling upon over 50 years of tradition in the field of sportscar manufacture. This unique blend of expertise dictated the new vehicle concept and, to this day, remains one of the secrets to the success of Porsche's SUVs.

When Porsche released the Cayenne in 2002, it gave a whole new meaning to the term "versatility". The Cayenne made the idea of a sportscar in the SUV segment a reality. You could drive it to the office one day and take it off-road or onto the race track the next – the Cayenne offered comfort, precision and driving pleasure on all terrains. And all this was paired with the typical Porsche design DNA.

The release of the 250 kW (340 hp) Cayenne S and its even more comfortable and significantly more powerful brother in the form of the Cayenne Turbo, which developed 331 kW (450 hp), saw the Stuttgart-based sportscar manufacturer entering a whole new realm of performance. The chassis concept offered utmost agility both during sporty driving and in tough off-road applications. Of decisive importance to the driving dynamics was the new Porsche Traction Management (PTM) system. This innovative and intelligent four-wheel drive system not only monitored vehicle traction, but also the current driving status, thereby offering a level of dynamic performance never before experienced in this segment: In one fell swoop, the Cayenne put paid to the preconception of a dull and sluggish off-road vehicle.

A pure sportscar in SUV clothes: the first Cayenne GTS

In 2007, the revised Cayenne, with its direct-injection engines and new driving dynamics package, raised the bar once more: For the first time in decades, the Cayenne GTS bore the letter combination reserved by Porsche for its very special sportscars. As a particularly dynamic model, it set new benchmarks in the SUV market segment. Sporty performance was delivered by the eight-cylinder engine, with power raised to 298 kW (405 hp), the six-speed manual transmission and short rear-axle ratio.

Since dynamic performance begins with the chassis, this model was the first in the model line to feature a combination of steel springs with controlled shock-absorber system (PASM) and was lowered by 24 millimetres. As a result, the GTS occupied a similar position in the Cayenne family as the GT3 does among its 911 counterparts.

Two years later, the manufacturer presented the first ever diesel model released by Porsche AG in the form of the Cayenne Diesel, which was equipped with a 176 kW (240 hp) V6 turbo engine. It combined the benefits of a turbocharged diesel engine with the familiar emotional appeal of a Porsche vehicle. Moreover, it highlighted that a diesel SUV is more than capable of delivering sporty performance.

2010: the Cayenne becomes a hybrid pioneer

In 2010, the bestseller was replaced with an entirely new Cayenne generation. With this model, Porsche introduced parallel hybrid technology into the world of series production cars: With system power of 279 kW (380 hp), the Cayenne S Hybrid consumed just 8.2 l/100 km in the NEDC. The Porsche hybrid drive was also the world's first system to enable the exploitation of additional consumption potential in higher speed ranges – that is, coasting at speeds of up to 156 km/h with the combustion engine switched off. Today, all Porsche SUVs offer this coasting function in their own individual configuration. Four years later, the Cayenne again performed pioneering work by delivering the world's first plug-in hybrid in the premium SUV segment. Overall consumption was reduced to 3.4 l/100 km in the NEDC, with a combined power output of 306 kW (416 hp). Yet, despite all their efficiency, the Cayenne models with hybrid drives remained extremely sporty, effectively using the electric drive to boost acceleration, for example.

The Cayenne model line today

Porsche is securing its long-term success with the ongoing enhancement of its model lines. Shortly after the Macan, the current model year saw the Cayenne being equipped with the new Porsche Communication Management (PCM) system, which connects the driver even closer with the vehicle and the environment. Today, Porsche's premium SUV combines individual levels of dynamic performance and efficiency across several model variants: Customers can opt for diesel, petrol or hybrid drives in six- or eight-cylinder format. For power and efficiency, Porsche offers the Cayenne Diesel with a V6 turbo engine (193 kW (262 hp) and 6.8-6.6 l/100 km) as well as the Cayenne S Diesel with its V8 biturbo engine (283 kW (385 hp) and 8.0 l/100 km). Accelerating from zero to 100 km/h in 5.4 seconds, this model is practically on a level with the Cayenne S, which is powered by a V6 biturbo engine with 309 kW (420 hp). With power raised to 324 kW (440 hp), the biturbo V6 also drives the decidedly sporty Cayenne GTS, with its 20 millimetre lower ride height.

The Cayenne S E-Hybrid boasts the combined force of an electric and V6 engine, offering system power of 306 kW (416 hp). In the Cayenne Turbo, outstanding driving performance is delivered by a turbocharged V8 engine developing 382 kW (520 hp). It sprints from zero to 100 km/h in 4.5 seconds and reaches a top speed of 279 km/h. It is trumped only by the top model that is the Cayenne Turbo S: Its revised powerplant develops 419 kW (570 hp), making it a real peak performance model.

Porsche also offers the Cayenne Diesel and the Cayenne S E-Hybrid as a Platinum Edition. Recognisable by the sport accents on the exterior, this special edition offers luxurious equipment levels at an attractive price.

The Macan: sportscar genes in a compact SUV

Driven by the success of the Cayenne concept in the sporty SUV segment, Porsche decided to

deliver a second all-terrain model line. The result was the Macan, which enriched the market as a sportscar among compact SUVs from 2014. It set new benchmarks in the areas of dynamic performance and driving pleasure – both on the road and off the beaten track. The Macan combined the most powerful engine range in its class with the sporty seven-speed Porsche Doppelkupplung (PDK). The new Porsche model line also offered three sporty chassis options, including the air suspension that was exclusive in this segment.

From the outset, the Macan led the way among its direct competitors. Both the top model in the form of the Macan Turbo, with its 3.6 litre V6 biturbo engine and 294 kW (400 hp), and the Macan S, powered by a three litre V6 biturbo engine with 250 kW (340 hp), carved out an entirely new performance class. Among the SUV trio, the Macan S Diesel offered the greatest torque with its 190 kW (258 hp) turbo diesel engine.

The Macan repeated the Cayenne's feat of establishing itself as the dynamic benchmark in its class. In 2015, Porsche took things one step further by releasing an even sportier model in the form of the Macan GTS. Like all Porsche models bearing this lettering, the vehicle was inspired by the world of motorsport. This is underlined by the 20 hp power boost over the Macan S, a revised chassis and reinforced brakes. The GTS variant of the compact SUV delivers a driving experience to top even that of the standard Macan. The GTS equipment includes a sportier PASM with lowered ride height as well as 20-inch wheels shod with mixed tyres.

New top model: Macan Turbo with Performance Package

Now, Porsche is upping the ante once again: Equipped with the Performance Package, the Macan Turbo now tops off the model line, impressing with enhanced driving properties, increased agility and an even greater emotional appeal.

Following the performance enhancement, the twin-turbocharged, 3.6-litre V6 engine delivers 324 kW (440 hp). With 30 kW (40 hp) more than the Macan Turbo, this figure places this variant firmly in the top spot in this model line. The car now accelerates from zero to 100 km/h in just 4.4 seconds (a reduction of 0.4 seconds), and achieves a new top speed of 272 km/h (an increase of 6 km/h). The maximum torque has also risen to 600 Nm (an increase of 50 Nm) and is available to the driver across a broad speed range of between 1500 and 4500 rpm. This also increases the tractive force: In Sport Plus mode, the time taken to accelerate from 80 km/h to 120 km/h has dropped to 2.9 seconds (a reduction of 0.2 seconds). Depending on the tyres, fuel consumption (in line with the NEDC) for the new top-of-the-range Macan model is between 9.4 l/100 km and 9.7 l/100 km.

However, it is not just the engine power that is given a boost in the Macan Turbo equipped with the Performance Package – a newly developed brake system, lowered and controlled sports chassis, Sport Chrono Package and sports exhaust system are all fitted as standard. The front axle features grooved brake discs with a diameter of 390 millimetres – 30 millimetres larger than the brake discs fitted on the Macan Turbo without the Performance Package. The discs are gripped by six-piston brake callipers completed with a red paint finish. What's more, Porsche Active Suspension Management (PASM) is available at the push of a button to deliver an exceptionally sporty position on the road. This system has also been optimally tuned to the 15 millimetre lower body. Air suspension with self-levelling function and height adjustment, and further ten-millimetre lowering, is also available as an option.

With the Sport Chrono Package, drivers can ramp up the performance of the Macan Turbo even further. In "Sport Plus" mode, this package ensures the chassis, engine and transmission are tuned to sporty effect – accompanied by an even more emotional sound from the sports exhaust system. The seven-speed PDK double-clutch transmission is designed to deliver extremely short response times,

optimum shifting points and increased torque during gear changes for maximum acceleration.

To customise the Macan Turbo with Performance Package, a range of tailored equipment options are available, such as the Turbo exterior package. Options available with this package include 21-inch wheels in the 911 Turbo design with lateral spokes painted in high-gloss black, LED main headlights equipped with PDLs Plus and numerous other black elements. The Turbo interior package includes a black leather interior with lavish Alcantara elements, coloured appliqué in numerous areas and carbon elements such as the door entry guards with the model logo illuminated in white.

The perfect network: the new infotainment system for Porsche SUVs

As in all Porsche model lines, the Macan Turbo with Performance Package also benefits from the extensive infotainment service delivered by the new Porsche Communication Management (PCM) system. At the heart of this system is the high-resolution, seven-inch touchscreen: The user interface enables intuitive, smartphone-like operation. When the proximity sensor detects an operator input, relevant menu content is displayed which the driver can control using multi-touch gestures. Bluetooth®, USB and SD card interfaces allow the integration of smartphones and storage media. The PCM can now also be connected with an iPhone to use Apple CarPlay®.

The navigation module, which is standard on the Cayenne and optional for the Macan, offers convincing performance with its high-resolution map display, with some areas even available in 3D. For added convenience, route navigation can also be launched using voice commands. The optional Connect Plus module greatly enhances the dynamic route navigation with real-time traffic information. This option also allows the PCM to be used as a WLAN hotspot for the ultimate networking experience, complete with enhanced smartphone integration. The Porsche Connect app can be used, for example, to transfer destinations directly from a smartphone to the PCM in order to start route navigation. The Connect Plus module also includes Porsche Car Connect. This app allows vehicle owners to control specific functions remotely via their smartphone and access data such as the fuel level.

PTM and PSM: for safe winter travel

As is typical for Porsche, enhanced performance and driving dynamics do not come at the expense of everyday usability. Off-road and winter performance characteristics remain unaffected. This is ensured by the combination of all-wheel drive (PTM) and the stability program (PSM).

Porsche Traction Management and Porsche Stability Management continuously exchange information via the connecting CAN bus, not least to ensure maximum vehicle stability and the shortest possible braking distances. In the case of ABS braking, for example, the higher-level vehicle controller initiates the opening of the longitudinal coupling of the all-wheel drive system.

Strictly speaking, no distinction can be made between driving dynamics and traction since the transitions are so fluid. By way of example, cornering forces can only be transferred when the vehicle has good traction – that is, the tyres are not subject to excessive slip. This results in steering capability for the front axle and stability for the rear axle. Spinning of the drive wheels can be reduced by the intervention of PTM or eliminated entirely before PSM has to take effect.

In the case of PTM, the all-wheel drive is configured as a controlled hang-on system. The integrated, electronically controlled multi-plate clutch distributes the propulsion force between the permanently driven rear axle and the front axle on a fully variable basis and without fixed basic distribution. Continuous monitoring of the driving status enables lightning-fast responses to different driving

situations. If, for example, the rear wheels begin to spin when accelerating, the multi-plate clutch intervenes with greater effect to distribute more propulsion force to the front. When cornering, the system only sends as much propulsion force to the front wheels as is needed for optimum lateral support.

Driving pleasure with utmost safety: PSM and PSM Sport

On winter roads, the core PSM functions in particular greatly increase driving safety at the limit. As a rule, PSM intervenes in critical driving situations through selective braking to stabilise the vehicle. Since the system can detect increased slip of a single wheel much sooner than the driver and can instantly implement suitable countermeasures, stability on snow, slush or ice is raised significantly. This is particularly important on carriageways with widely varying frictional coefficients, such as during thaws or on partially snow-covered roads. As a result, all Porsche SUVs offer a very high degree of active driving safety while retaining typical Porsche agility levels.

In conjunction with the Sport Chrono Package (standard with the Macan Turbo Performance Package), the system features a “PSM Sport” mode, which can be activated separately via the PSM button on the centre console of the Macan. From a functional perspective, “PSM Sport” is very different to the normal mode and allows ambitious drivers to take their Porsche even closer to its limits – on the race track, for example. Compared to “PSM On”, this function permits much higher yaw about the vertical axis and greater slip of the drive wheels. This enhances the overall experience of the vehicle’s dynamic performance – even in snow. This eliminates the need to deactivate PSM entirely, even for the most practised drivers seeking the ultimate, sporty driving experience. The “PSM Off” mode is activated with a long press of the PSM button. This is in keeping with the Porsche philosophy of allowing drivers to deactivate the control system entirely when desired. In “PSM Off” and “PSM Sport” mode, powerful braking in the ABS control range re-activates the full stabilising effect of the PSM system, but only until the brake is released again.

Almost one million sporty SUVs from Porsche

The proof is in the numbers: Following the wildly successful entry into the SUV market with the Cayenne, the compact Macan has also established itself as a success story with ever growing demand. Porsche has already sold 204,740 units of the compact all-terrain sportscar. 79,725 deliveries worldwide in the first ten months of 2016 represent a growth rate of 15 percent. Across the globe, the company has now sold 920,210 Cayenne and Macan vehicles. It achieved this success by combining all-terrain ability with the driving pleasure and emotional appeal of a Porsche sportscar. (Sales figures: up to and including October 2016)