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Press Information

Porsche 718 Boxster

Contents

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35 hp more power – 13 per cent better fuel economy

The new mid-engine roadster: Porsche 718 Boxster

Twenty years after the first Boxster made its debut, Porsche is introducing a generation change that also changes the model designation. The new generation models are now known as the 718 Boxster and 718 Boxster S. The two-seat convertibles are now more powerful, lighter and more fuel efficient. Porsche is thus continuing the tradition of four-cylinder flat engines in its 718 mid-engine sports cars. In the 1950s and 1960s, these cars won numerous races, including the legendary Targa Florio and the 24 Hours of Le Mans.

The centrepiece of the model series is the newly developed four-cylinder flat engine with turbocharging. The 718 Boxster develops 220 kW (300 hp) of power from two litres of engine displacement, while the 718 Boxster S attains 257 kW (350 hp) from 2.5 litres of displacement. In the S model, Porsche also uses a turbocharger with variable turbine geometry (VTG). Thus, the 718 Boxster S joins the 911 Turbo in using VTG technology, making Porsche the only manufacturer to use this technology in production vehicles with petrol engines. Impressive here are the power gain of 26 kW (35 hp) compared to the previous Boxster models and the efficiency of the new turbo engines. The new 718 Boxster models have fuel economy improvements of up to 13 per cent.

The completely new chassis tuning and stronger brakes provide for passionate and sporty driving pleasure. The design of the new model line has also been comprehensively advanced – apart from the luggage compartment lids, windscreen and soft top, everything else is new. Inside, a newly designed instrument panel redefines the cockpit. In addition, the latest generation of Porsche Communication Management (PCM) with a state-of-the-art touchscreen is included as standard. The navigation module is available as an option.

Engine and transmission

New four-cylinder flat engines

In the 718 Boxster, Porsche is introducing two completely new four-cylinder flat engines with turbocharging. Their power and efficiency have been increased significantly compared to the previous engines. A bundle of innovations also ensures typical Porsche driving pleasure. The engines excel with more spontaneous response, free-revving properties up into the highest rpm ranges, and – not least – with their passionate sound.

Porsche is implementing the four-cylinder flat engines in two power versions: With two litres of displacement and 220 kW (300 hp) in the 718 Boxster and as a 2.5-litre engine with 257 kW (350 hp) in the 718 Boxster S. Compared to the previous Boxster models, this represents a power gain of 26 kW (35 hp) in each version. Engine torque has also increased considerably. The two-litre engine of the 718 Boxster has a maximum torque of 380 Nm, which is available from a low 1,950 rpm to 4,500 rpm. This represents a gain of 100 Nm or 35 per cent. The 2.5-litre engine of the 718 Boxster S reaches a torque of 420 Nm between 1,900 and 4,500 rpm; this is 60 Nm more than in the previous model. This is the greatest torque gain in the history of the Porsche Boxster.

Leap in torque: faster sprints from any speed

The new 718 Boxster models complete intermediate sprints with superior performance and accelerate even faster from low revs. The 718 Boxster with PDK and the Sport Chrono Package sprints from zero to 100 km/h in 4.7 seconds – 0.8 seconds faster than the previous model. The 718 Boxster S with the same equipment finishes this sprint in 4.2 seconds, making it 0.6 seconds faster than the previous model. At the same time, the engine has the typical free-revving properties of a sports car. The engine speed range extends up to 7,500 rpm, and the power decline from nominal to maximum engine speed is only five per cent. No other turbo engine in the market segment of the 718 Boxster can match this figure. When driving in a sporty style, the driver can fully utilise the engine‘s power and torque over a broad range of engine speed without having to reach for the gear shift lever. And during full acceleration, the driver has the full torque of the turbo engine after a gear shift. Therefore, the effects of torque gains are especially noticeable in intermediate sprints within the speed range above 100 km/h. The top speed of the 718 Boxster is 275 km/h, and the 718 Boxster S can reach a speed of 285 km/h.

Power and efficiency with a turbo concept that has been turned up a notch

The turbo flat engines from Porsche impress with power and efficiency. The NEDC fuel consumption of the four-cylinder turbo engine with PDK in the 718 Boxster is 6.9 l/100 km, which is 0.7 l/100 km less than that of the previous Boxster. In the 718 Boxster S, the 2.5-litre turbo flat engine with PDK consumes just 7.3 l/100 km. This represents 0.9 l/100 km of savings compared to the previous model. The bottom line is 35 hp more power and up to 13 per cent better fuel economy.

The two versions of the new Porsche flat engine not only differ in their displacement. In the base engine, a classic wastegate turbocharger pushes additional air into the combustion chambers. The more powerful engine has forced induction by a turbocharger with variable turbine geometry that until now was a world exclusive feature reserved for the 911 Turbo. An additional wastegate in the 718 Boxster S operates the turbocharger with adjustable vanes to specifically control the exhaust gas stream to an optimal level of efficiency. It very efficiently converts the energy of the exhaust gas stream into drive power.

Same spontaneous response as a naturally-aspirated engine and Dynamic Boost function

In tuning the turbocharging process, Porsche developers placed a high priority on achieving engine responsiveness which is comparable to that of a naturally-aspirated engine. “Preconditioning” of the turbocharger in the part-load range is one of the ways in which a sporty style of driving is realised. The bypass valve is closed, ignition timing is retarded and the throttle is opened slightly. This keeps the momentary drive torque the same, while boosting air throughput in the engine and increasing charge pressure. When the driver then applies full throttle, the higher charge pressure spontaneously makes a higher torque available. Even if the driver briefly takes the foot off the accelerator pedal at full acceleration, the turbo engine reacts quickly like a naturally-aspirated engine. The throttle remains wide open, and only the petrol injection is stopped. As a result, charge pressure does not drop completely, and the engine can react spontaneously to another press of the accelerator.

The turbocharger responds in a comparable way to a push of the Sport Response Button. As in the 911 models that have the Sport Chrono Package and a PDK gearbox, it is located in the middle of the driving programme switch on the steering wheel. Inspired by motorsport, it prepares the engine and transmission for spontaneous responsiveness for a period of 20 seconds. In the part-load range, the wastegate of the turbocharger is closed. This results in a much quicker build-up of charge pressure. The engine responds more spontaneously to accelerator pedal inputs, and it reaches its maximum power faster.

Indirect intercooling via extended coolant circulation loop

Another innovation is indirect intercooling. To avoid having to change the design and aerodynamics of the 718 Boxster, the turbo engines use the lateral air intakes behind the doors to obtain their process air and now for indirect intercooling as well. The temperature is reduced by an auxiliary loop of the cooling system. This involves the use of a heat exchanger above the engine. In this heat exchanger, the compressed air from the turbocharger gives off some of its heat to the circulating coolant. The liquid then flows through one radiator per air intake.

Technologies from the three-litre six-cylinder twin turbo engines of the 911 boost the power and efficiency of these engines. They enable even finer adjustment of the turbo engine‘s sporty, spontaneous response at low revs that is typical of a Porsche. The reason for this is that the adjustable exhaust camshaft with adjustable valve timing was introduced; it supplements the inlet camshaft adjustment familiar in the previous model.

Completely new exhaust systems for passionate sound

The newly developed exhaust system guarantees the passionate sound experience that is typical of Porsche. In the 718 Boxster, the exhaust gases flow through a system with a single oval tailpipe made of brushed stainless steel. The 718 Boxster S has centrally located round dual tailpipes made of brushed stainless steel. Two centrally located, round sport tailpipes characterise the optional sport exhaust system for all models.

Six-speed manual transmission as standard, optional seven-speed PDK

The 718 models come with a six-speed manual transmission as standard. The Porsche Doppelkupplung (PDK) is available as an option. To improve fuel efficiency, the PDK has the further advanced auto start/stop function, which already shuts off the engine when the car is coasting to a stop. The PDK also features virtual gears that save fuel. When driving at a constant speed, the controller chooses the highest possible gear. To stabilise engine revs and prevent jolts due to running at revs that are too low, the clutch of the relevant gear is disengaged slightly to allow a slight amount of slip.

Optimised Sport Chrono Package as option

The optional Sport Chrono Package improves the sporty properties of the new 718 Boxster even more. As in the 911, it now includes the Individual programme in addition to the three settings Normal, Sport and Sport Plus. From a specific menu in the instrument cluster, the driver can individually combine the PASM, sport exhaust system, auto start/stop function and rear spoiler based on programming settings for them. In sports cars with PDK, the Sport Response button is also added, which is located at the middle of the driving programme switch. Inspired by motorsport, pushing this button makes the response of the engine and PDK very direct – such as for overtaking manoeuvres. When the Sport Chrono Package is ordered, Porsche Stability Management (PSM) of the 718 Boxster models features a programme that can be activated separately: PSM Sport. In this very sporty driving programme, ambitious drivers can probe the limits of vehicle performance even further in a safe environment. The PSM always remains active in background. In combination with the upgraded Sport Chrono Package, this leads to a driving experience that takes the roadster even more in the direction of car racing.

Chassis and assistance systems

Sporty chassis tuning, PASM sport suspension offered as option for first time

The new roadsters are also impressive in their agile driving dynamics. The completely new chassis tuning once again improves cornering speeds of the mid-engine sports cars. Higher stabiliser and spring rates keep rolling and pitching motions as slight as possible. This further enhances ride comfort in the 718 Boxster. The tuning also increases solidity and improves spring rebound on both small and large road bumps. The electromechanical steering, whose layout is ten per cent more direct, makes control of the 718 Boxster even more agile and easier to handle both on circuit tracks and in everyday traffic. For the 718 Boxster S, Porsche is expecting lap times on the North Loop of the Nürburgring that are more than 16 seconds faster than those of the previous model.

Reinforced rear suspension for more precision and lateral stability

For greater precision and lateral stability, Porsche engineers modified numerous aspects of the rear suspension. For instance, a new lateral member strengthens the rear subframe and thereby improves lateral rigidity. Dampers with larger piston and rod diameters also improve precise wheel tracking by adding rigidity. The rear wheels that are half an inch wider offer better support. Together with the newly developed tyres, this makes a significant contribution toward increased cornering stability of the new 718 Boxster.

New PASM sport suspension offers 20 mm lower ride height

For very ambitious drivers, Porsche is offering the PASM sport suspension as an option in the 718 Boxster S. It includes a 20-mm lower ride height and much tighter tuning in Sport mode. As before, Porsche Active Suspension Management (PASM) with a ten millimetre lower ride height is available as an option. The active suspension, which has also been retuned, offers an even broader spread between long-distance touring comfort and dynamic sporty stiffness. Porsche is implementing extended sensor technology to further increase control bandwidth. At each spring strut, a height sensor now measures spring movements. In addition, three accelerometers measure the dynamics of excitations. This enables even more precise and sensitive control of damping.

Stronger brake system with multi-collision braking system

Because of the car's greater driving performance capabilities, stronger brakes are used with 330-mm brake discs in front and 299-mm discs at the rear. The 718 Boxster now has the brake system that was previously used in the Boxster S. The 718 Boxster S, on the other hand, uses the four-piston callipers of the 911 Carrera combined with thicker brake discs. Porsche is also equipping its 718 Boxster models with the multi-collision braking system. The system can reduce the severity of a secondary collision by automatically braking the vehicle after an initial collision.

Porsche Stability Management with new PSM Sport mode

The sharpened sportiness of the roadsters carries over to the Porsche Stability Management (PSM) control system. When the car is equipped with the optional Sport Chrono Package, the system offers the mode known as PSM Sport that is activated separately by pushing the PSM button on the centre console. Functionally, PSM Sport differs from the normal "PSM On" mode and can now also be activated independent of the Sport Plus mode of the Sport Chrono Package. When the PSM Sport mode is activated an indicator in the instrument cluster and the yellow "PSM Off" lamp are lit to inform the driver.

The PSM Sport mode lets ambitious drivers explore performance limits even closer – such as on a circuit track or in winter driver training on low-friction surfaces. Compared to PSM On, the new function permits much larger yaw angles and more slip at the drive wheels. This lets drivers experience the sports car's dynamic performance even better. This makes it unnecessary for even ambitious sports car drivers to fully deactivate PSM. However, the PSM Off mode is still available, which is selected by a long activation of the PSM button. But even in the PSM Off mode and new PSM Sport mode, hard braking within the ABS control range activates the full range of stabilising assistance by PSM until the brakes are released.

Design and interior features

New design emphasises sharpened profile

The 718 model line can be made out at first glance. The front of the new roadster has a much more sculptural form. This gives the front end a wider and more masculine appearance. This effect is reinforced by narrow front lights above the lateral air intakes, which contain the parking lights and indicators. At the middle of the front end are two horizontal fins that visually emphasise the width of the 718 Boxster. The much larger cooling air inlets at the front are a prominent expression of the new turbo engine concept on the car‘s exterior. The front end of the 718 Boxster is rounded out by the new design of the bi-xenon headlights with integrated LED daytime running lights. LED headlights with four-point daytime running lights are available as a new option.

In a side view, the new model line can be made out by its newly designed wings and side sills, doors without add-on handle shells and two louvres in each of the air intakes forward of the rear axle. They supply induction air to the engine as previously. They also supply the intercooler with cooling air. The sporty character of the 718 Boxster is highlighted by new 19-inch wheels – which are standard on the 718 Boxster S – and optional 20-inch wheels. Because the rear wheels are each half an inch wider than those of the previous models, they improve lateral dynamics.

The restyled rear body of the 718 Boxster has a stronger presence – especially due to the accent strip with integrated Porsche badge between the tail lights. The additional edge at the height of the reflectors also contributes to this effect. The rear body also has a sharper design. The completely redesigned lights stand out thanks to their three-dimensional LED technology and four-point brake lights.

Interior has new Porsche Communication Management as standard

Awaiting the driver in the cockpit of the 718 Boxster is the familiar Porsche interior environment, now upgraded with new elements. The interior is appealing with its even greater sophistication. The leather trim impresses with its uninterrupted stitching that extends right to the storage compartment. The redesigned upper part of the dash panel reflects the three-

dimensional exterior design with its elevated air vents. Steering of the roadster is even more precise with a 375-mm diameter sport steering wheel in the design of the 918 Spyder. A GT sport steering wheel, 360 mm in diameter, is available as an option. Porsche offers a multifunction option and steering wheel heating option for all steering wheel versions. Moreover, five new interior colours enable even more personalised configuration of the 718 models.

A central element of the new interior layout is Porsche Communication Management (PCM) with mobile phone preparation, audio interfaces and the Sound Package Plus with 110 watts of audio power. The PCM can be extended with optional modules to adapt it to personal requirements. The optional Connect module, for example, comprises a smartphone storage tray for wireless connection of the smartphone to the car‘s exterior antenna, an iPod-capable USB port on the centre console, Apple CarPlay including “Siri” voice control and Porsche Car Connect.

Available as an alternative is the navigation module with voice control which makes it easy to input driving destinations. The navigation module has an improved map display and can show maps two-dimensionally or in perspective. 3D representations are also possible in select regions. The module includes free map updates within the first three years. The Connect Plus module is available as an extension of the navigation module. It enables simple interfacing of a smartphone to the PCM and the use of online functions such as navigation information services, wireless Internet access for Wi-Fi devices and an LTE telephone module.

History

Porsche 718 – sport legend with a mid-engine

Mid-engine, lightweight design and styling, and added to these powerful and efficient four-cylinder engines: that is what characterises the philosophy of the legendary Porsche Spyder with type designations 550 and 718. Built for circuit track, road and hill climb racing, the Porsche factory team and numerous customers successfully used these race sports cars from 1953 to the mid-1960s. Countless individual drivers and exceptional drivers like Wolfgang Graf Berghe von Trips, Hans Herrmann, Graham Hill, Ricardo Rodriguez and Joakim Bonnier brought home more than 1,000 race victories with the fast and agile Porsche race cars. They really caused a sensation in motorsport. Despite their small four-cylinder flat engines, they continually won races overall against a competition that had superior engine power.

The history of the Spyder is one of stepwise development – which is typical of Porsche. As the first purebred race sports car from Zuffenhausen, the type 550 (89 units), which was built starting in 1953, marked the beginning of an evolutionary series of mid-engine race cars. In 1956 it was followed by the 550 A Spyder (40 units) which had a tubular space frame and a more powerful engine. In 1956, the Italian driver Umberto Maglioli raced to sensational victory in a 550 A at the Targa Florio, which was the most challenging road race at that time. Today, the engine known as the “Fuhrmann engine” is nearly as legendary as the vehicles themselves with its four overhead camshafts.

718 RSK celebrates global success and wins manufacturers world championship

The successor to the 550 A made its debut in 1957 as the 718 RSK (34 units). Motorsport and technology were closely intertwined in its name. While the “RS” stands for “race sport”, the “K” referred to the newly developed front torsion bar springs. They were arranged in the form of a capital “K” on its back. The 718 was further improved to address all concerns compared to its predecessor. A frame made of seamless steel tubing gave it high strength and an ideal lightweight design. The engine, chassis and drum brakes were also further optimised.

The 718 RSK celebrated successes across the globe, e.g. at Le Mans, the Nürburgring, in Argentina, Riverside in California and at numerous hill climb races. The 550 A Spyder and the 718 RSK both proved the enormous potential of their Porsche designs in Formula-2 racing. Further developed into a monoposto, the 718/2 even won the Formula-2 manufacturers world championship in 1960.

718 RS 60 immediately becomes the benchmark of its class

When new FIA regulations for race sports cars demanded greater similarities with production street cars, Porsche responded with the 718 RS 60 (19 units) for the 1960 season. The car quickly became the benchmark in the 1.6-litre class. Its greatest sport successes were overall victories at the Targa Florio, the 12 Hours of Sebring and the European Hill Climb Championship in the years 1960 and 1961. The 718 RS 61 Spyder (13 units) was built starting in October 1960. It was primarily raced by individual drivers. Its technical highlight was a new rear suspension with wishbones.

In order to also exploit the potential of the 718 Spyder at the 24 Hours of Le Mans, the 718 RS 61 was further developed into a coupé version. In 1961, the 718 GTR – which still had a four-cylinder engine – went to the starting line. For the 1962 season, it was equipped with a two-litre eight-cylinder and disc brakes. Also using these two engine types was the 718 W-RS Spyder that raced from 1961 to 1964. Mechanics gave it the endearing nickname “Grandmother” during its multi-year race career. The one-off car won the European Hill Climb Championship in 1963 and 1964 and proved once again the potential of the Porsche mid-engine concept.

	718 Boxster	718 Boxster S
Engine		
Type	Flat engine with turbocharging	
No. of cylinders	4	
Valves/cylinder	4	
Displacement	1,988 cm^3	2,497 cm^3
Bore	91.0 mm	102.0 mm
Stroke	76.4 mm	
Max. power output	220 kW (300 hp)	257 kW (350 hp)
at engine speed	6,500 rpm	
Max. torque	380 Nm	420 Nm
at engine speed	1,950 – 4,500 rpm	1,900 – 4,500 rpm
Max. output per litre	111 kW/l (151 hp/l)	103 kW/l (140 hp/l)
Compression ratio	9.5:1	
Maximum engine speed	7,500 rpm	
Cooling system	Water cooling with thermal management and switchable water pump	
Valve control	Camshaft adjustment and VarioCam Plus valve stroke switching for intake and exhaust	
Oil supply	Integrated dry sump lubrication and demand-controlled oil pump	
Engine charging	Mono turbocharging	Mono turbocharging with VTG
Intercooling	Indirect intercooling (two low-temperature air-water radiators and a water intercooler)	
Exhaust system	Dual-branch exhaust system with central stainless steel tailpipe	Dual-branch exhaust system with central stainless steel dual tailpipes
Emission control system	Two three-way catalytic converters and on-board diagnostics for monitoring the emission control system	
Fuel management	Petrol Direct Fuel Injection (DFI)	
Drive system	Mid-engine, rear-wheel drive	

Specifications may vary in individual markets

	718 Boxster	718 Boxster S
Power transmission		
Transmission	Six-speed manual transmission with single-disc clutch and dual-mass flywheel; optional seven-speed Doppelkupplungsgetriebe (PDK)	
Clutch diameter	Manual 240 mm; PDK 202/153 mm	
Gear ratios	Manual / PDK	
1st gear	3.31/3.91	
2nd gear	1.95/2.29	
3rd gear	1.41/1.65	
4th gear	1.13/1.30	
5th gear	0.95/1.08	
6th gear	0.81/0.88	
7th gear	– /0.62	
Reverse gear	3.00/3.55	
Rear axle	3.89/3.62	
Chassis		
Front axle	Lightweight spring-strut suspension (McPherson type)	
Rear axle	Lightweight MacPherson suspension	
Steering	Electromechanical power steering with variable steering ratio and steering pulse input	
Steering ratio	15.0:1 (centre position) to 12.4:1	
Steering wheel diameter	375 mm	
Turning circle diameter	10.98 m	
Driving stability system	Porsche Stability Management (PSM) incl. ABS with extended brake functions	

	718 Boxster	718 Boxster S
Brakes		
Brake system	Four-piston aluminium monoblock fixed calliper brakes, front and rear	Four-piston aluminium monoblock fixed calliper brakes, front and rear
Brake discs, front axle	Grey cast iron; internally vented and perforated	
Diameter	330 mm	
Thickness	28 mm	34 mm
Brake discs, rear axle	Grey cast iron; internally vented and perforated	
Diameter	299 mm	
Thickness	20 mm	
Wheels and tyres		
Wheels with tyres, front	8 J x 18 ET 57 with 235/35 ZR 18 tyres	8 J x 19 ET 57 with 235/40 ZR 19 tyres
Wheels with tyres, rear	9.5 J x 18 ET 49 with 265/45 ZR 18 tyres	10 J x 19 ET 45 with 265/40 ZR 19 tyres
Dimensions		
Length	4,379 mm	
Width (with door mirrors)	1,801 mm (1,994 mm)	
Height	1,281 mm	1,280 mm
Wheelbase	2,475 mm	
Track width, front (for wheel size)	1,515 mm (18")	1,515 mm (19")
Track width, rear (for wheel size)	1,532 mm (18")	1,540 mm (19")
Luggage volumes and weights	Manual/PDK	
Luggage volumes	275 l (front 150 l, rear 125 l)	
Unladen weight (DIN)	1,335/1,365 kg	1,355/1,385 kg
Allowable gross weight	1,655/1,685 kg	1,665/1,695 kg
Weight-to-power ratio	4.5/4.6 kg/hp	3.9/4.0 kg/hp

	718 Boxster	718 Boxster S
Performance	Manual/PDK	
Top speed	275/275 km/h 171/171 mph	285/285 km/h 177/177 mph
Acceleration		
0-60 mph	4.9/4.7 s	4.4/4.2 s
0-60 mph with Sport+	– /4.5 s	– /4.0 s
0-100 km/h	5.1/4.9 s	4.6/4.4 s
0-100 km/h with Sport+	– /4.7 s	– /4.2 s
0-160 km/h	11.3/11.1 s	9.7/9.5 s
0-160 km/h with Sport+	– /10.8 s	– /9.2 s
0-200 km/h	18.3/18.1 s	15.2/15.0 s
0-200 km/h with Sport+	– /17.8 s	– /14.7 s
Fuel and emissions	Manual/PDK	
Emissions standard	EURO 6	
Fuel type	Super Plus (98 RON)	
Fuel consumption		
Urban	9.9/9.0 l/100 km	10.7/9.5 l/100 km
Extra-urban	6.0/5.7 l/100 km	6.5/6.0 l/100 km
Combined	7.4/6.9 l/100 km	8.1/7.3 l/100 km
CO_2-emissions		
Combined	168/158 g/km	184/167 g/km
Efficiency class in Germany	E/D	F/E
Fuel tank capacity	54 l	64 l
Aerodynamics		
Drag coefficient c_d	0.31	0.32
Frontal area A	1.99 m^2	
c_d x A:	0.62	0.64