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## **The Audi S1 Sportback – the dynamic benchmark in its class**

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Short version

## **Dynamism that is four metres long – the Audi S1 Sportback**

**A great name makes a comeback: Audi is presenting the S1 Sportback. The new Audi S1 Sportback is the unrivalled embodiment of a compact sports car. All the modifications to the Audi S1 Sportback, including the new four-link rear axle, the quattro permanent all-wheel drive and the powerful 2.0 TFSI producing 170 kW and 370 Nm of torque make it agile and dynamic. Its fully fledged everyday practicality makes it the ideal driving machine for daily needs. These characteristics turn the Audi S1 Sportback into the benchmark in their class.**

Back in the 1980s an Audi S1 garnered a legendary reputation – it was the car that would see the brand dominate the World Rally Championship in its day. Now the abbreviation is coming back – but this time as a road-going version: the Audi S1 Sportback constitutes the new flagship model in the compact A1 model line, adding an entry-level version to the Audi S model portfolio.

A high-performance four-cylinder unit provides the drive. The 2.0 TFSI fitted with a turbocharger develops 170 kW and produces up to 370 Nm of torque. The two-litre engine accelerates the Audi S1 Sportback from 0 to 100 km/h in 5.9 seconds respectively. The top speed is 250 km/h. On average the sporty, sonorous TFSI consumes just 7.1 litres of fuel per 100 kilometres.

Like all Audi S models, the S1 Sportback also comes with quattro permanent all-wheel drive onboard. At its heart is a hydraulic multi-plate clutch located on the rear axle. Its specifically tuned control software boasts a decidedly dynamic setup. The electronic differential lock with the fine-tuned wheel-selective torque control is a function of the Electronic Stabilisation Control (ESC). It features two-stage deactivation and supplements the work of the multi-plate clutch with additional finely metered braking intervention on the inside wheels – the interaction of both systems makes for extremely agile, precise and stable handling.

The suspension on this compact sport model has been extensively revamped. The electromechanical power steering has been newly developed. Modified

pivot bearings on the front axle enhance spontaneity when turning. At the rear a four-link design also supports direct handling and agile cornering. The setup is sporty and firm; the Audi drive select dynamic handling system comes with a range of settings to vary the response of the engine, automatic air conditioning and the likewise standard variable shock absorbers.

A larger brake master cylinder as well as large brake discs – front 310 millimetres in diameter – ensure excellent deceleration. Red brake calipers with S1 logo can be ordered as an option. The sporty compact model is supplied from the factory with 17-inch wheels with 215/40 R17 tyres; Audi offers 18-inch wheels with 225/35 R18 tyres as an option.

The Audi S1 Sportback is instantly recognisable as the flagship model in the A1 model line. The xenon plus headlights are all-new, while the LED rear lights come with new, horizontally structured graphics. A host of details – particularly on the front and rear bumper, the side sills and the exhaust system – boast more striking styling. Four new exterior colours supplement the available paint finishes. The optional quattro exterior styling package hones the look further, courtesy of features such as a large roof spoiler.

The interior is finished in dark tones; black dominates, including on the air vent sleeves. The instruments feature S-specific dark-grey scales; the pedal caps are made out of brushed stainless steel. As an alternative to the standard sport seats, Audi fits the S sport seats with integrated head restraints. The quattro interior styling package can be selected as an option to add striking colour accents.

At a glance

## **The Audi S1 Sportback**

### **Engine**

- 2.0 TFSI with 1,984 cc displacement, dual injection (direct and manifold injection), turbocharging and Audi valvelift system (AVS)
- Thermal management with integrated exhaust manifold in the cylinder head
- Power output 170 kW, maximum torque 370 Nm from 1,600 to 3,000 rpm
- 0 to 100 km/h in 5.9 seconds, top speed 250 km/h
- Fuel consumption in the combined cycle is just 7.1 litres per 100 kilometres

### **Power transmission**

- Highly efficient six-speed manual gearbox with long-ratio 6th gear
- quattro drive with hydraulic multi-plate clutch on the rear axle, electronic management with decidedly sporty characteristics

### **Suspension**

- New electromechanical power steering, modified pivot bearings
- New four-link rear axle for maximum handling precision
- Audi drive select dynamic handling system and two-stage adjustable dampers
- High-performance brake system, front disks 310 millimetres in diameter
- Electronic Stabilisation Control (ESC) with two-stage deactivation and wheel-selective torque control
- 17-inch wheels as standard, 18-inch wheels as an option
- Kerb weight: 1,340 kilograms

### **Exterior design**

- New xenon plus headlights, LED rear lights with horizontally structured graphics
- Sporty modifications, large roof spoiler, exhaust system with four tailpipes, striking bumpers and side sills
- Optional quattro exterior styling package for an even sportier look
- Compact dimensions: length 3,975 millimetres, width 1,746 millimetres, height 1,423 millimetres, wheelbase 2,469 millimetres

**Interior and equipment**

- Interior finished predominantly in black, instruments in S-specific dark grey
- Pedals with stainless steel caps, other high-grade highlights in aluminium look
- Sport seats as standard, alternatively optional S sport seats with integrated head restraints
- quattro interior styling package with prominent colour accents available as an option

Long version

## **The new Audi S model – the Audi S1 Sportback**

**The Audi S1 Sportback (7.1 litres of fuel per 100 kilometres; 166 grams of CO<sub>2</sub> per kilometre) sets the benchmark in its class. The 2.0 TFSI develops 170 kW and produces 370 Nm of torque; the quattro permanent all-wheel drive puts the power safely down onto the road. The suspension, the interior and the infotainment on this sporty compact model also attests to Audi's technical competence.**

### **Engine**

The 2.0 TFSI guarantees the kind of performance that drivers expect from an Audi S model, turning the small compact car into a driving machine par excellence.

The Audi S1 Sportback accelerates from 0 to 100 km/h in 5.9 seconds, before going on to a top speed of 250 km/h – making a clear statement and taking pole position in its class. Even in sixth gear, the sprint from 80 to 120 km/h takes 6.6 seconds. Despite this sports car-like performance, it uses just 7.1 litres of fuel per 100 kilometres in the combined cycle, with CO<sub>2</sub> emissions of 166 grams per kilometre respectively.

A high-tech engine lies behind these top-class figures. The compact, lightweight 2.0 TFSI produces peak output of 170 kW from a displacement of 1,984 cc (bore x stroke 82.5 x 92.8 millimetres). Peak output is on tap from 6,000 rpm, with the engine speed limiter kicking in at 6,800 rpm. The turbocharged four-cylinder engine transmits maximum torque of 370 Nm to the crankshaft between 1,600 and 3,000 rpm.

The 2.0 TFSI responds instantly to the throttle; the response is honed further if dynamic mode is selected on the Audi drive select dynamic handling system. The driver can also use Audi drive select to alter the sound – courtesy of a sound actuator which boosts the intake noise, and a variable flap in the exhaust system which opens at high load and speed. The dynamic character of the four-cylinder engine goes hand in hand with superb

mechanical refinement – in the cylinder block two balancer shafts contra-rotate at twice the crankshaft speed.

A host of details underscore the high-performance character of the 2.0 TFSI. Special aluminium pistons and higher-strength connecting rods transmit the forces to the crankshaft. The crankcase is specifically reinforced on the main bearing bridges and on the main bearing cap; the cylinder head is made out of an aluminium-silicon alloy which combines high strength and temperature stability with low weight.

The turbocharger was optimised for fast response and features an electronically controlled wastegate. It generates up to 1.4 bar of pressure. An intercooler reduces the temperature of the compressed air, improving engine charging in the process.

The 2.0 TFSI uses sophisticated solutions in many areas of technology: the intake camshaft is fully adjustable through 60 degrees of crank angle; the exhaust camshaft through 30 degrees; the Audi valvelift system (AVS) also varies valve lift in two stages on the exhaust side. Drumble flaps (from “Drall”, the German word for swirl, and tumble) set the in-flowing air into a specific pattern of movement to ensure optimum mixture formation.

### **High tech from Audi: dual injection**

A major highlight of the four-cylinder engine is the additional indirect injection. It supplements the FSI gasoline direct injection under partial load. This reduces fuel consumption and particulate emissions. FSI injection, with up to 200 bar pressure, comes into play in the starting phase and at higher loads.

A great deal of attention was paid to thermal management during development of the four-cylinder engine. The exhaust manifold is integrated into the cylinder head, where it is bathed in coolant – this solution reduces exhaust gas temperature and accelerates warm-up under cold-start conditions. Two rotary valves in a single module regulate coolant flow. A special coating on the piston skirts and antifriction bearings on the balancer shafts keep internal friction low in the four-cylinder unit, while the oil pump is regulated to work on-demand. The start-stop system is standard.

## Power transmission

A manual six-speed gearbox with a housing made out of magnesium transfers the power from the 2.0 TFSI. It features short, precise throws. Its low gears feature short ratios, while sixth gear is long to reduce fuel consumption. The sporty manual gearbox is extremely efficient.

Like all Audi S models, the S1 Sportback comes with permanent all-wheel drive – another USP in this segment. Weight distribution constraints mean the hydraulic multi-plate clutch is mounted on the rear axle (axle load distribution: front 60 percent, rear 40 percent). Depending on the driving situation, the electronically controlled clutch distributes the drive torque between the axles. If one of the axles starts to slip, the torque is instantly redirected to the other axle. The management of the multi-plate clutch is decidedly dynamic. It allows controlled drifts on a road surface with a low coefficient of friction in sport mode or with deactivated ESC.

Engineers pulled out all the stops to accommodate the quattro components in the compact Audi S1 Sportback. The rear axle differential takes up the space in the spare wheel well; a purpose-built saddle tank which is located above the prop shaft replaces the tank from the A1 models. The tank offers the same volume of 45 litres.

## **Suspension**

Even the basic design attests to the sporty character of the Audi S1 Sportback. The axle load distribution of 60:40 dovetails consummately with the quattro drive; the battery located under the luggage compartment contributes to this balance. The kerb weight is 1,340 kilograms.

The front suspension is based on a McPherson design with a subframe made out of high-strength steel; the track is unusually wide at 1,474 millimetres. The geometry of the pivot bearing has been redesigned, making the steering response much more agile and the handling more neutral. The electromechanical steering, whose electric motor is located in the steering column, has been fundamentally overhauled. It conveys close contact with the road; its ratio of 14.8:1 is sporty and direct; its power consumption is low.



A sophisticated four-link design is used at the rear. The trailing links absorb the propulsion and braking forces. Their bearings are large and relatively elastic to promote a more comfortable ride. On the other hand, the three wishbones per wheel for absorbing lateral forces are attached very rigidly to the subframe for improved handling. The links are made of high-strength steels; the wheel carriers are aluminium. The shock absorbers and coil springs are mounted separately from each other. The upshot is a sensitive response and a large luggage compartment.

The adaption of the four-link rear suspension, with its track width of 1,452 millimetres, requires extensive changes to the bodyshell. Its longitudinal members incorporate the mounts for the trailing links, with specific reinforcements added to these areas. New mounts have also been fitted for the springs and dampers. Compared with the A1 models, the S1 Sportback has become much firmer.

The interaction of the individual suspension components and the quattro permanent all-wheel drive ensures responsive handling and transfers the enormous power onto the road with virtually no delay.

### **A new level of driving experience: Audi drive select**

The standard Audi drive select dynamic handling system is another specialty of the S1 Sportback. With it, drivers can alter the operating characteristics of the engine management unit, the engine sound and the likewise standard automatic air conditioning by selecting the efficiency, auto and dynamic modes. The variable shock absorbers – another standard feature in the Audi S1 Sportback – can be regulated in two stages using Audi drive select.

Another system in the Audi S1 Sportback is the Electronic Stabilisation Control (ESC), which includes a sport mode and can be deactivated completely. Thanks to defined interventions, the sport mode together with the wheel-selective torque control with its more direct response makes for a more agile driving style. With ESC completely deactivated, the wheel-selective torque control and the Electronic Differential Lock (EDL) remain active to promote precise vehicle control and optimum traction respectively.

Before the understeer threshold is reached, finely metered brake torque is applied imperceptibly to the inner wheels. Where power is applied the excess torque flows to the outer wheel; this means the car can negotiate bends and hairpins exactly. This ESC functionality, coupled with the specifically tuned application of the multi-plate clutch, minimises the tendency to understeer within the physical limits of performance. The standard multicollision brake assistant is a subfunction of the ESC and prevents the vehicle from continuing to roll uncontrolled after the crash and potentially causing further accidents.

The Audi S1 Sportback uses large brake discs to provide deceleration. These are internally ventilated on the front wheels and measure 310 millimetres in diameter; red brake calipers with S1 logo are available as an option. Solid discs with a diagonal measuring 272 millimetres are used on the rear wheels. The brake master cylinder has been enlarged compared with the A1 models, the brake booster specifically tuned – the pedal travel is very short, braking pressure is built up rapidly and spontaneously.

The compact sports model comes as standard with 7.5J x 17 aluminium wheels in a newly developed, silver-coloured five-parallel-spoke design; the wheels have 215/40 R17 tyres. In order to reduce weight, the wheels are manufactured using the flow-forming technique. Cast wheels in the five-arm facet design, size 7.5J x 18, are available as an option. A tyre repair kit and a tyre pressure monitoring system come as standard.

## **Exterior design and body**

The two new sport models demonstrate their outstanding credentials at first glance: the powerfully drawn bumpers provide a beefy road-hugging look, the contours around the air intakes are boldly shaped. The Singleframe grille is platinum grey with twin horizontal chrome bars and features an S1 badge. The exterior lighting on the S1 is all-new. The striking feature of the standard xenon plus headlights is the innovative graphics of the daytime running lights. The “frozen look” creates a homogeneous signature. It stylizes a horizontal number one, which is drawn across the entire width of the headlight down into the wing. This lowers the visual centre of gravity of the front view.

Even the exterior mirror housings come with new contours and shine with their aluminium-look finish. Angular side sills hone the profile, the S roof spoiler lengthens the roof line. The roof arch can be finished in a choice of three contrasting colours for the roof dome. New additions to the exterior paint finishes include Sepang blue, pearl effect, Florett silver, metallic, Mythos black, metallic, and Vegas yellow. The paint finishes brilliant black, Daytona grey, pearl effect, Glacier white, metallic, Misano red, pearl effect, and Scuba blue, metallic round off the lineup.

The four oval tailpipes on the exhaust system, with their elliptical trims, are an eye-catching feature at the rear of the Audi S1 Sportback. They are embedded in a dark-grey diffuser insert. The horizontally structured, three-dimensional rear light graphics positively presses the car down onto the road. The precise lines and the intricate details in the rear lights generate the hallmark deep-red signature. The rear light, brake light and indicator contain a total of 54 LEDs. An S1 logo adorns the tailgate, the bumper gives the rear its powerful appearance.

As an option, the Audi S1 Sportback is available with the quattro exterior styling package. The “wings” in the xenon plus headlights are tinted red with this option, aluminium-look elements adorn the bumper blade. The roof spoiler and a black or silver quattro logo on the rear doors add powerful visual highlights. The roof dome is painted in high-gloss black. The 18” cast aluminium wheels in 5-arm facet design, matt black, partly polished feature red-painted front and rear brake calipers.

The body establishes the foundation for the exact, sporty handling, quietness and safety. The body is made of around two-thirds high-strength and ultra-high-strength steels, with hot-stamped steels used at the front. The latter are used in the area of the passenger cell, in the rear sections of the longitudinal members, in the roof arch and in the A-pillars and B-pillars.

The Audi S1 Sportback is Audi’s top compact sports car, with a length of 3,975 millimetres, a width of 1,746 millimetres and a height of 1,423 millimetres. It combines with a short wheelbase of 2,469 millimetres guarantees superb dynamism and pure driving pleasure. Nonetheless, the luggage capacity remains practical for everyday use at 210 litres; folding

down the rear seats increases this to 860 litres. The coefficient of drag is 0.34.

## **IInterior**

The four-seater interior of the Audi S1 Sportback comes across as sporty and airy. The sweeping instrument panel with its horizontally stepped front takes its cue from an airplane wing; its four powerfully flared round air vents are reminiscent of jet engines. The console on the centre tunnel resembles the rear of a sailing yacht, the centre console is in turn angled slightly toward the driver.

Sporty-cool black dominates in the interior of the Audi S1 Sportback – on the headlining, the instrument panel, the centre console, the door trim, the floor carpet and with the sport seats. The sport seats also feature powerful side bolsters, height adjustment and a lumbar support. They are trimmed with sector cloth/leather as standard; fine Nappa leather is also available as an option; the backrests feature S1 embossing.

### **Optional: S sport seats**

As an option Audi fits the S sport seats with integrated head restraints and fine Nappa upholstery. Depending on the seat and upholstery, the contrasting stitching is finished in dark silver, yellow or red. Another stylish alternative is Audi exclusive fine Nappa leather upholstery and trim.

The air vent sleeves are also finished in high-gloss black. As an option these are also painted in aluminium look. The pedal caps are made from brushed stainless steel. Coloured piping frames the floor mats, and the door sill trims feature S1 logos. The LED interior lighting package brings the interior stunningly to life in the dark.

The eye is drawn to the white needles and numbers as well as the grey scales on the instrument cluster. The three-spoke leather-covered sport steering wheel features contrasting stitching and an insert in high-gloss black, a red ring adorns the gear lever knob. The onboard monitor with its high-gloss surround on the housing displays the S1 screen once the engine is started. A host of controls shine with their aluminium-look finish, subtle strips adorn

the switches on the centre console as well as the surrounds for the radio/navigation systems.

Anyone looking for even more exclusivity can select the quattro interior styling package. The multifunction steering wheel has a flat-bottomed rim with contrasting stitching, the air vents feature red inner rings and the floor mats come with twin piping in silver, yellow or red as part of the package. The door panels, the centre console and the backrests of the S sport seats are available in high-gloss black, red or yellow. The seat backrest features quattro logos in black/silver.

### **Infotainment**

Audi provides an advanced infotainment system for the Audi S1 Sportback, in the form of the top-of-the-range MMI navigation plus, which is standard equipment. It includes two SDHC card readers and uses a Bluetooth interface and the Audi music interface to connect cell phones and mobile players. The system comes with a DVD player and a voice control system. Using this voice control system the driver can speak the navigation address, and also control the main radio, media and telephone functions by voice. The 6.5-inch colour screen provides pin-sharp images thanks to its high resolution.

A number of additional modules are available for MMI navigation plus. These include a six-disc CD changer and a tuner for Digital Audio Broadcasting (DAB+).

The Audi S1 Sportback also leads the field when it comes to its sound system. The sonorous BOSE surround sound system is available as an alternative to the Audi sound system, which is standard equipment. A digital ten-channel amplifier with an output of 465 watts drives 14 speakers including subwoofer and can thus reproduce stereo signals in 5.1 surround sound. LEDs and light guides illuminate in white the surrounds on the front woofers/mid-range speakers.