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# Power in compact form – the new Audi RS 3 Sportback

Audi presents the most powerful car in the premium compact segment: The new RS 3 Sportback produces 270 kW and delivers 465 Nm of torque to the crankshaft. The 2.5 TFSI accelerates the five-door model from 0 to 100 km/h in 4.3 seconds and goes on to reach an optional top speed of 280 km/h.

#### **Engine**

The 2.5 TFSI in the new Audi RS 3 Sportback guarantees to thrill with immense pulling power, eager revving and its own unique acoustic experience. The throaty roar and snarl backed by the rhythm of the 1 - 2 - 4 - 5 - 3 five-cylinder ignition sequence is the classic Audi soundtrack. Two flaps in the exhaust pipes downstream of the muffler control the exhaust flow to provide for an even more intensive sound experience that varies with engine load and speed. The driver can control these flaps via the Audi drive select system. The RS exhaust system is designed for high flow. For the first time in this segment, Audi offers a sport exhaust system.

Powerful five-cylinder engines have a long tradition at Audi. During the 1980s, they powered the Audi rally cars, touring cars and production models to the front of the pack. The first RS model, the RS 2 from 1994, also had such an engine. The five-cylinder made its comeback in 2009 in the Audi TT RS; it made its way into the RS 3 Sportback in 2011 and two years later into the RS Q3. The 2.5 litre engine has been voted "International Engine of the Year" in its class five years in a row since 2010.

The five-cylinder unit produces 270 kW from a displacement of 2,480 cc: a remarkable specific output of 108.9 kW per litre. Driveability is impressive. The peak torque of 465 Nm is already available at 1,625 rpm and remains constant through 5,550 rpm. The sprint from 60 to 100 km/h in fourth gear takes just 4.1 seconds; it takes just 5.8 seconds to go from 80 to 120 km/h in fifth gear.



The 2.5 TFSI catapults the new Audi RS 3 Sportback to 100 km/h from a standing start in 4.3 seconds – the best in its class. Acceleration is electronically capped at 250 km/h. Top speed can be optionally raised to 280 km/h, which is also unique in the compact sports car segment. In the NEDC, the entry-level RS model consumes just 8.1 litres of fuel per 100 kilometres, ten percent less than its predecessor. This corresponds to 189 grams  $CO_2$  per kilometre. A recuperation system, a demand-controlled oil pump and a newly developed start-stop system that turns off the engine shortly before the car comes to a stop contribute to this. The emissions rating is Euro 6.

Just 49 centimetres long, the five-cylinder is very short. It weighs approximately 180 kilograms. Its crankcase is made of vermicular graphite cast iron, an extremely strong, yet lightweight material. Perfectly placed reinforcements enhance the block's loadability. A small team of specially trained experts build the 2.5 TFSI by hand at the Audi engine plant in Győr, Hungary.

The turbocharger, which develops up to 1.3 bar of charge pressure, has a theoretical throughput of 1,100 kilograms of air per hour. The intercooler lowers the temperature of the compressed air. The interplay of turbocharging and direct injection enables a high 10.0:1 compression ratio and correspondingly good efficiency. Flaps in the intake manifold cause the inflowing air to rotate. The camshafts, each of which can be adjusted through 42 degrees of camshaft angle, further optimize the mixture.

### Seven-speed S tronic

The standard seven-speed S tronic transfers the power of the 2.5 TFSI via three shafts – one drive shaft and two output shafts. Like all dual-clutch transmissions, it comprises two partial gearboxes. The direct shifting process takes place lightning-fast and with no perceptible interruption of power by simultaneously opening and closing both clutches. New detailed solutions for filling the clutches with oil and the interplay with the engine make gear changes faster than ever. With the Audi drive select system in dynamic mode, each shift is accompanied by double-clutching.

The driver of the new Audi RS 3 Sportback can choose between two automatic modes for the seven-speed S tronic or shift manually using the shift paddles on the steering wheel or the selector lever. The launch control system provides for optimal traction and minimal tire slip when sprinting from a standing start. The lower gears are sportily short; seventh gear is tall to reduce fuel consumption. A plug-connected angle drive connects the ultra-compact gearbox with the prop shaft – a design that displays intelligent lightweight construction down to the last detail.



## quattro permanent all-wheel drive

The quattro permanent all-wheel drive system transfers the power of the 2.5 TFSI to the road with supreme ease. Its central component is the electronically controlled, hydraulically activated multi-plate clutch. The newly developed part is mounted at the rear axle for reasons of axle load distribution. The multi-plate clutch uses software custom tailored for the Audi RS 3 Sportback. It distributes the available torque as needed to the front and rear axles in the blink of an eye. Depending on the driving style and coefficient of friction, between 50 and 100 percent of the available torque can be sent to the rear axle.

The electric pump, which develops the necessary oil pressure of max. 38 bar, is highly efficient. It is activated immediately the instant road grip drops or the driver adopts a sportier style. The weight of the clutch was reduced by 1.4 kilograms versus the previous version by eliminating the pressure accumulator. Another example of targeted lightweight construction.

Control of the multi-plate clutch is integrated into the Audi drive select system. With its very sport configuration, it uses all handling-relevant information, such as the steering angle. In dynamic mode and when the ESC Electronic Stabilization Control system is set to sport mode, power is transferred sooner and in greater amounts to the rear axle for even better handling, giving the new Audi RS 3 Sportback very agile and direct turn-in. This enables the driver to even perform controlled drifts on low-friction road surfaces. The front axle pulls the car back onto a straight line when exiting a bend.

Torque vectoring makes the handling of the Audi RS 3 Sportback even more perfect. During fast cornering, it slightly brakes the interior wheels, which are under a reduced load. This enables both wheels on the axle to transfer more power to the road. Thanks to the difference in propulsive forces, the car turns slightly into the corner and supports the driver's sporty driving style.

#### Chassis

The chassis complements the dynamics of the drivetrain perfectly. Precisely guided by its sensitive steering, the new Audi RS 3 Sportback takes all types of corners quickly and stably. Its handling limits are very high and effortlessly manageable.



The McPherson front suspension has been widened to a track of 1,559 millimetres and includes specially developed, high-strength aluminum pivot bearings. The standard progressive steering varies its ratio between 15.3:1 and 10.9:1 as a function of steering input. Its efficient, electromechanical servo boost works with an RS-typical characteristic.

The rear axle, which as a track width of 1,514 millimetres, is a four-link construction with rods of high-strength steel that handle the longitudinal and lateral forces separately. As with the front axle, these forces are directed to a subframe. The taut RS sport suspension lowers the body by 25 millimetres compared with the A3 Sportback. The Audi magnetic ride adaptive damper system is available as an option. Its management is integrated into the standard Audi drive select dynamic handling system, which includes the modes comfort, auto, dynamic and individual.

The dynamic, new top model of the A3 series rolls on 19-inch, cast aluminum wheels in five-arm rotor design with size 235/35 tyres. Audi offers machine-polished 19-inch wheels in matt titanium look or high-gloss anthracite black. The top tire option includes size 255/30 tyres up front and 235/35 at the rear.

The internally ventilated brake discs measure 370 millimetres in diameter at the front and 310 millimetres at the rear. The front friction rings feature a weight-saving wave design and are perforated for maximum heat dissipation. Pins connect them to aluminum brake caps, and they are gripped by eight-piston fixed calipers painted black (red optional) with RS logos.

One of the technologies that differentiate the new Audi RS 3 Sportback from its competitors are the optional carbon fibre-ceramic brake discs on the front axle. They also measure 370 millimetres and are gripped by anthracite gray calipers. The Electronic Stabilization Control (ESC) offers a sport mode and can also be entirely deactivated with an extended push of a button.

## Body and exterior design

The power-to-weight ratio plays a very key role in a sporty car. With the new Audi RS 3 Sportback, each hp has to move just 4.14 kilograms. The practical five-door compact has a kerb weight (without driver) of just 1,520 kilograms, 55 kilograms less than its predecessor.



The basis for this top value is the Volkswagen Group's modular transverse matrix (MQB) with its strict lightweight construction concept. The occupant cell contains many components of ultra-high-strength, hot-shaped steel, and the engine hood is made of aluminum. The orientation of the engine in combination with the multiplate clutch and the battery, which are located in front of and behind the rear axle, respectively, contributes to a favorable axle load distribution.

The new top model in the A3 series reveals its potential at first glance. The Singleframe grille features a high-gloss black, honeycomb-look grille and a frame in matt aluminum look. The charge air flows in through the air inlet below the license plate frame. The large air inlets framed by bold contours provide air to the engine's supplemental radiator and the transmission oil cooler. The blade integrated into the front apron extends upward into the air inlets to form a vertical dividing bar.

Viewed in profile, the widened front fenders, chiseled side sills, matt aluminum-look mirror housings and the large roof spoiler of the Audi RS 3 Sportback immediately catch the eye. A pronounced bumper, high-gloss black diffuser insert with honeycomb grille and four bars plus two large, oval tailpipes make for a bold rear. RS 3 badges adorn the Singleframe grille and the rear hatch.

Dedicated individualists can order additional features, including a carbon engine cover. The matt aluminum and gloss black styling packages are also particularly attractive. Besides exterior details with distinctive surface, they also include a quattro logo in titanium gray in the air inlet. The eight paint finishes include two new shades: Nardo grey and Catalunya red, metallic. The latter color is exclusive to the Audi RS 3 Sportback.

#### **Interior and Equipment**

The interior of the new Audi RS 3 Sportback is in sporty black and accentuated with RS badges. The sport seats are covered in Fine Nappa leather with contrasting stitching in rock gray. Wrapped in leather and Alcantara, the RS multifunction sport steering wheel is flattened at the bottom, and the selector lever also features a particularly sporty design. The driver information system (DIS) includes an oil temperature gauge and a lap timer – a boost pressure display is located in the rev counter dial.



Fine details round out the atmosphere of dynamics and extraordinary craftsmanship. The pedals and footrest are made of stainless steel; the door trim inserts are Alcantara. As is typical for RS models, the door openers are slender double bars and the inlays are in 3D-design "Black" (optionally available in Aluminum Race or carbon). The dials in the RS instrument cluster are black, the needles red and the scales white. High-quality applications in gloss anthracite black frame the instruments.

Options include S sport seats with diamond pattern, embossed logos and optional light-colored upholstery, and for the first time in the compact segment the newly developed RS bucket seats with integrated side airbags and a carbon seat shell, which are seven kilograms lighter than the basic sport seat. Another attractive option is the RS 3 interior design package with red accents on the knee pad, the air vents, the floor mats and the seat belts. This color also shimmers through the perforations of the S sport seats.

The previous model was already a strong seller; Audi expects the new RS 3 Sportback to also be a great success. With this model, quattro GmbH, the high-performance subsidiary that develops and builds the sporty spearheads in the AUDI AG product portfolio, now has seven RS models on the market – The RS 3 Sportback, the RS Q3 and the RS 4 Avant plus the RS 5 Coupé, the RS 5 Cabriolet, the RS 6 Avant and the RS 7 Sportback.