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## **The Audi RS 7 Sportback – Dynamics at their most beautiful**

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Appendix: Technical data

**The equipment and data specified in this document refer to the model range offered in Germany. Subject to change without notice; errors and omissions excepted.**

Short version

## **Beautifully superior – the Audi RS 7 Sportback**

**Dynamics at their most beautiful – the Audi RS 7 Sportback, the latest model from quattro GmbH, combines the power of a sports car with the elegance of a large, five-door coupé. The sprint from 0 to 100 km/h (62.14 mph) takes just 3.9 seconds; an option enables a top speed of 305 km/h (189.52 mph). Despite the supreme power of the biturbo V8, which produces 412 kW (560 hp), the RS 7 Sportback consumes on average just 9.8 liters of fuel per 100 kilometers (24.00 US mpg).**

Aesthetic design and impressive sportiness: With the Audi RS 7 Sportback, it's fascination at first sight. The long engine hood, the 2.92 meter (9.58 ft) wheelbase and the short overhangs create a sculpture with powerfully harmonious proportions. With its low, flowing roof line, the 5.01 meter (16.44 ft) RS 7 Sportback is striking from any angle.

Specific details on the exterior of the five-door coupé set sporty accents. These include the distinctively styled bumpers, the partly tinted LED headlights, the high-gloss black honeycomb grill, the add-on parts in matt aluminum and the flared sills. The sharply sloping, truncated rear end sports a distinctive spoiler lip. A classic sports car feature. Two optional styling packages – matt aluminum and carbon – further customize the appearance. Thanks to Audi's lightweight construction technology, the RS 7 Sportback sets new standards with its low weight. A hybrid aluminum design, it weighs roughly 15 percent less than a comparable all-steel body. More than 20 percent of the body is made of aluminum.

### **The 4.0 TFSI: 412 kW (560 hp) and 700 Nm (516.29 lb-ft) of torque**

The heart of the RS 7 Sportback is the 4.0 TFSI engine, which takes Audi's downsizing strategy to the high-performance class. The twin-turbo V8 displaces 3,993 cc and develops awesome power. It produces 412 kW (560 hp) between 5,700 and 6,600 rpm, with a constant 700 Nm (516.29 lb-ft) of torque available from 1,750 to 5,500 rpm.

Because the sonorous, high-revving biturbo V8 has been rigorously designed for low load-change and flow losses, it develops this power quickly and spontaneously. The intake side of the cylinder heads is on the outside, the exhaust side on the inside. The two twin-scroll turbochargers, which develop up to 1.2 bar of relative charge pressure, sit together with their intercoolers in the V of the cylinder banks.

The RS 7 Sportback's performance speaks for itself. The sprint from 0 to 100 km/h (*62.14 mph*) takes just 3.9 seconds. Audi limits the top speed in the standard configuration to 250 km/h (*155.34 mph*). Top speed with the optional dynamic package is 280 km/h (*173.98 mph*) and 305 km/h (*189.52 mph*) with the dynamic package plus.

The new top-of-the-line model consumes just 9.8 liters of fuel per 100 kilometers (*24.00 mpg*) in the NEDC. The 4.0 TFSI features numerous efficiency technologies. The Audi cylinder on demand (COD) system is particularly effective. At low to moderate load and engine speed, it deactivates cylinders two, three, five and eight by closing their valves and shutting off fuel injection. The 4.0 TFSI runs as a four-cylinder engine in this mode – until the driver presses firmly down on the gas pedal. The operating points in the active cylinders are displaced toward higher loads, increasing efficiency. The COD technology reduces consumption in the NEDC by around ten percent.

The standard eight-speed tiptronic has been specially matched to the sporty character of the RS 7. Drivers can choose between D and S modes or change gears themselves. When the transmission is in manual Tip mode, a shift light in the driver information system display indicates when the rev limit is reached. While the lower gears of the tiptronic are closely spaced for sporty response, eighth gear is tall to reduce fuel consumption.

The quattro permanent all-wheel drive system gives the powerful five-door coupé a decisive advantage in traction and driving safety. At its heart is a newly developed center differential with a high locking rate. It distributes the power as needed with great flexibility. In the standard configuration, 40 percent flows to the front axle and 60 percent to the rear axle. Torque vectoring supports the work of the differential at the limit. Audi also offers the optional sport differential for the rear axle, which actively distributes the power between the wheels.

## **Chassis RS adaptive air suspension**

The RS 7 Sportback is one of the first RS models from Audi to come standard with a specifically tuned air suspension. Thanks to a dynamic configuration of the RS adaptive air suspension, the body sits 20 millimeters (*0.79 in*) lower. The integrated damping control varies as a function of the road conditions, driving style and the mode chosen in Audi drive select. This system enables the driver to vary the function of key components, including the steering, engine management, the tiptronic and the optional sport differential, by switching between the modes comfort, auto, dynamic and custom.

Audi offers the tauter RS sport suspension plus with Dynamic Ride Control (DRC) as an alternative to the air suspension. It uses steel springs and three-stage adjustable dampers that are connected to one another via oil lines and one central valve each. Another option, which can also be integrated into Audi drive select, is the dynamic steering with its steplessly variable steering ratio.

The Audi RS 7 Sportback comes standard with 20-inch forged aluminum wheels in seven twin-spoke design. Three different 21-inch wheel designs are available as options. The internally vented brake discs feature a wave design for a weight savings of nearly three kilograms (*6.61 lb*). The front discs measure 390 millimeters (*15.35 in*) in diameter and are gripped by six-piston calipers. Audi installs carbon fiber-ceramic discs as an option. The electronic stabilization control system (ESC) has a Sport mode that can be deactivated altogether.

## **Fully equipped: Interior and technologies**

The elegant dynamics of the exterior design carry over to the interior of the Audi RS 7 Sportback. The salient element is the “wrap-around” – an arched, horizontal line below the windshield. The cockpit is tailored to the driver, with the center console oriented in the driver's direction.

The dial instruments feature black faces, white dials and red needles. RS logos and screens adorn the key, the flat-bottomed, three-spoke, multifunction steering wheel, the illuminated entry sills, the tachometer, the large driver information system display and the power-retractable monitor of the MMI navigation plus system. The selector lever features a knob covered in perforated leather with an RS badge, and the shift paddles have an aluminum-look finish. Additional highlights are provided by trim elements with aluminum and piano finish look finishes as well as carbon inlays.

RS sport seats with pronounced side bolsters and integrated head restraints are standard. They are covered in a combination of black Alcantara and leather; the center sections feature diamond quilting. The seats can alternatively be covered in particularly high-grade, honeycomb-quilted Valcona leather in either black or lunar silver. Audi offers optional power-adjustable comfort seats with memory function. The two rear seats are sportily contoured. Luggage capacity ranges from 535 to 1,390 liters (*18.89 to 49.09 cu ft*) depending on the position of the rear seat backs.

Standard equipment in the new Audi RS 7 Sportback also includes four-zone automatic air conditioning, MMI navigation plus with touchpad control (MMI touch) and the Audi sound system. Optional high-end features range from a head-up display and the Bang & Olufsen Advanced Sound System to the driver assistance systems, including adaptive cruise control with stop&go function and the night vision assistant with highlighting of detected pedestrians. Audi connect including a car phone brings tailored online services on board. Passengers can surf the web freely via a WLAN hotspot.

The Audi RS 7 Sportback is scheduled to arrive at dealerships in September. The base price in Germany is €113,000.

## At a glance

### **The Audi RS 7 Sportback**

#### **Design and body**

- Large, five-door coupé with sporty, elegant proportions
- Distinctive, RS-specific design details
- Audi lightweight design: hybrid aluminum body

#### **Engine**

- 4.0 TFSI: biturbo V8 displacing 3,993 cc
- Output 412 kW (560 hp), 700 Nm (*516.29 lb-ft*) of torque from 1,750 to 5,500 rpm
- 0 to 100 km/h (*62.14 mph*) in 3.9 seconds, top speed optionally 305 km/h (*189.52 mph*)
- Pioneering efficiency technologies such as Audi cylinder on demand (COD)
- ECE cycle fuel consumption just 9.8 liters per 100 kilometers (*24.00 US mpg*)

#### **Power transmission**

- Eight-speed tiptronic with a dynamic character
- quattro permanent all-wheel drive with new center differential and torque vectoring, sport differential as an option

#### **Chassis**

- Specifically-tuned RS adaptive air suspension
- RS sport suspension plus with Dynamic Ride Control (DRC) as an option
- Audi drive select vehicle dynamics system as standard, dynamic steering as an option
- 20-inch wheels standard, 21-inch wheels as an option
- Brake discs in wave design, ceramic brakes as an option
- Electronic stabilization control (ESC) with Sport mode, can be deactivated

#### **Interior**

- Black interior, carbon inlays, many details in aluminum look
- Illuminated door sill trim strips, RS 7 logos in the interior
- RS sport seats with integrated head restraints as standard
- Two rear seats with sporty contours

#### **Equipment and trim**

- LED headlights and rear lights
- RS-specific driver information system with shift light
- MMI navigation plus with MMI touch and Audi sound system standard
- Numerous innovative assistance systems available as options
- Audi connect including car phone for Internet services option
- Tire pressure monitoring system with air pressure and temperature display

Full version

## **Dynamics at their most beautiful – The Audi RS 7 Sportback**

**The Audi RS 7 Sportback unites design and dynamics, combining the strengths of a large, five-door coupé and a sports car. Its 4.0 TFSI engine with biturbo turbocharging produces 412 kW (568 hp) and 700 Nm (515.29 lb-ft) of torque. The sprint from 0 to 100 km/h (62.14 mph) takes 3.9 seconds. An option raises the electronically limited top speed to 305 km/h (189.52 mph). Despite this impressive performance, the large, five-door coupé consumes an average of just 9.8 liters of fuel per 100 kilometers (24.00 US mpg).**

With their powerful engines, the RS models are the dynamic spearhead of the Audi range. quattro GmbH is responsible for their special character and consistently sporty design. The AUDI AG subsidiary is celebrating its 30<sup>th</sup> anniversary this year. The abbreviation “RS” represents many things: the most powerful engine within a model line, quattro permanent all-wheel drive, the pinnacle of dynamic performance, an understated look and comprehensive everyday practicality.

### **Exterior design**

Five doors and a flowing coupé silhouette with distinctive accents – the RS 7 Sportback embodies the Audi line of dynamic elegance in its purest form. The long engine hood, the 2,915 millimeter (9.56 ft) wheelbase and the short overhangs create a sculpture with balanced proportions. 5,012 millimeters (16.44 ft) in length, the five-door coupé has a powerful presence from any angle.

The design of the RS 7 Sportback follows the primary line of Audi: Aesthetics and function form a unit; they highlight the beauty of the technology. Many detailed solutions come from racing, and as in the Audi race cars they assume specific functions. The vertical blades in the large air inlets, for example, serve as a pre-spoiler, directing the slipstream in such a way that it flows cleanly on the flank very early. Their appearance underscores the car's firm road stance. The slim honeycomb grilles at the front allow high air throughput, and a retractable rear spoiler plus a rear diffuser reduce rear axle lift.

The dynamic character of the Audi RS 7 Sportback is apparent at first glance. The distinctive bumper and the Singleframe grille with its beveled upper corners characterize the front end. In combination with the styling packages, a separate segment of the grille designed as an air duct is located below the license plate. The flat headlights widen toward the fenders, shifting the optical focus outward.

Viewed from the side, the five-door, high-performance coupé presents a strongly defined line. Its roof arch is a flat dome; the C-pillar stretches endlessly to the rear and flows into the shoulder of the body. It encompasses a third side window with an upward pointing tip. The ratio of painted body surfaces to the frameless windows is two-thirds to one-third, a typical Audi proportion.

Another distinguishing design element of the Audi RS 7 Sportback is the sharp tornado line spanning the flank. It starts at the headlights and extends along the fenders, the doors and the rear side walls as it gently slopes toward the tail lights. Above the striking side sills is the dynamic line, which runs slightly upward over the doors before turning sharply upward at the rear.

### **Typical sports car: the truncated rear end**

The sharply sloping, truncated rear end of the Audi RS 7 Sportback is a classic sports car feature. Its surfaces are deeply sculpted. The tinted lights are realized almost entirely with LED technology. Their light pattern appears three-dimensional; the brake light is in the shape of a helix. The lip of the luggage compartment lid includes a spoiler that automatically extends at 130 km/h (*80.78 mph*) and retracts again at 80 km/h (*49.71 mph*). A diffuser with implied baffle extends far upward and also encircles the two large, elliptical tailpipe tips of the RS exhaust system.

In the engine compartment, a design trim element covers the 4.0 TFSI. RS badges provides accents here, at the front and at the rear of the car. The Singleframe grille, window capping strips and housings of the outside mirrors are in matt aluminum, whereas the honeycomb grille at the front of the vehicle is high-gloss black.

Two other styling packages – matt aluminum and carbon – give the five-door, high-performance coupé a truly unique look thanks in part to the prominent quattro logo on the air intake. With the matt aluminum styling package, accents are provided by the edge of the central air intake and the blades in the air inlets. With the carbon styling package, the front splitter and the diffuser are more boldly shaped for even more of a race car look. Another option are exterior mirrors with exposed carbon housings.

Ten different paint finishes are available for the Audi RS 7 Sportback. In addition to solid, metallic and pearl-effect finishes, crystal effects and a matt finish are also available.

### **Audi RS 7 Sportback: Exterior dimensions**

Length, mm	5,012 (16.44 ft)
Wheelbase, mm	2,915 (9.56 ft)
Width, mm	1,911 (6.27 ft)
Height, mm	1,419 (4.66 ft)

### **Body**

Thanks to Audi lightweight construction technology, the body of the RS 7 Sportback leads the segment when it comes to weight. The aluminum hybrid construction brings about 15 percent less to the scales than a comparable all-steel design.

More than 20 percent of the body is made of aluminum. The struts in the engine compartment and the cross-members behind the front and rear bumpers are aluminum sections. The front fenders, the engine hood, the cross-member below the instrument panel, the long rear lid and the doors are made of aluminum panels. Die-cast aluminum serves as the material for the strut brace in the front section of the car. With a weight advantage of a good 10 kilograms (22.05 lb) over steel, the two strut braces contribute to the finely balanced axle load distribution.

For Audi, the principle of lightweight design means using the right material in the right place to achieve optimum function. Many components made of hot-shaped steel are therefore used in the passenger compartment. These components are first heated in a furnace to over 1,000 degrees Celsius and shaped immediately thereafter at around 200 degrees Celsius in a water-cooled pressing die. This abrupt change in temperature creates an iron-carbon structure of exceptional tensile strength. These high-tech steels are relatively thin and therefore light. Audi also uses tailored blanks – sheets made of individual sheets of different thicknesses – in many areas.

The body of the RS 7 Sportback is very rigid and strong, providing the basis for its sporty precise handling, the uncompromising build quality, the excellent crash safety and the quiet on board, free of intrusive noise. Vibrational comfort is another strength. Vibration levels at the contact points between the passengers and the body have been painstakingly minimized, and all points where force inputs occur when the car is in operation are reinforced.

The Audi RS 7 Sportback has a frontal area of 2.29 m<sup>2</sup> (24.65 sq ft) and a coefficient of drag of 0.30. In its aerodynamic concept, even the smallest details are very important. The paneled underbody channels air in a controlled manner, and air flows through the engine compartment with minimal losses.

## **The engine**

Performance on the level of a supercar and complete composure: The Audi RS 7 Sportback is a high-performance athlete. The large, five-door coupé sprints from 0 to 100 km/h (62.14 mph) in just 3.9 seconds. In the standard configuration, top speed is a governed 250 km/h (155.34 mph). Audi will raise this upon request. The dynamic package allows 280 km/h (173.98 mph), while top speed with the dynamic package plus is 305 km/h (189.52 mph). Despite this superior performance, the Audi RS 7 Sportback consumes on average just 9.8 liters of fuel per 100 kilometers (24.00 US mpg).

The 4.0 TFSI that powers the RS 7 Sportback takes Audi's downsizing strategy to the high-performance class. The biturbo V8 develops prodigious power from a displacement of 3,993 cc (bore x stroke 84.5 x 89.0 millimeters [*3.33 x 3.50 in*]). Its peak output of 412 kW (560 hp) is available between 5,700 and 6,600 rpm; peak torque of 700 Nm (*516.28 lb-ft*) is already available at 1,750 rpm and remains constant through 5,500 rpm.

Numerous details document the high-tech character of the turbocharged V8. The aluminum-silicon crankcase is manufactured in a low-pressure permanent mold casting process, which ensures a high level of material uniformity. A frame for the bottom bearing bridges of the crankshaft further enhances its rigidity. The engine is only 497 millimeters (*19.57 in*) long; the chains run on the rear side to save space. Its weight, with all of its key add-on components, is 224 kilograms (*493.84 lb*).

The intake system is optimized for minimal flow losses. Switchable flaps in the intake ports induce a rolling type of movement in the incoming air. Depending on their position, they optimize either filling of the combustion chamber or combustion itself. The directly injected and intensively swirled fuel cools the combustion chambers. This allows a high compression ratio of 10.1:1.

The cylinder heads have the intake side on the outside and the exhaust side on the inside. This sophisticated concept enables short gas pathways with minimal flow losses and spontaneous response. The two large turbochargers and their air-water intercoolers are located in the 90° inside V of the cylinder banks. Elaborate insulation of hot components ensures thermally stable conditions.

The two turbochargers generate up to 1.2 bar of relative charging pressure. The so-called twin-scroll technology, in which the exhaust from two cylinders each flows to the turbine wheel via separate ports, prevents undesired interactions between the gas flows. This results in the early and steep torque build-up.

Sound flaps in the RS exhaust system give the V8 an even more voluminous sound. They are controlled independently from engine load and speed, the mode in the Audi drive select dynamics system and the eight-speed tiptronic's operating mode. An RS sport exhaust system with black tailpipe tips and a more distinctive sound is available as an option.

## Modular efficiency platform: Innovative technologies

The biturbo V8 features the potent technologies from Audi's modular efficiency platform. The start-stop system deactivates the engine when stopped; the innovative thermal management uses a ball valve to regulate the flow of coolant so that the oil warms up as quickly as possible after the engine is started. The regulated oil pump varies the oil pressure as needed, and the piston oil injection nozzles are map-controlled. Multiple high-end technologies are used during assembly of the V8 at the Audi plant in Győr, Hungary. For example, the piston pins have a fine, diamond-like carbon (DLC) coating.

One pioneering innovation from Audi is the cylinder on demand system (COD). At low to moderate engine speed and load – up to around 3,500 rpm and 250 Nm (*184.39 lb-ft*) – the COD technology deactivates cylinders two, three, five and eight by closing the valves and stopping fuel injection to them and ignition. Efficiency in the active cylinders is increased because the operating points are displaced toward higher loads.

This changeover takes place within a few hundredths of a seconds and so smoothly that the driver practically only recognizes four-cylinder operation by the message in the instrument cluster display. The cylinders are reactivated as soon as the driver firmly presses the accelerator. The COD technology reduces the Audi RS 7 Sportback's NEDC fuel consumption by around five percent; at a constant 100 km/h (*62.14 mph*) the reduction is around 10 percent.

While the V8 is temporarily running as a V4, ignition only takes place at every 180 degrees of crankshaft angle and the engine's torsional vibrations are correspondingly higher. Active engine mounts use electromagnetic oscillation coil actuators to induce phase-offset counter oscillations that largely cancel engine vibration.

### Audi RS 7 Sportback: The 4.0 TFSI

Displacement, cc	3,993
Bore/stroke, mm	84.5/89.0 ( <i>3.33/3.5 in</i> )
Compression ratio:	10.1:1
Power output kW (hp)	412 (560) between 5,700 and 6,600 rpm
Torque, Nm	700 ( <i>516.29 lb-ft</i> ) from 1,750 to 5,500 rpm

## Power transmission

The drivetrain in the Audi RS 7 Sportback delivers the power to the road with aplomb. The eight-speed tiptronic impresses with particularly short shift times and gentle, almost imperceptible gear changes. A classic torque converter transmission, it offers D and S modes. Drivers wishing to change gears on their own can use the shift paddles on the steering wheel or the selector lever bearing a unique RS design. Another function, Launch Control, delivers the engine's power to the road with defined tire slip and maximum traction.

The eight-speed tiptronic, which is integrated into the engine's thermal management system, plays a major role in the efficiency of the Audi RS 7 Sportback. Its lower gears are closely spaced for sporty response while the top gear is tall to reduce fuel consumption. The spread of 7.1:1 is very wide. The Audi RS 7 Sportback accelerates powerfully from a standing start and operates at relatively low rpm even in eighth gear. The torque converter lockup clutch connects the gearbox directly to the engine in most driving situations, thus further increasing efficiency.

The heart of the quattro drivetrain is a newly developed center differential that can widely vary the distribution of torque. In normal driving, the purely mechanical differential sends 40 percent of the engine's power to the front axle and 60 percent to the rear axle. When required, it can immediately distribute up to 70 percent of the torque to the front, or up to 85 percent to the rear. Yet another strength of this new differential, whose temperature is modulated by a dedicated oil cooler, lies in its low weight. Indeed, it weighs 1.8 kilograms (3.97 lb) less than the previous generation.

The center differential works closely with the torque vectoring. When the latter detects that the wheels on the inside of the curve, which are under a reduced load, are about to slip, it brakes these wheels ever so slightly by applying the pads to the discs with minimal pressure. This makes handling at the limit even more neutral and safe. If the electronic stabilization control (ESC) has to intervene at all, it does so later and more gently.

## **Even more dynamic: the sport differential**

Audi offers another component for the quattro drivetrain as an option. The sport differential actively distributes torque between the rear wheels. When turning into or accelerating in a curve, it sends the majority of the torque to the outside wheel and pushes the RS 7 Sportback into the curve, nipping any tendency to oversteer or understeer in the bud. The driver can precisely control the function of the sport differential via the Audi drive select dynamics system.

The sport differential is an extension of the classic rear differential. It has a superposition gear on both sides that turns ten percent faster than the drive shaft. An electrohydraulically actuated, multi-plate clutch provides the connection between the shaft and the superposition stage. When the clutch closes, it steplessly imposes the higher speed of the superposition gear on the outside wheel. The additional torque required is drawn away from the inside wheel.

## **Chassis**

The chassis of the Audi RS 7 Sportback combines tremendous dynamic potential with good comfort. Up front is a five-link axle that can handle longitudinal and lateral forces separately. It comprises two transverse links on the upper plane, the support link and control arm in the lower plane, and the track rod. Its bearings respond smoothly in the longitudinal direction, and are stiff in the transverse direction for precision.

The backbone of the front suspension is the integral subframe. Made of high-strength steel, it is bolted rigidly to the front end, further increasing the latter's rigidity. The suspension control arms are aluminum forgings to keep the unsprung masses low. The wheel carriers and pivot bearings are also made of this same material. The anti-roll bar fabricated from a high-strength steel tube is also relatively light. The front track of the Audi RS 7 Sportback measures 1,634 millimeters (5.36 ft).

The rear suspension with a track of 1,625 millimeters (*5.33 ft*) follows the self-tracking trapezoidal link layout, which is characterized by sporty and reliable handling as well as compact dimensions. Two hydraulic bearings connect the steel subframe with the body. The overhead control arms and the track rods are aluminum forgings. A steel tube also serves here as an anti-roll bar. The two trapezoidal links are precipitation-hardened aluminum castings; the wheel carriers are of chill-cast aluminum.

The electromechanical power steering unit in the Audi RS 7 Sportback is a compact and lightweight component. Its low mounting position on a level with the center of the wheel promises agile response, high precision and sensitive feedback. The 13.0:1 ratio is sporty and direct. Steering boost, which varies as a function of speed, has been specially tuned to the character of the dynamic top-of-the-line model.

The electromechanical power steering is highly efficient because it does not require any energy while driving straight ahead. When braking on a surface that is slippery on one side, it helps the driver by facilitating the proper corrections and makes improper steering movements more difficult.

Audi offers dynamic steering with RS-typical characteristics as an option. The heart of this system is a superposition gear in the steering column. It steplessly varies the steering ratio as a function of speed, from very direct when maneuvering to indirect on the highway. At the cornering limit, it countersteers with minimal pulses, making the handling even more dynamic, fluid and safe.

The RS 7 Sportback comes standard with a sportily tuned air suspension. The RS adaptive air suspension lowers the body by 20 millimeters (*0.79 in*) compared with the A7 Sportback. Its damping is varied as a function of road conditions, driving style and the mode chosen in Audi drive select. The driving dynamics system integrates key components. Besides damping, these include the steering, engine management, the sound flaps in the exhaust system, the tiptronic and the optional components adaptive cruise control, sport differential, RS sport suspension with Dynamic Ride Control (DRC), dynamic steering, belt tensioners and cornering light. The driver can vary the function of these systems between the comfort, auto, dynamic and individual modes.

## **Tautly connected: RS sport suspension plus with DRC**

The tauter RS sport suspension plus with Dynamic Ride Control (DRC) is available as an alternative to the RS adaptive air suspension. With its steel springs and variable dampers, it reduces all body motion purely mechanically and thus immediately. It is compact and lightweight. The diagonally opposed pairs of shock absorbers are linked by hydraulic lines and a central valve. When cornering at speed, the valves regulate the oil flow in the shock absorber of the deflected outside wheel almost immediately. They increase the support provided and reduce lateral tilt.

The brake system of the Audi RS 7 Sportback delivers maximum performance. The discs are internally vented and perforated. Their wave-like outer contour reduces overall weight by roughly three kilograms (*6.61 lb*). Stainless steel pins connect the steel discs to the aluminum brake caps. This concept borrowed from racing reduces tensions, quickly dissipates the heat and prevents the transmission of temperature spikes.

The front brake discs measure 390 millimeters (*15.35 in*) in diameter and are gripped by black (optionally red), six-piston calipers. Optionally available are carbon fiber-ceramic brake discs measuring 420 millimeters (*16.54 in*) in diameter. Their calipers are painted Anthracite Gray and bear "Audi ceramic" badges. The high-brakes are virtually fade-free, extremely durable, powerful, long-lasting and substantially lighter. The ceramic brake discs alone save 14.6 kilograms (*32.19 lb*) of weight compared with the steel discs.

The electronic stabilization control (ESC) has been specially configured for the dynamic profile of the Audi RS 7 Sportback. With the touch of a button, the driver can select a sport mode that deactivates the engine interventions. The ESC can also be deactivated entirely for particularly dynamic driving. A practical subfunction of the system is hold assist, which makes it easier to start out on slopes.

Machine-polished 20-inch forged wheels in seven twin-spoke design and fitted with 275/35-series tires are standard on the Audi RS 7 Sportback. Optional 21-inch wheels in five-spoke "Blade" design are available in three different versions, including machine-polished high-gloss black and machine-polished titanium-look. These wheels are fitted with 275/30 R 21 tires.

## Interior

The dynamically elegant line of the exterior carries over to the interior of the Audi RS 7 Sportback, which is immersed in sporty black. The salient element is the “wrap-around,” a horizontal line below the windshield extending into the front doors. The low instrument panel, which conveys the driver a sense of freedom and expanse, rounds out the concept of taut lines with an elegant curve. The frame of the door opener invokes the shape of the rear side window, demonstrating Audi's great attention to the smallest of details.

The cockpit is rigorously tailored to the driver, with the center console oriented in the driver's direction. The selector lever features a perforated leather knob and sports an RS badge. The shift paddles have an aluminum-look finish. The dial instruments have black faces, white numbers and red needles. RS 7 badges, some three-dimensional, adorn the tachometer, the three-spoke flat-bottomed multifunction steering wheel, the illuminated entry sills and the seven-inch color display of the driver information system. The bars of the door openers are open-worked, another typical RS element.

A special feature in the driver information system is the shift light for the eight-speed tiptronic's manual mode. As engine speed increases, green segments in the display form a bar. The bar turns red and blinks shortly before the red line is reached. Displays for the gear selected, boost pressure, oil temperature, speed and a lap timer round out the RS-specific driver information system. The driver information system and MMI monitor welcome the driver with specific RS 7 start screens.

The decorative bezel below the retractable eight-inch monitor and the infotainment bezel sport a black piano finish look. Carbon is used for the standard inlays. Four additional materials are available, including piano lacquer and the particularly elegant aluminum/Beaufort wood black. The footrest, pedals and soft keys in the MMI navigation plus terminal gleam in an aluminum-look finish. The headlining is made of black cloth, with options for lunar silver or black Alcantara.

Standard equipment includes heated RS sport seats with pronounced side bolsters, integrated head restraints and embossed RS 7 logos. They are power-adjustable and have pull-out seat cushions. The seats, whose center sections feature diamond quilting, are covered in a combination of black Alcantara and leather. Upon request, Audi also covers the seats with particularly high-grade, naturally processed Valcona leather in either black or lunar silver and with honeycomb quilting.

Also available are comfort seats with memory function, with the option of a massage and ventilation function. The rear of the Audi RS 7 Sportback has two sportily sculpted individual seats with integrated head restraints. Regardless of which options, the uncompromising quality and polished finish with which Audi builds its cars is evident in every detail.

The RS 7 Sportback has a long, electrically actuated rear lid that extends far up into the roof. The cargo area already offers a capacity of 535 liters (*18.89 cu ft*) in the base configuration, and this can be increased to 1,390 liters (*49.09 cu ft*) by folding down the split rear seat backs. Thanks to the straight side walls and virtually flat floor, the space can be utilized very well.

### **Driver assistance systems**

The assistance and safety systems make driving the Audi RS 7 Sportback even more relaxing and composed. The driver information system with rest recommendation is standard. It recognizes when the driver is beginning to tire and suggests a rest. The safety system Audi pre sense basic is also standard.

One particularly sophisticated optional system is the radar-supported adaptive cruise control (ACC) with stop&go function. It regulates the interval to the car ahead at speeds between 0 and 250 km/h (*155.34 mph*). At speeds below 30 km/h (*18.64 mph*), the system initiates maximum braking if it detects an impending collision.

ACC with stop&go function works closely together with the Audi pre sense safety system. Audi side assist, which is also linked to a sub-function of Audi pre sense, uses rear-mounted radar to help drivers change lanes safely. Audi active lane assist helps the driver to remain in a given lane by gently intervening in the electromechanical steering, if necessary.

It draws its imagery from the same camera as the speed limit display, which presents recognized traffic signs on the driver information system display or the optional head-up display.

The park assist system with 360° display, another high-end system, handles steering instead of the driver. The night vision assistant with highlighting of detected pedestrians, makes for more relaxed driving at night. Its thermal imaging camera is far infrared system (FIR), meaning that the camera reacts to the heat radiated by objects. A computer converts the information from the camera into black and white images and shows them on the driver information system display. If the system detects a pedestrian in front of the car, it uses optical and acoustic signals to indicate them to the driver.

### **Infotainment and Audi connect**

The Audi RS 7 Sportback comes standard with MMI navigation plus. The top infotainment system includes an electrically retractable, high-resolution, eight-inch monitor, groundbreaking touchpad control (MMI touch), a 60 GB hard drive, a DVD drive and voice control. MMI navigation plus is tightly networked with the control units of the ACC stop&go, the eight-speed tiptronic and the optional adaptive light system, allowing these systems to quickly and precisely adapt their function to the conditions of a given route.

Among the optional infotainment modules are such high-end features as the Bose surround system and a digital radio tuner. At the very top is the Bang & Olufsen Advanced Sound System, which drives 15 speakers with more than 1,200 watts of total power. Two acoustic lenses made of aluminum reproduce the high frequencies. They extend from the instrument panel when the system is switched on.

Audi connect plus car phone, another option, supplements MMI navigation plus. Its integrated WLAN hotspot lets the passengers surf and e-mail freely. For the driver, it delivers tailored Internet services from Audi connect to the car – from online traffic information to navigation with the Google Earth maps service and Google Street View to Audi music stream web radio. The term Audi connect covers all applications and developments that network the car with its owner, the Internet, infrastructure and other automobiles.

## Equipment

The Audi RS 7 Sportback comes with a generous list of standard equipment. The package of restraint systems comprises two front airbags, two front side airbags – rear side airbags optional – and two head airbags, the integral head restraint system and electric belt tensioners for the front seats. The Audi pre sense basic safety system, the tire pressure monitoring system with air pressure and temperature display, the LED headlights and rear lights with adaptive brake light, the driver information system with rest recommendation and the anti-theft alarm system round out the safety technologies.

Sophisticated features contribute to the tremendous performance of the new top model. These include the RS adaptive air suspension, the wave-design brake discs, the 20-inch wheels, the eight-speed tiptronic with shift paddles and launch control, the Audi drive select dynamics system and quattro permanent all-wheel drive with torque vectoring.

The leather-wrapped, flat-bottomed multifunction sport steering wheel, heated RS sport seats covered in Alcantara/leather, carbon inlays, illuminated entry sills and the RS-specific driver information system impart a special flair to the black interior. The parking system plus, the electromechanical parking brake, folding rear seat backs, four-zone automatic air conditioning, cruise control, ambient lighting, the Audi sound system and MMI navigation plus round out the list of standard equipment.

Audi offers the optional Audi connect including car phone as the ideal complement to the top navigation system. It connects RS 7 to the Internet. Rounding out the infotainment lineup are high-end options such as the Bose surround system, digital radio tuner or the Bang & Olufsen Advanced Sound System.

Customers seeking the ultimate in dynamics can order the carbon fiber-ceramic brake discs, the RS sport differential, dynamic steering, 21-inch wheels and the sport suspension plus with Dynamic Ride Control (DRC). The dynamic package (with top speed extension to 280 km/h [*173.98 mph*]) and the dynamic package plus (305 km/h [*189.52 mph*]) include most of these features.

The aluminum matt and carbon styling packages and the red brake calipers make the look of the dynamic top-of-the-line model even more distinctive, while the RS sport exhaust system with black tailpipe tips enhances the engine sound.

What's more, the Audi RS 7 Sportback can also be equipped with all the luxurious options available for the A7. These include LED headlights with a unique design, power-assisted closing for the doors, the convenience key with gesture-controlled opening of the rear lid, the head-up display, the comfort package and the comfort seats, to name a few. The Audi exclusive range from quattro GmbH offers countless customization options for the inlays, seat covers and many other interior details. Customers can choose to make their cars as unique as their fingerprints.

There is also a comprehensive range of driver assistance options. These include ACC stop&go, the night vision assistant with highlighting of detected pedestrians, Audi side assist, Audi active lane assist, the speed limit display, park assist and the Audi pre sense plus assistance package.

Delivery of the large, five-door coupe in Germany is scheduled to begin in September at a base price of €113,000. Among the most important markets besides Germany are China and the USA.

## **quattro GmbH**

The dynamic subsidiary of AUDI AG, quattro GmbH is celebrating a special anniversary in 2013. For 30 years now, the company, which currently has some 800 employees, has stood for high performance and high tech, i.e., everything that makes quattro so special. The magical word quattro encapsulates not only an extremely successful technology, but also a dynamic approach to life under the four rings.

quattro GmbH covers three areas. The first is the development and building of high-performance Audi vehicles, the RS models and the Audi R8, which are marketed under the Audi Sport label. The second area comprises vehicle customization and accessories; the youngest area is customer racing, which dates back to early 2011.

Since 1996, quattro GmbH has produced some 75,500 high-performance vehicles, with the last decade in particular seeing a further significant rise in output – from 2,500 cars in 2000 to around 11,500 in 2012. quattro GmbH also customized 160,000 cars and sold almost 2.5 million accessories in 2012 alone.

As for customer racing– known as Audi Sport customer racing – the R8 LMS ultra and its predecessor have driven to more than 150 victories worldwide in just three years. In the 2012 season, the R8 LMS won the most important 24-hour races in Europe, including four victories in rigorous endurance races at the Nürburgring, at Spa Francorchamps and Zolder and at Bathurst in Australia. The R8 GRAND-AM kicked off the 2013 season with a legendary win at the 24 Hours of Daytona.

As for the RS models and the Audi R8, quattro GmbH is aiming to sell 15,000 units this year. Driving this growth are the new models: the RS 5 Cabriolet, the RS 6 Avant, the RS 7 Sportback and the RS Q3. Eight RS models in all amount to the broadest portfolio yet. The company is greatly expanding its presence in the United States, China, Russia and the Middle East to reach more customers.

The vehicles crafted by quattro GmbH have a very special mission as Audi's dynamic spearheads. RS models are only offered where they are the perfect complement to a model range. Each of them is an individualist with its own distinct character. The abbreviation RS always stands for the most powerful engine within a particular model series, for extremely dynamic performance, for understated sophistication coupled with comprehensive everyday practicality, and for quattro permanent all-wheel drive.

Technical Development at quattro GmbH employs 120 people, has its headquarters at the Neckarsulm site and collaborates very closely with AUDI AG colleagues. quattro engineers handle nearly every task, including engine development. A second major area of expertise is the chassis. For instance, the RS models are equipped with what is now the third generation of Dynamic Ride Control, the purely mechanical roll and pitch stabilizer.

quattro GmbH seeks to push the boundaries of modern engineering time and time again. Technologies such as the crown-gear center differential in the quattro drivetrain and the wave-design brake discs made their respective debuts in RS models. quattro GmbH repeatedly contributes to Audi's lightweight excellence by blazing trails with respect to components made of carbon-fiber reinforced polymer (CFRP).

quattro GmbH's development expertise is complemented by production know-how. The Audi R8 is built in a dedicated, small-series production facility in the Neckarsulm plant. About 80 percent of the work is done by hand. The Audi RS 5 Cabriolet, the new RS 6 Avant and the RS 7 Sportback are likewise built in Neckarsulm. As for the other models, quattro GmbH collaborates closely with production sites for the respective base models: Ingolstadt (Germany), Martorell (Spain) and Győr (Hungary).