Engine: KODIAQ RS features the most powerful diesel engine in ŠKODA history

- **Exclusive 2.0 TDI with a power output of 176 kW (240 PS) and torque of 500 Nm**
- **Acceleration from 0 to 100 km/h in 6.9 seconds and a top speed of 221 km/h thanks to two-stage turbocharging**
- **New Dynamic Sound Boost provides the engine with three sounds**

Mladá Boleslav/Jerez, 10 December 2018 - The engine of the ŠKODA KODIAQ RS is a new milestone in the history of the brand from Mladá Boleslav, which spans more than 120 years. With its power output of 176 kW (240 PS) and maximum torque of 500 Nm, the engine exclusively available in the new performance SUV is the most powerful diesel engine used in a ŠKODA production vehicle to date.

The core of the ŠKODA KODIAQ RS's powerful 2.0 TDI is its two-stage biturbo technology. The 2-litre engine features two complementary turbochargers connected in series. The first is a high-pressure exhaust gas turbocharger with a small turbine, a small compressor wheel and electronic turbine blade adjustment. This structure allows for an immediate response, even at lower engine speeds. The second turbo is a low-pressure charger. With its large turbine and compressor wheel, it achieves a considerably higher boost pressure of up to 3.8 bar at high engine speeds, which increases the engine output considerably. At lower engine speeds, the chargers work in two stages. The low-pressure charger is responsible for the pre-compression of the air drawn in; the high-pressure charger is responsible for the main compression. At high engine speeds, only the low-pressure charger is used in single-stage operation. Structured in this way, the turbo system guarantees continuous power output with a short reaction time and high peak values.

Great driving performance with low consumption

Thanks to the biturbo technology, the 2.0 TDI already delivers its maximum torque of 500 Nm between 1,750 and 2,500 rpm; the peak power output is 176 kW (240 PS). This gives the ŠKODA KODIAQ RS great driving performance. The all-wheel-drive SUV accelerates from 0 to 100 km/h in 6.9 seconds (five-seater) and has a top speed of 221 km/h.

The 2.0 TDI is powerful, yet extremely efficient. Average fuel consumption is just 6.4 litres of diesel per 100 km*, which equates to CO_2 emissions of 167 g/km*. The ŠKODA KODIAQ RS is fitted with an oxidation catalytic converter and a diesel particulate filter directly on the engine as well as an SCR catalytic converter for exhaust gas treatment and fulfils the Euro 6d-TEMP emission standards. In order to achieve these figures, ŠKODA AUTO has implemented numerous technical measures, used direct injection in the biturbo and has integrated a Stop-Start system as well as brake energy recovery. The elaborate thermo-management system with a switchable coolant pump also has a consumption-reducing effect. The system quickly brings the engine to the desired operating temperature after the engine has started.

ŠKODA's decision to use a diesel engine for a high-performance vehicle such as the KODIAQ RS is justified by its numerous advantages. The target group for large SUVs such as the ŠKODA KODIAQ is cost-conscious. Thanks to the low consumption of 6.4 litres per 100 km*,

running costs remain below those of a comparable petrol engine despite the high level of driving performance, and CO_2 emissions are considerably lower.
In addition, thanks to its higher torque, the diesel is better suited to towing a horse box or boat trailer, for example. In total, 57 per cent of the engines in the KODIAQ model range worldwide are diesels.

INTERVIEWS

Ing. Jan Švejda
Coordinator – Engines to Platform Application

Mr Švejda, the 2.0 TDI biturbo diesel engine is the ŠKODA brand's most powerful diesel engine. What changes were required for its implementation in the KODIAQ RS?
The 176-kW 2.0 TDI biturbo engine is based on the EA288 modular platform that was introduced in 2012. The high performance is achieved for example thanks to the two exhaust gas turbochargers which are fitted in series. The maximum injection pressure of the common-rail injection system is 2,500 bar. The thermo-management system also features a switchable coolant pump. Two balancing shafts ensure the engine runs more smoothly. A water-cooled intercooler is used to reduce the temperature of the supplied air. The SCR exhaust gas treatment system ensures even lower emissions.

How does the two-stage turbocharger system work?
The two-stage turbocharging system consists of a high-pressure and a low-pressure exhaust gas turbocharger.
The exhaust gas turbochargers fill the engine with air, depending on the current load and engine speed.
The high-pressure exhaust gas turbocharger works at low loads and low engine speeds; the chargers work in two stages at mid-range engine speeds; the low-pressure charger is used at high speeds.

Ing. Matyáš Schejbal, Ph.D.
Project Manager of Powertrain and Chassis – Compact Range

Mr Schejbal, changes have been made to the KODIAQ RS' engine. What other technical measures have been taken in the KODIAQ RS?
The ŠKODA KODIAQ RS features a new exhaust system with decorative chrome-effect tailpipes, for example. As the car's maximum torque is 500 Nm – the highest maximum torque in the ŠKODA model range – the DQ500 7-speed automatic DSG is used in the KODIAQ RS. In addition, the chassis setting in the adaptive Dynamic Chassis Control (DCC) and the more powerful engine's cooling system have been optimised accordingly. The braking system features red brake callipers. Furthermore, the ŠKODA KODIAQ RS is available with 20-inch alloy wheels – the largest wheels in the ŠKODA model range.

Emotive and distinct sound with Dynamic Sound Boost
A dynamic car needs a sporty sound. That's why, in the KODIAQ RS; Dynamic Sound Boost is used for the first time in a ŠKODA. Dynamic Sound Boost is a system that modulates the sound of the car. The dedicated control unit for this system reads CAN bus signals such as the engine speed, torque, selected gear and speed. It calculates a specific signal using complex algorithms. The actuator, which is positioned close to the exhaust tailpipe, produces an 'artificial' sound based on these signals, and interferes with and supplements the original note of the exhaust system to create an emotive and sporty sound.

This means different sounds can be generated depending on the driving mode or the driver's preferences. The spectrum therefore ranges from quiet to particularly sporty. Just like the Dynamic Chassis Control, the three sounds available in the ŠKODA KODIAQ RS are coupled with Driving Mode Select. In Comfort mode, the KODIAQ RS has a soft and reserved sound; in Normal and Snow mode it is considerably more dynamic. By choosing Sport mode, the SUV's performance takes on a particularly powerful note accordingly. In Individual mode, the driver can choose the tone to suit their individual preferences. In Eco mode, Dynamic Sound Boost produces no additional sound, and the car sounds very quiet.

INTERVIEW

Radek Hošinský
Coordinator – Exhaust Systems, Catalytic Converters

Mr Hošinský, in what way does Dynamic Sound Boost improve the natural sound of the exhaust system?
Dynamic Sound Boost modulates, i.e. complements or completes, the original sound of the vehicle. However, this is not purely two sounds coming together. Both the original sound and the sound produced by Dynamic Sound Boost are made up of sound waves with different frequencies and amplitudes or intensities. Therefore, in some frequency ranges, mixing the two sounds can result in them coming together; in other frequency ranges, they cancel each other out whereby the sound of the vehicle is, for example, sportily tuned. In this way, the car's acoustic character can be adapted for different driving modes (Sport/Eco/Normal/Comfort).

What is the key difference for the occupants in comparison to the Sound Generator?
The biggest difference between Dynamic Sound Boost (DSB) and the Sound Generator is that DSB has an effect both inside and outside of the vehicle. To put it simply, the DSB system is an alternative to an exhaust system with a sporty note.

What advantages does Dynamic Sound Boost have to offer?
The advantage of the DSB system is that it allows you to reconstruct the vehicle's overall image, i.e. including the vehicle's exterior sound, even in cars with a diesel engine, where this is not possible using the exhaust system.
Another undisputed advantage is that you can control the DSB system through the in-car systems – the intensity of the sound modulation, for example, can be altered depending on the driving mode – or switch off the DSB system completely.

Does the sound from DSB come directly from the exhaust system?
The sound comes directly from the actuator in the ŠKODA KODIAQ RS. The actuator is mounted near the exhaust system's tailpipes but is not physically connected to the exhaust system. This position is important for ensuring the correct interaction with the exhaust system. It enables the desired authenticity that corresponds with the vehicle image to be achieved.

**This information is provisional and subject to change. The latest data can be found in the digital press kit at: www.skoda-storyboard.com/r/kodiaq-rs-en.*

The fuel-consumption and emissions figures given have been calculated in accordance with the method of measurement prescribed by law. Since 1 September 2017, certain new cars have already been type-approved in accordance with the Worldwide Harmonized Light Vehicles Test Procedure (WLTP), a more realistic test procedure for measuring fuel consumption and CO_2 emissions. As of 1 September 2018, the WLTP has replaced the New European Driving Cycle (NEDC). Fuel-consumption and CO_2 emissions figures calculated in accordance with the WLTP are in many cases higher than those calculated in accordance with the NEDC due to the WLTP's more realistic testing conditions.

It is currently still compulsory to communicate the NEDC figures. If new cars are type-approved in accordance with the WLTP, the NEDC figures are deduced from the WLTP figures. Until it is compulsory to provide them, the WLTP figures can be given voluntarily as additional information. If the NEDC figures are given as ranges, they do not refer to one specific vehicle and do not form part of the offering. They are only used for the purpose of comparing various vehicle types. Optional extras and accessories (add-on parts, tyre format etc.) may alter the relevant vehicle parameters such as weight, rolling resistance and aerodynamics, and, in addition to the weather conditions, traffic conditions and individual driving style, may influence a vehicle's fuel consumption, power consumption, CO_2 emissions and driving performance.

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ŠKODA AUTO
- was founded during the pioneering days of the automobile in 1895, making it one of the longest-established car companies in the world.
- currently offers its customers nine passenger-car series: the CITIGO, FABIA, RAPID, SCALA, OCTAVIA, KAROQ, KODIAQ, as well as the KAMIQ (in China) and the SUPERB.
- delivered more than 1.2 million vehicles to customers around the world in 2017.
- has been a part of Volkswagen Group since 1991. Volkswagen Group is one of the most successful vehicle manufacturers in the world. In association with the Group, ŠKODA AUTO independently develops and manufactures vehicles, as well as components such as engines and transmissions.
- operates at three locations in the Czech Republic; manufactures in China, Russia, Slovakia, Algeria and India mainly through Group partnerships, as well as in Ukraine and Kazakhstan with local partners.
- employs over 35,000 people globally and is active in more than 100 markets.
- is pressing ahead with the transformation from a traditional car manufacturer to the ‘Simply Clever company for the best mobility solutions’ as part of the ŠKODA 2025 Strategy.