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Audi TT RS Coupé and Audi TT RS Roadster: the sporty spearhead of the series

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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.

Compact version

Dynamic duo: TT RS Coupé and TT RS Roadster

Audi is sending the most powerful TT ever into the competitive field. Its newly developed five-cylinder engine delivers 400 hp – accompanied by unmistakable engine sound. The Coupé and Roadster are celebrating their world premieres at the Beijing Motor Show.

Muscular front end, large air inlets, low-positioned spoiler, fixed rear wing – at first glance, the Audi TT RS* clearly hints at just how much power there is under its streamlined skin. Its new five-cylinder aluminum engine delivers 400 hp, which is 60 hp more than the power of the previous model. A full 480 Newton-meters (*354.0 lb-ft*) of torque is applied to the front and rear wheels, and a traction control system manages its distribution for maximum acceleration with minimal slip. As a result, the Coupé takes 3.7 seconds to sprint from 0 to 100 km/h (*62.1 mph*), and the Roadster takes 3.9 seconds. No other TT has sprinted this fast. The brilliant torque is accompanied by typical five-cylinder sound – which is music to the ears of horsepower purists. This sound passes through the RS exhaust system and is projected to the surroundings via two large oval tailpipes. Other eye-catching features at the rear are the new OLED lights in 3D design, which are being implemented for the first time in a production Audi.

This much power requires a stiff chassis setup. At a height of just 1.34 meters (*4.4 ft*), the Audi TT RS is low to the asphalt, and it is both light-footed and under control as it conquers curves. The direct steering ratio gives the driver the feeling of being one with the road. No matter how intensively the driver turns the grippy sport steering wheel, the low-mounted sport seat with the strong contours of its side bolsters holds the driver in position. In the Roadster, a switch initiates open-air driving fun. It opens the car's soft top – even while driving at speeds up to around 50 km/h (*31.1 mph*).

Inside, the TT RS has an extremely sporty appearance – with aluminum or carbon trim elements and RS logos. As in the Audi R8, the driver starts the engine directly from the steering wheel – a feature inspired by car racing.

The vehicle handling system can also be operated from an extra set of satellite controls. If drivers wish, they can modify the character of the TT RS over four modes – from comfort-oriented to emphatically dynamic. The instruments are focused entirely on the driver. The fully digital Audi virtual cockpit with its 12.3-inch screen bundles all key information – from driving speed to engine rpm and navigation. And that is not all. A special RS screen displays information on tire pressure, torque and g-forces. When the engine rev limit is reached, a shift light requests that the driver upshift via the steering wheel paddle or selector lever.

To always stay up-to-date, the driver can call upon the extensive infotainment content. Audi connect is bringing a wide variety of services on-board, which can deliver the right information – whether you are looking for parking, travel or traffic information, or inquiring about fuel prices, the weather or online news. Passengers can also tweet on the road, and upon request the system can read the messages aloud. They can connect their smartphone or tablet via the Wi-Fi hotspot and surf the world wide web. Select smartphone apps can be mirrored directly into the Audi virtual cockpit. The smartphone battery is charged inductively in the center console. Then the smartphone is also coupled to the vehicle's antenna for optimal reception, and it connects the driver with the desired contact person when prompted. A practical feature is that the microphones of the hands-free system are integrated into the seat belts in the Roadster, which guarantees high speech quality.

The TT RS Coupé and TT RS Roadster launch in fall 2016. Prices for the Coupé start at 66,400 euros, and the Roadster is listed at 69,200 euros.

Summary

Stronger than ever: new TT RS Coupé and new TT RS Roadster

The sound: inimitable five-cylinder. The performance: tremendous at 294 kW (400 hp). The traction: inexhaustible thanks to quattro drive. As the sporty spearhead of the TT series, the new TT RS* is to be marketed under the Audi Sport label. At the Beijing Motor Show, Audi is presenting its Coupé and its Roadster for the first time to the world's public. Sales in Europe will begin in fall 2016.

“The new aluminum five-cylinder engine delivers 400 hp, which is 60 hp more than its predecessor,” says Dr.-Ing. Stefan Knirsch, Audi Board Member for Technical Development. “Together with the quattro drive, it ensures sporty driving pleasure with maximum traction. Audi uses Matrix OLED technology in the rear lights for the first time.”

Impressive performance: the new five-cylinder engine

A jury of international motor journalists has voted the 2.5 TFSI “Engine of the Year” six times in a row. Now Audi has further developed the five-cylinder engine in all areas – with lightweight construction measures, reduced internal friction and increased power delivery. As a result, the turbo engine gains a good 17 percent increase in performance at an unchanged capacity of 2,480 cc. At 294 kW (400 hp), it is more powerful than ever before. The maximum torque of 480 Nm (*354.0 lb-ft*) is available between 1,700 and 5,850 rpm. It ensures fantastic pulling power, which accompanies the unmistakable sound. Cylinders positioned directly beside each other and far away from each other fire in alternation. This brings with it a very special rhythm. The TT RS Coupé accelerates from 0 to 100 km/h (*0 to 62.1 mph*) in 3.7 seconds, the Roadster in 3.9 seconds – this corresponds to the level of a supercar. Audi regulates the top speed at 250 km/h (*155.3 mph*), or at 280 km/h (*173.9 mph*) upon request. Despite increased performance, the fuel consumption of the TT RS Coupé is only 8.2 liters per 100 kilometers (*28.7 US mpg*); the TT RS Roadster uses 8.3 liters (*28.3 US mpg*) on average.

For the best traction and plenty of driving pleasure: the quattro drive

The forces of the 2.5 TFSI engine flow via a seven-speed S tronic, which shifts at lightning speed, to the quattro permanent all-wheel drive. Its multi-plate clutch distributes the power freely between the axles. This provides strong grip and immense driving pleasure. The wheel-selective torque control makes handling even more agile and safe. Using the Audi drive select system, the driver can influence the quattro drive and other components such as the steering, S tronic, engine characteristic and exhaust flaps. The four modes available for this are comfort, auto, dynamic, and individual.

Pure dynamics: the chassis

In addition to its light weight, the Audi TT RS has its sporty chassis to thank for its outstanding handling. The direct steering provides close contact with the road and makes it a pleasure to drive challenging winding stretches.

At the front axle, ventilated and perforated steel discs are in action behind the 19-inch wheels – or 20-inch forged lightweight wheels as an option.

Alternatively, lighter and particularly abrasion-resistant carbon-fiber ceramic discs are available. At the back, a steel monoblock disc is used.

As an option, Audi supplies RS sport suspension plus adaptive dampers in magnetic ride technology. In this case, the damping characteristics can be influenced electronically. The control technology is integrated into the driving dynamics system known as Audi drive select.

New feature: Matrix OLED lights

For the first time in a series-production Audi, Matrix OLED technology (organic light emitting diode) is used in the rear lights as an option. These emit an extremely homogeneous, high-contrast light. The light can be continuously dimmed, it does not cast any shadows and does not require any reflectors – this makes the OLEDs in 3D design efficient, light and visually impressive. Each rear light contains four wafer-thin units which become smaller from the inside out. The biggest bears the TT logo and the four Audi rings. The TT RS has LED rear lights and LED headlights as standard. Alternatively, the latter are available as intelligently controlled Matrix LED units.

Athletically streamlined: the exterior design

Large air inlets, a Singleframe grille with a newly designed honeycomb grille and quattro logo, a fixed rear wing and two large, oval exhaust tailpipes – the new TT RS Coupé and the new TT RS Roadster exude concentrated power. Along the flanks, aerodynamically-shaped side sills emphasize the dynamic design. Both models measure 4.19 meters (*13.9 ft*) in length, 1.83 meters (*6 ft*) in width and 1.34 meters (*4.5 ft*) in height.

Inspired by racing cars: the cockpit

Controls and display in the new TT RS are focused completely on the driver. All information is displayed as standard on the fully digital Audi virtual cockpit with 12.3-inch screen. The driver can choose from three views, including a special RS screen that highlights the rev counter and provides information on tire pressure, torque, and g-force, among other things. The Audi virtual cockpit also displays a shift light which informs the driver that the engine speed limit has been reached. For the first time in the RS portfolio, the RS sport leather steering wheel with shift paddles has two operating satellite buttons for turning the engine on and off as well as the driving dynamics system known as Audi drive select, in addition to multifunction buttons. This means that the driver's hands stay on the wheel at all times. The driver can influence the exhaust flap control via the sound button on the center console.

Best entertainment: infotainment and Audi connect

Audi also offers a huge amount of high-end infotainment technology. The options include MMI navigation plus with MMI touch including free text search and natural voice control, as well as the Audi connect online module with Wi-Fi hotspot. Using Audi phone box, compatible cell phones can be charged inductively and paired with the onboard antennae for optimal reception. The Audi smartphone interface displays selected apps from the cell phone directly in the Audi virtual cockpit. The Bang & Olufsen sound system is a highlight for fans of excellent acoustics.

Full version

TT RS Coupé and TT RS Roadster – driving pleasure at the highest level

400 hp power output, from 0 to 100 km/h (62.1 mph) in 3.7 seconds, top speed of up to 280 km/h (174.0 mph): With the new aluminum five-cylinder engine, the TT RS Coupé* and TT RS Roadster* deliver outstanding performance. Available for the first time in a series-production Audi: **OLED rear lights.** Like the Audi virtual cockpit and the comprehensive infotainment range, they demonstrate “Vorsprung durch Technik”.

“The newly developed turbo five-cylinder engine, with which we are continuing our great tradition from the 1980s, conveys pure emotion,” says Dr.-Ing. Stefan Knirsch, Audi Board Member for Technical Development. “The TT RS now provides 400 hp and combines driving pleasure with efficiency through innovative technologies.”

Lighter and stronger than ever before: the 2.5 TFSI engine

The five-cylinder engine is a modern classic. A jury of international motor journalists has voted the 2.5 TFSI “Engine of the Year” six times in a row. Now Audi has again added to this and is using a completely newly developed turbo engine in the TT RS. It achieves a good 17 percent more performance from the unchanged 2,480 cc capacity – 294 kW (400 hp) means a specific value of 161.3 hp per liter. The maximum torque of 480 Nm (354.0 lb-ft) is available between 1,700 revs and remains constant up to 5,850 rpm. This means that the new Audi TT RS Coupé accelerates from 0 to 100 km/h (0 to 62.1 mph) in 3.7 seconds, the Roadster takes 3.9 seconds. The top speed is regulated at 250 km/h (155.3 mph) as standard; upon request Audi will increase the top speed to 280 km/h (174.0 mph).

At less than 50 centimeters (19.7 in) in length, the 2.5 TFSI engine is extremely compact and is 26 kg (57.3 lb) lighter than the previous model. Its crankcase is made of aluminum, which alone saves 18 kg (39.7 lb). The overall weight of the new TT RS and its axle load distribution benefit significantly from this. Elaborate measures reduce internal friction while at the same time increasing power output.

The cylinder barrels are plasma-coated; the crankshaft main bearings have been made 6 mm (*0.2 in*) smaller in diameter. The crankshaft is hollow bored and is therefore 1 kg (*2.2 lb*) lighter; the aluminum pistons integrate channels for cooling oil. In the short warm-up phase after a cold start, the switchable water pump does not circulate the coolant in the cylinder head – the 2.5 TFSI engine reaches its operating temperature more quickly. This lowers the coefficient of friction and reduces fuel consumption. Despite increased performance, the TT RS Coupé consumes just 8.2 liters per 100 kilometers (*28.7 US mpg*); the TT RS Roadster uses 8.3 liters (*28.3 US mpg*) on average.

The gas exchange of the five-cylinder engine is designed for high throughput. The large turbocharger compresses the intake air with up to 1.35 bar of pressure. The intercooler with its efficiency level of 80 percent reduces the temperature for the highest possible oxygen percentage. Intake and exhaust camshafts can be adjusted as required. On the exhaust side, the Audi valvelift system (AVS) changes the duration of valve opening depending on the throttle and engine speed at two levels – for moderate use at low and partial throttle as well as slower throttle response and increased tractive power at full throttle. For better mixture preparation, the new 2.5 TFSI engine works with a dual injection system. It provides the option of injecting fuel into the inlet manifold as well as directly into the combustion chamber. The angle, duration and type of injection can be variably optimized for each engine operation point.

The firing interval is 144 degrees: Based on the 1-2-4-5-3 firing order, cylinders positioned directly beside each other and far away from each other fire in alternation. This results in a very special rhythm and character. The uneven number of cylinders results in harmonic frequencies that accompany the basic tone. The engine control unit also contributes to the unmistakable sound. At higher throttle, the flaps in the exhaust system open for an even fuller sound. The driver can control the exhaust flap both with the standard RS exhaust system and with the optional RS sport exhaust system with black tailpipe trims using the sound button on the center console.

Lightning speed: the seven-speed dual-clutch transmission

The seven-speed S tronic with lightning-speed shifting is standard in the new Audi TT RS models. The dual-clutch transmission impresses with high efficiency and a large spread – its lower gears are short and the seventh gear has a long transmission ratio to reduce consumption. A plate heat exchanger controls the temperature of the transmission oil; a new angle drive to the propeller shaft reduces the weight by about two kilograms (*4.4 lb*).

The driver controls the seven-speed S tronic with the selector lever and the standard shift paddles on the sport leather steering wheel. When starting, a launch control system manages the maximum acceleration with minimum tire slip.

Agile handling and superior stability: the quattro drive

The new TT RS uses quattro permanent all-wheel drive. The electro-hydraulic multi-plate clutch is compact and light – its position at the end of the propeller shaft benefits the axle load distribution. The new quattro driving dynamics software continuously calculates the torque sent to the rear suspension. In comparison with the previous model, this is done more precisely, as the regulation of the driving status can be determined more exactly. As a result, the TT RS is even more agile. The software records the rear axle torque and, based on this, calculates the electricity that controls the electronically controlled oil pump. The resulting hydraulic pressure presses the plates together with up to 40 bar and thus transfers the torque to the rear axle.

If the new TT RS is cornering at high speed, the clutch can partially send the drive forces to the rear axle already when cornering. During load changes, the distribution of torque ensures that the TT RS turns precisely into the corner. Even when drifting on a surface with a low coefficient of friction, it guarantees high control and reliability.

In the limit zone, the quattro drive operates in close tandem with wheel-selective torque control, an intelligent software feature of the Electronic Stabilization Control (ESC). It gently brakes the inside wheels, making handling even more fluid and stable. For controlled drifts, the ESC offers an RS-specifically tuned sport setting. It can also be fully turned off at a button.

The electronic management of the multi-plate clutch is integrated into the Audi drive select driving dynamics system for the first time in the TT RS. The modes available are comfort, auto, dynamic and individual. They influence the quattro drive, the seven-speed S tronic, the steering, the engine characteristic and the exhaust flaps. In dynamic mode, the multi-plate clutch sends the forces to the rear axle earlier and to a greater degree. The characteristics of the aforementioned technical components can be freely configured in the individual driving program.

Top technology for high driving pleasure: the RS sport suspension

Targeted modifications make the chassis with the technically elaborate four-link rear suspension even more dynamic and precise. The new TT RS turns into corners spontaneously, almost voraciously, and drives through them – guided by communicative steering – in a manner that is both controlled and relaxed. The progressive steering, whose ratio becomes ever more direct with increasing steering input, is tuned to be RS-specifically sporty.

The setup of springs and dampers is stiff, the body is ten millimeters (*0.03 in*) lower than on the base model. This also applies for the optional RS sport suspension plus with Audi magnetic ride where the damping characteristic can be changed electronically using Audi drive select.

The TT RS Coupé and the TT RS Roadster are fitted as standard with 19-inch cast wheels in a five-arm polygon design with size 245/35 tires. As an option, Audi supplies 20-inch forged lightweight wheels in a 7-spoke rotor design and tires of size 255/30. Both wheel types are available in silver, matt titanium look or gloss anthracite black. The recessed hubs of the 20-inch wheels are inspired by motorsport.

The braking system in the new TT RS packs a real punch. The internally ventilated, perforated steel discs on the front axle are 370 millimeters (*14.6 in*) in diameter. Stainless steel pins join the friction ring to the aluminum brake disc chambers to dissipate the heat quickly. The eight-piston brake calipers with the RS logos are painted black (or optionally red).

Alternatively, the front brake discs are available in carbon-fiber ceramic. They are particularly abrasion-resistant and light. In this case, the brake calipers are painted grey. At the rear, monoblock discs with 310 mm (12.2 in) diagonals are used.

For the first time in a series-production Audi: Matrix OLED rear lights

The TT RS is equipped with LED rear lights as standard. Upon request, Audi presents an innovation. Matrix OLED rear lights (organic light-emitting diode) in 3D design. Their planar light is extremely homogeneous and high-contrast and it can be dimmed variably. It does not cast any shadows and does not require any reflectors or light guides. This makes the OLED units efficient and light.

In each rear light there are four wafer-thin lighting elements that become smaller from inside to outside. The biggest one bears a TT logo and the four Audi rings. The light show when turning on the ignition is spectacular: The light runs in a fast loop over all four units. Lastly, an arrow-shaped, visually homogeneous LED light guide lights up, which complements the OLED rear light. The dynamic turn signals, which run in the direction desired by the driver, are located at the lower edge of the rear lights. Reflectors, reversing lights, and rear fog lights are positioned in the upper zone.

Sporty stature: the design

The new TT RS Coupé and the new TT RS Roadster also display their inner strengths on the outside. Three figures summarize the proportions: 4.19 m (13.7 ft) long, 1.83 m (6 ft) wide and only 1.34 m (4.4 ft) high. The Audi designers have kept the timeless, puristic lines of the original TT and at the same time have reinterpreted numerous elements. In this way, they have enriched the exterior with striking facets.

The large Singleframe bears a quattro logo at the bottom and is made even more impressive by its honeycomb grille. The air inlets, behind which the additional water cooler sits, are in the same look. Strong contours surround them, angled bars divide them. A blade finishes the middle air inlet towards the bottom. LED headlights are standard, upon request Matrix LED units are available, which control the high-beam lights intelligently and with a high level of flexibility.

At the rear of the new TT RS models, the fixed wing sitting on two thin double struts is a real eye-catcher. Alternatively, Audi can deliver the Coupé and the Roadster with an automatically extending spoiler. Under the striking bumper there is a strongly profiled diffuser insert with four vertical fins, leading to the two elliptical tailpipes of the RS exhaust system at its sides. Along the flanks, the new TT RS model has aerodynamically shaped side sills. The result: a lower c_d value of 0.32 for the Coupé and 0.33 for the Roadster.

Audi delivers both models in nine colors, including the RS-specific tones of Nardo grey and Catalunya red, metallic. In addition to this, numerous customized paint finishes are available through the Audi exclusive program. The optional matt aluminum and gloss black styling packages set accents on the Singleframe, on the blade, on the RS rear wing, and on the diffuser insert.

Consistent lightweight construction: the body

With its composite construction concept, the chassis of both sport models represents a new evolutionary stage of the Audi Space Frame (ASF). The front end and the floor of the passenger compartment includes many hot-stamped steel components, which thanks to their extreme rigidity only require low wall thicknesses and are therefore very light. The structure of the passenger compartment as well as all outer skin sections are made of aluminum in the classic semi-finished product cast nodes, extruded profile and sheet metal.

The new TT RS Coupé has an unladen weight (excluding driver) of 1,440 kg (3,174 lb) – 10 kg (22 lb) less than the already very light previous model. Each one of its 400 hp only has to move 3.6 kg (7.9 lb). The new TT RS Roadster, which in comparison with the Coupé has additional reinforcements, has an unladen weight of 1,530 kg (3,373.1 lb). Its cloth hood weighs only 39 kg (86.0 lb) and is opened and closed electrically in ten seconds respectively – even when driving at up to about 50 km/h (31.1 mph). Audi supplies an electric wind deflector as standard; headroom heating for the RS sport seats can be ordered as an option.

Strong accents: the interior

The taut exterior design of the new TT RS models is continued in the interior. The cockpit with its slim instrument panel has clean lines and is clearly laid out. Particularly striking: the round ventilation nozzles that are prominently positioned in the center console and house the controls for the deluxe automatic air conditioning. The RS sport seats are fitted low, of lightweight build, have integrated head restraints, and strongly contoured seat side bolsters (with optional pneumatic adjustment).

The Alcantara upholstery on the RS sport seats features a diamond pattern. Embossed RS logos decorate the backrests. The seat upholstery in perforated fine Nappa leather, also in diamond pattern, is even more stylish. It is available in four color combinations: black/gray, black/red, Murillo brown/gray, palomino brown/gray.

Inlays are in Aluminum Race and optionally in carbon. The RS design packages in red and gray set color accents in the interior, including on the air vents, seat belts, and floor mats with the RS logo. Various leather packages that additionally upgrade elements of the interior complete the range.

The new Audi TT RS is a sports car with a high level of everyday usability. In the case of the 2+2 seater Coupé, the luggage compartment under the long tailgate offers a basic capacity of 305 liters (*10.8 cu ft*), which can be increased to 712 l (*25.1 cu ft*) by folding down the rear seat backs. The Roadster provides 280 l (*9.9 cu ft*) of luggage capacity.

As in motor sport: the operating concept

In the new TT RS, the controls are entirely focused on the driver. All important functions can be controlled without the driver having to take their hands off the steering wheel. In addition to the multifunction buttons, the standard RS sport leather steering wheel with shift paddles provides two large operating satellite buttons for turning the engine on and off, and for the Audi drive select driving dynamics system.

The standard Audi virtual cockpit is also reminiscent of the displays in a racing car. The 12.3-inch TFT screen displays all information in high-resolution, sophisticated graphics.

The driver can choose between three modes. The classic view places the speedometer and rev counter in the foreground, in “Infotainment” mode the focus is on the navigation map. On the RS screen, the focus is on the rev counter with integrated speed display. The other displays, such as torque, output, tire pressure, and g-forces, can be configured around this. The Audi virtual cockpit also displays a shift light which informs the driver that the engine speed limit has been reached.

Multi-faceted: the infotainment and equipment

The top of the infotainment offering is the MMI navigation plus with MMI touch. The menu structure with flat hierarchies is based on modern smartphones, including free text search. Furthermore, there is natural-language voice control, which understands simple questions and commands, for example “Where can I get gas?” or “I want to call Peter Miller.” The microphones for the hands-free system are integrated into the belt straps on the Roadster – this ensures high voice quality.

The Audi connect module serves as an ideal complement to the MMI navigation plus. It brings the brand’s Internet services into the car via the fast standard LTE, while the passengers can connect their mobile devices to the Wi-Fi hotspot. The Audi phone box in the center console wirelessly connects the cell phone to the car antenna per near-field coupling. With wireless charging based on the Qi standard, the current flows inductively from a coil in the base of the box to a receiver coil in the smartphone. For the first time, selected apps from the smartphone manufacturer can be mirrored directly from the mobile phone to the Audi virtual cockpit per Audi smartphone interface.

Ex-works, eight loudspeakers fill the interior with sound, with the optional Audi sound system there are nine and with the Bang & Olufsen Sound System there are 12. In the case of the latter, the surrounds of the woofers are illuminated by LED light guides.

Golden Fall: market launch

Marketed under the Audi Sport label, the new TT RS models will be launched on the European market in fall 2016. The Coupé prices start at 66,400 euros, the Roadster is listed at 69,200 euros.

Fuel consumption of the models named here

Audi TT RS Coupé:

Combined fuel consumption in l/100 km: 8.4 - 8.2** (*28.0 – 28.7 US mpg*);

Combined CO₂ emissions in g/km: 192 - 187** (*309.0 – 300.9 g/mi*)

Audi TT RS Roadster:

Combined fuel consumption in l/100 km: 8.5 - 8.3** (*27.7 – 28.3 US mpg*);

Combined CO₂ emissions in g/km: 194 - 189** (*312.2 – 304.2 g/mi*)

**Figures given in ranges depend on the tires/wheels used