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MOTORSPORT INFORMATION

Audi R8 LMS GT4 (2020)

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Audi Sport in GT4 racing

Audi R8 LMS GT4 sporting a new look

After two years with a total of 18 title wins worldwide, Audi Sport customer racing updated the Audi R8 LMS GT4. From the 2020 season onward, customers will benefit from enhanced dynamics and setup options allowing for greater customization. A new look rounds out the car's appearance.

The Audi R8 LMS GT4 is a winner: Whether in North America, Europe or Asia, in competition with the race cars of up to 14 other manufacturers, the mid-engine coupe from Germany proved its fortes in the customer's hand on many occasions in 2018 and 2019. Sprint race wins, championship successes in the United States, Canada, on all-European level and in France, plus endurance racing class wins in an 8-hour race, a 12-hour competition, two 24-hour rounds and a 25-hour race emphasize the capabilities of Audi Sport's GT entry-level model. It is permitted to race in more than 25 competitions from America to Australia. Customers benefit from a worldwide network for service and support that Audi Sport has established with the help of its satellites in Asia, Australia and North America.

The body of the Audi R8 LMS GT4, which has been updated for the 2020 season, featuring new bumpers at the front and rear, a modified front splitter and revised side skirts seamlessly reflects the new look of the R8 family. In terms of technology, Audi relies on new dynamics: New eight-level settings for ABS and traction control allow for perfect fine-tuning in the chase for good lap times. As before, a 5.2-liter V10 engine transmits its power to the rear wheels via the S tronic seven-speed dual clutch transmission.

"The Audi R8 LMS GT4 is a firm pillar of our program both in terms of racing and business aspects," says Chris Reinke. "By upgrading this product, we responded to customer wishes. Introducing just a few, albeit useful innovations, in this price-sensitive GT entry-level segment was a key factor. I'm sure that the updated race car will thrill the teams and continue the previous string of success."

The price for a new Audi R8 LMS GT4 for the 2020 season remains unchanged at 198,000 euros (plus VAT). Existing customers may update their older models with an upgrade kit.

Interview with Chris Reinke

“Favorably priced and useful package”

Chris Reinke has been Head of Audi Sport customer racing since 2016. In an interview, he explains why the Audi R8 LMS GT4 has received a product upgrade after two years.

The Audi R8 LMS GT4 has been successful in the customer’s hand for two years.

Why has Audi Sport customer racing updated it now?

Without a doubt, the car has already clinched many nice successes, so there was no urgent need to update it. Even so, there were two reasons that motivated us to offer an upgrade to our customers: First, the race car now sports the new look of the production model and therefore seamlessly matches the sports car family. Second, we specifically optimized some areas that represent an equally affordable and useful package for customers and that also enhance driving dynamics. Customers should feel that now they’re using an even better product.

What exactly has Audi Sport customer racing developed?

Two key features impart an even greater sense of dynamics to the driver. TC traction control and the ABS system were standard features before but can now be adjusted with great precision in eight levels. This is done very easily by using a rotary switch on the new steering wheel that has been adopted from the Audi R8 LMS GT2. Amateurs and gentleman drivers, who account for our regular customers in GT 4 racing, are now able to set up the race car to suit their preferences according to track and weather conditions even better than before.

Right in the first two years, you found customers for the Audi R8 LMS GT4 around the world. What are your next goals?

In North America and in several European countries, the car is already widely used and a fielding opportunity has emerged in South Africa as well. However, in Asia and Australia, the multi-make GT4 category has not yet come to be accepted to the same extent. There are already some customers relying on the GT4 race car in the Audi Sport R8 LMS Cup but we’d like to see the model in many other Asian and Australian series. Basically, we feel that the GT4 class has the potential of thrilling new customers there, too.

Audi R8 LMS GT4

Even easier and safer to drive

The Audi R8 LMS GT4 stands for production-based racing and features a product upgrade for the 2020 season. The race car that is directly derived from the road-approved sports car is powerful, offers a high level of safety yet remains economical in terms of purchasing cost and cost of ownership. It is the ideal race car for amateur drivers and completely in line with the spirit of the GT4 regulations that carry on a great tradition of fascinating road-going sports cars for GT racing. After an electronic stability program has facilitated driving since 2019, eight-level control systems for ABS and traction control will start to enhance handling once more in 2020.

The close kinship between the refreshed version of the Audi R8 LMS GT4 and the current production models is instantly visible. The current front apron with its redesigned flicks, the modified front splitter and rear apron, plus the new side skirts even visually distinguish the model year 2020 from the previous version, plus it features upgraded technology.

The V10 engine delivering up to 364 kW (495 hp) continues to power the Audi R8 LMS GT4 unchanged. Its output results from the Balance of Performance rating that is designed to ensure fair competition between all race cars of the GT4 class. The 5.2-liter naturally aspirated engine is produced by Audi Hungaria at the Győr location and only receives a new exhaust system, the restrictor plate prescribed by the regulations and modified mapping of the production-level electronic control unit (ECU).

As quattro four-wheel drive is prohibited in the GT4 class, Audi Sport utilizes a 7-speed double-clutch transmission combined with rear-wheel drive. Two electro-hydraulically operated wet-type multi-plate clutches ensure shortest shifting events without tractive force interruption. A mechanical limited slip differential is used on the rear axle. This form of power transfer, which has been adopted from road-going cars, holds up to all loads in racing as well.

The suspension of the road-going version featuring double wishbones on all four wheels offers perfect prerequisites for racing. Rebound- and compression-adjustable racing-specific dampers and springs, as well as adjustable stabilizers, complete the suspension system. A steel disc braking system for racing with modified brake calipers in combination with the ABS control system ensures optimum deceleration. For the first time, the intervention of the anti-lock control system can be adjusted in eight levels. Special brake cooling ducts at the front and rear guarantee braking

stability also in racing. Like the ABS system, the TC traction control system can be adjusted to individual preferences by the driver starting in 2020. The electronic stability program in turn enhances active safety by means of brake interventions at the limit.

For the steering system, Audi Sport has adopted the hydraulic rack-and-pinion unit from the GT3 model, albeit with an electrically operated pump. In model year 2020, customers start receiving the steering wheel from the GT2 model with the rotary switches for the ABS and TC functions. In spite of the cost benefits offered by the 5-hole cast aluminum wheels they have been specifically designed for racing purposes. Audi Sport also offers a tire pressure warning system as an option.

In terms of passive safety, Audi Sport traditionally sets high standards. In addition to standard equipment such as a fire extinguishing system, safety nets for the driver and crash foam in the doors, Audi Sport exceeds the minimum requirements in many areas. The Audi Sport customer racing PS03 safety seat represents the most recent evolution of the PS01 model. It is standard equipment in the GT4 model as well as in the Audi customer racing models for GT3, GT2 and TCR racing. Like in the GT3 version of the R8 LMS the PS03 seat is mounted to the safety cage using the so-called 6-point fastening which results in additional safety. The safety nets are attached to the seats for optimum connection, and the 6-point harness corresponds to the GT3 standard. The axial and height adjustable steering wheel in combination with the seat are optimally suited for diverse body sizes. The team can fit the seat shell in various positions longitudinally, ensuring a safe and comfortable setup for each driving posture. A roof hatch facilitates rescue operations following an accident. To reduce the loads acting on the driver's spinal column, the helmet can be removed upward and a Kendrick Extrication Device applied. Inside the car, the steel safety cage is mounted at six points to the Audi Space Frame (ASF) featuring an aluminum-CFRP mixed-material construction, plus there are two connections to engine bay braces. Audi Sport delivers the R8 LMS GT4 with an FT3 safety fuel cell for which a dripless rapid-refueling system is an available option.

In the ergonomically designed cockpit, the driver can activate and adjust various driving functions via the steering wheel and the center console. An air conditioning system is standard and particularly helps amateurs and gentlemen drivers maintain their concentration even across longer racing distances. Like in the GT3 version of the R8 LMS the pedals by means of a pneumatic release system can be longitudinally adjusted in several steps. A central multi-function display within the driver's view and a data logger create transparency with respect to operating conditions and data analysis.

The body components are largely identical to those of the production car but have been optimized to support the race car's aerodynamics and thermal management of the cooling and braking systems. The redesigned front air intakes feed the radiator, air conditioning condensers, and the brake and cockpit ventilation systems. The race car's aeropack, for instance in the areas of the front splitter and the rear wing, also benefits from the geometry of the Audi Sport Performance Parts.

The GT4 race car is closely oriented to the production model. Its chassis is produced at the same manufacturing facilities as the one of its road-approved sibling. Consequently, there are synergies for the Audi R8 LMS GT4 in terms of production and the Group-wide pool of components as well as service and maintenance – directly benefiting the customers.

Technical data

Audi R8 LMS GT4

As of March 2020

Model	Audi R8 LMS GT4 (2020)
Vehicle	
Vehicle type	Sports car according to SRO GT4 regulations
Chassis	Audi Space Frame (ASF) featuring an aluminum CFRP composite design with steel roll cage
Bodywork	Fiber composite materials and aluminum
Safety concept	Energy-absorbing aluminum crash structures front and rear. Rescue hatch in roof
Engine	
Type	90° V10 gasoline engine, longitudinally mounted in front of rear axle, four valves per cylinder, four double overhead camshafts, combined port fuel and gasoline direct injection
Emission control system	Upstream and downstream oxygen sensor, one metal catalytic converter per bank
Engine management	2 x Bosch MED 17 (master-slave concept)
Engine lubrication	Dry sump (adopted from production)
Cubic capacity	5,200 cc (bore x stroke 84.5 mm x 92.9 mm)
Power output	Variable via restrictor up to 364 kW (495 hp) *
Torque	Over 550 Nm *
Drivetrain/transmission	
Type of drive	Rear-wheel drive, ASR traction control (eight-stage), ESC electronic stability control (three-stage)
Clutch	Two electrohydraulically operated wet-type multi-plate clutches
Transmission	7-speed double-clutch S tronic transmission with paddle shifters
Differential	Mechanical limited-slip differential
Drive shafts	Constant-velocity joint shafts
Suspension/steering/brakes	
Steering	Electrohydraulic rack-and-pinion steering
Suspension	Double wishbones front and rear, suspension struts with coil springs and two-way gas pressure dampers. Ride height, toe and camber infinitely variable, three-way adjustable stabilizer front, two-way adjustable stabilizer rear
Brakes	Hydraulic dual-circuit braking system, GT3 steel brake discs front (380 x 34 mm) and rear (355 x 32 mm), GT3 brake calipers, ABS (eight-stage)
Wheels	5-hole cast aluminum wheels, front: 11" x 18" offset 63; rear: 12" x 18" offset 56
Tires	Front: 305/645 R18; rear: 315/680 R18
Weight/dimensions	
Length/width/height	4,496 mm/1,994 mm /1,240 mm
Wheelbase	2,650 mm
Dry weight acc. to homologation	1,460 kg
Fuel cell capacity	113 l minimum (FT3 safety fuel cell)
Equipment	
Fire extinguishing system	Acc. to FIA Standard 8865-2015
Controls	Height- and length-adjustable safety steering column, multi-functional steering wheel, quick-adjustable pedals mounted on rails
Seat system	Audi Sport Protection Seat PS03 acc. to FIA 8862-2009 with six-point mounting
Refueling system	Capless system, optionally Krontec RFC-88-TN
Air conditioning	Modified production air conditioning system
Electrical system	Production-level, modified for motorsport purposes
Price	EUR 198,000 (plus VAT)

* depending on BOP (SRO Balance of Performance)

The GT4 category

Production-based fascination

Even though the GT4 category has existed since 2007: This class of production-based sports cars only began to flourish in 2017 due to intensive marketing by the SRO Motorsports Group. By now, customers in America, Asia, Australia, Europe and South Africa are able to race with GT4 cars.

The idea is clear: GT4 race cars are not intended for factory-backed racing, but rather address privateers. Be they young beginners or seasoned gentlemen drivers: GT4 race cars impart a huge dose of fascination in return for a limited financial investment. The costs of purchase and ownership are affordable and the differentiation between GT4 and the more expensive, faster and more complex GT3 models is clear.

In terms of technology, the GT4 models are closely oriented toward the production models from which they are derived. The materials used, such as those of the bodywork, have to correspond to those of the production components as well. The SRO, on request, grants waivers only for few areas in exceptional cases. This strict limitation has two advantages: only individual assemblies can be optimized by means of racing-specific designs – this increases equality of opportunities. At the same time, the close kinship to the production car prevents escalating costs because the manufacturers are not allowed to develop and homologate generally more complex technology.

The most recent past has shown how successful these ideas are. Many countries and regions around the globe have adopted the GT4 category – either as a new competition or as part of existing platforms. In North America, the two most important racing series are on board – the IMSA Michelin Pilot Challenge and the Blancpain GT World Challenge America. The Canadian Touring Car Championship offers fielding opportunities as well. In Europe, the GT4 European Series and the FFSA GT4 France are extremely successful with fields of 40 entrants and more. In Eastern Europe, the Eset V4 Cup and the FIA CEZ are suitable platforms. Since 2019, the ADAC GT4 Germany has filled a previously existing gap in Germany, as does the GT4 South European Series on the Iberian Peninsula, the GT4 Scandinavia in the north and the continent-wide GT Cup Open Europe. In 2020, a new series with a Europe-wide calendar, the DTM Trophy, has been added. In Asia and Australia, many additional fields of activities are opening up. And, finally, an attractive racing opportunity for the Audi R8 LMS GT4 exists in the Audi Sport Seyffarth R8 LMS Cup as well.

GT4 fielding opportunities

GT4 around the world

There are numerous fielding opportunities for GT4 sports cars around the globe. In addition to racing series that are strictly dedicated to GT4, many mixed sports and touring car series offer further attractive national and international competitions. The GT4 race car is also at home in the Audi Sport Seyffarth R8 LMS Cup.

Asia

GT World Challenge Asia	www.gt-world-challenge-asia.com
China GT Championship	www.chinagt.net.cn/en
Super Taikyu Series	www.supertaikyu.com

Australia

Bathurst 12 Hour	www.bathurst12hour.com
Australian GT4	www.australiangt.com.au

Germany

Nürburgring 24 Hours	www.24h-rennen.de
ADAC GT4 Germany	www.adac-motorsport.de/adac-gt4-germany
Audi Sport Seyffarth R8 LMS Cup	www.audi-r8-cup.de
DTM Trophy	dtm.com/de/dtm-trophy
GTC Race	www.gtc-race.de
Spezial Tourenwagen Trophy	www.spezial-tourenwagen-trophy.de
Nürburgring Endurance Series	www.vln.de

Europe

Eset V4 Cup	www.eset-v4.com
FIA CEZ	www.cez-motorsport.com
GT Cup Open Europe	www.gtcupopen.net
GT4 European Series	www.european.gt4series.com

France

FFSA GT4 Series	www.ffsagt.gt4series.com
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Iberian Peninsula

Campeonato de España Resistencia	www.vlineorg.com/es/gt-cer
GT4 South European Series	www.gt4south.com

International

24H Series www.24hseries.com

Italy

Campionato Italiano Gran Turismo www.acisport.it/en/CIGT/home

North America

Canadian Touring Car Championship www.touringcar.ca
IMSA Michelin Pilot Challenge michelinpilotchallenge.imsa.com
Pirelli GT4 America www.world-challenge.com

United Kingdom

British GT Championship www.britishgt.com

Scandinavia

GT4 Scandinavia www.gt4series.se

South Africa

G&H Transport Extreme Supercars www.extremesupercars.co.za

Interesting details about the Audi R8 LMS GT4

Facts and figures

Background information, facts and figures pertaining to the Audi R8 LMS GT4 at a glance.

Did you know that ...

... the new Audi R8 LMS GT4 is ten millimeters longer than its predecessor? The new bumpers at the front and rear including the profile of the front splitter increase the car's overall length to 4,496 millimeters.

... up to 850 degrees centigrade are measured at the brake discs under full load?

... the S tronic dual clutch transmission for racing has to have a specific functional feature? Power transmission must be interrupted so that track marshals can push a stopped car out of the way. At the same time, a stopped car must be prevented from rolling downhill, which requires a locking system. A toggle in the cockpit enables both of these functions, but in the latter case is reversed: essentially, power transmission remains open but can manually be locked.

... the air jack system installed in the race car operates with a service pressure of 40 bar? Within two tenths of a second, it lifts the race car weighing 1,460 kilograms so that the mechanics can change the wheels.

... the oil pump of the engine pumps 180 liters per minute at maximum engine speed? In doing so, it draws 120 liters of air from the housing and 60 liters of oil. Consequently, with the dry sump tank having a capacity of eight liters, the oil flows through the reservoir back into the engine within just 7.5 seconds.

... the water pump of the engine circulates 240 liters of coolant at maximum engine speed? At that rate, it could siphon off the 96 cubic meters of water contained in a swimming pool with a length of twelve meters, width of four meters and a two-meter water level in six hours and 40 minutes.

... the use of natural fibers such as hemp and flax is prescribed for newly designed composite components in GT4 racing? The front splitter and the flicks of the Audi R8 LMS GT4 now contain such materials.

Program on four pillars

Audi's customer racing program began in 2009. Initially, Audi Sport customer racing with the R8 LMS focused on the GT3 category that was seeing worldwide growth. At the end of 2016, the teams were able to purchase the Audi RS 3 LMS for the TCR touring car class for the first time. Since the end of 2017, the Audi R8 LMS GT4 has been an additional pillar of the customer racing program. In 2018, the brand introduced the current evolution of the GT3 model. In 2019, Audi Sport presented the R8 LMS GT2. With that, the current program rests on four pillars.

The portfolio of Audi Sport customer racing is diverse, and the product range modern and closely oriented to the needs of the teams. The Audi RS 3 LMS delivering up to 257 kW (350 hp) nationally and internationally offers professional opportunities to enter touring car racing at moderate costs. In 2020, it is entering its fourth season. The Audi R8 LMS GT4 targets amateur drivers who would like to contest sprint or endurance races with an attractive, production-based sports car. For the 2020 season, Audi Sport presented an updated version of the sports car delivering up to 364 kW (495 hp). The GT3 version of the Audi R8 LMS has been on the grid as an evolution since the 2019 season. The race car with power output of up to 430 kW (585 hp) impresses with a balanced overall package and drivability that has been enhanced once again. The Audi R8 LMS GT2 with 470 kW (640 hp) that was presented in 2019 as well rounds out the range of power-plants at the top end. It specifically addresses gentleman drivers and sports car enthusiasts who are able to experience a new form of fascination also at track day events in it.

Audi is one of the most attractive manufacturers in international customer racing. In its first decade, across all model ranges, Audi Sport customer racing built a total of 563 race cars. Since 2015, Audi Sport customer racing has presented at least one new or updated model each year. The program that is both a racing and business success has become firmly established around the globe. In addition to the products, support is another key selling point for many teams: five contractual partners – two in Asia, one in Australia, one in the United States and one in Canada – cover the regional supply and support to the teams while Audi Sport customer racing based in Neuburg an der Donau takes care of the European markets.

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