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Tom Kristensen's exclusive Le Mans countdown – part 8

Ingolstadt, April 23, 2010 – In a weekly column Le Mans record winner Tom Kristensen gives some exclusive insights behind the scenes of the world's most famous endurance race and the preparation by Audi Sport Team Joest.

“During the 30-hour test at Le Castellet this week we had the opportunity of driving plenty of miles in the Audi R15 plus. So this is a good point in time to explain the cockpit of our diesel race sports car to you.

You can't compare the cockpit of an LMP1 with a road car in any respect. Even a genuine sports car like the Audi R8 LMS offers a lot more comfort than the R15 plus does. It is a thorough-bred race car that is totally designed for speed and efficiency and has a very direct power-assisted steering ratio.

Nevertheless, Audi Sport keeps trying to make the work easier for us drivers and to give us the best possible 'comfort' under the circumstances. For example, some of the details in the R15 plus have been modified compared with last year's R15. Some of the switches and buttons are now positioned on a console along the right-hand side of the seat. And the pit speed limiter that serves to prevent us from exceeding the speed in the pit lane is now located behind the steering wheel.

Speaking of the steering wheel: the surface texture has been changed too so that the steering wheel's grip is now even better than before. Only the controls we use most, like the gearshift, traction control (ASR) adjustment, brake balance adjustment, the high beam and the radio button, are located on the steering wheel, which is packed with electronics. This helps us keep a good overview of these functions.

The two ASR buttons are very important. In the race you always try to adjust the ASR to the conditions of the track and the tires – and these conditions constantly change during the race at Le Mans.



We constantly optimize and adjust the brake balance between the front and rear wheels as well. This for example depends on the temperatures which the sensors on the brakes transmit to the pits by a telemetry signal. The high beam button has a special additional function: if we push it for at least two seconds, the lights start flashing. We can use this to alert slower vehicles to us.

A display which can be freely programmed sits in a central position on the steering wheel. The mechanics and engineers use different screens than the drivers when starting up and checking the engine, for example. The most important information we need is the gear we've engaged, which is displayed particularly prominently, our lap time and the so-called delta time that lets us see in each sector whether we're losing or gaining time to the respective fastest lap. The display has a day- and a night-time mode.

Also located behind the steering wheel are the two paddle shifters we use for up- or downshifting. This means that even in tight hairpins when we heavily turn in the wheel we can keep both hands on it and shift at the same time.

In a modern race car small lamps typically show you when you've reached the engine speed at which you need to shift gears. Green, yellow and red LEDs light up one after the other. On red, we shift, which in the R15 is done by means of an electro-pneumatic system.

The steering wheel is cut at the bottom to make it easier for us to get in and out of the car. Just looking at pictures, you get no idea of how tight things are inside a cockpit and how difficult it is to pull our legs out from under the steering wheel when it's time for a driver change.

The seating position in the R15 plus is comparable to that of a Formula 1 car. The nose of the vehicle points upward to ensure optimum airflow underneath the car. This means your feet are in a very high position. Your heels are just below the level of your heart. This also influences your blood circulation, but you get used to that.

As you know, the R15 plus is an open-top vehicle. A small windshield that is optimally adapted to the seating positions of all three drivers keeps our helmets from being overly exposed to the air flow. Of course the aerodynamicists make sure that the windshield isn't too high or too wide because that costs top speed on the straights, which is a crucial factor at Le Mans.



The windshield, by the way, can be exchanged very quickly during a pit stop in case it's gotten too dirty – yes, believe it or not, we actually look through it – or if it's been damaged by stone chips or rubber from tire wear flying around the track.

Overall, the seating position in the R15 is very important. All three drivers have to sit similarly, even if their heights and builds differ. And of course you've got to be firmly strapped in to really get a good feel for the car.

The starting function of the R15 plus is another interesting feature: when it's turned off, the engine runs in regular mode. But when you push the button, the engine will run at a predefined rpm. That helps us move off quickly after a pit stop.

'Cut' is primarily used to reset the electronics. The 'event' button serves to flag a certain event, such as shifting event that didn't go perfectly, in the data logging system. This makes it possible later on for the technicians to take an especially close look at the data logged at that particular point in time to locate a potential fault.

The pedals are just like those in a production vehicle: the gas pedal is on the right, the clutch on the left, and the brake pedal in the middle, but we only use the clutch to start off from rest. Also, like in any road-going Audi, there's a footrest on the left which supports me while cornering.

In the DTM car I used to primarily brake with my left foot, but in the R15 I usually brake with my right one – particularly in front of the chicanes at Le Mans. Only when braking for a very short time like in front of fast corners I use my left foot.

By the way, compared to a 'normal' race car, conditions in the cockpit of the R15 plus are unusually quiet which is very pleasant for us drivers. The V10 TDI engine is a bit noisier and harsher than the V12 TDI from the R10. From a certain speed onward, you couldn't even hear the V12 TDI anymore at all, just the wind noise.

You perceive the engine of the R15 plus in all rpm ranges. But when you lift in a long bend, you can actually hear the squealing of the tires – and that's definitely unusual in a race car.

I'd really like to take you out on a lap in the R15 plus but there's simply not enough room on the passenger's side. But, from now on, when you see the pictures from our onboard cameras at Le Mans, you may have a better idea of the things that go on in our cockpit day and night."

Yours Tom Kristensen



AUDI Group sold around 950,000 cars in 2009. The Company posted revenue of €29.8 billion and an operating profit of €1.6 billion. Audi produces vehicles in Ingolstadt and Neckarsulm (Germany), Győr (Hungary), Changchun (China) and Brussels (Belgium). Aurangabad in India saw the start of CKD production of the Audi A6 at the end of 2007 and of the Audi A4 in early October 2008. The Company is active in more than 100 markets worldwide. AUDI AG's wholly owned subsidiaries include AUDI HUNGARIA MOTOR Kft., Automobili Lamborghini Holding S.p.A. in Sant'Agata Bolognese (Italy) and quattro GmbH in Neckarsulm. Audi currently employs around 58,000 people worldwide, including 45,500 in Germany. Between 2010 and 2012 the Audi Group is planning to invest around €5.5 billion in order to sustain the Company's technological lead embodied in its "Vorsprung durch Technik" slogan. By 2015, Audi plans to significantly increase the number of models in its portfolio to 42.

Audi has long been fulfilling its social responsibility on many levels – with the aim of making the future worth living for generations to come. The basis for Audi's lasting success is therefore formed by environmental protection, the conservation of resources, international competitiveness and a forward-looking human resources policy. One example of AUDI AG's commitment to environmental issues is the newly established Audi Environmental Foundation.