

ORECA 07

Media kit



*"Our history is our strength.
The next victory is our motivation"*



@Oreca



@Oreca #LicenceToWin

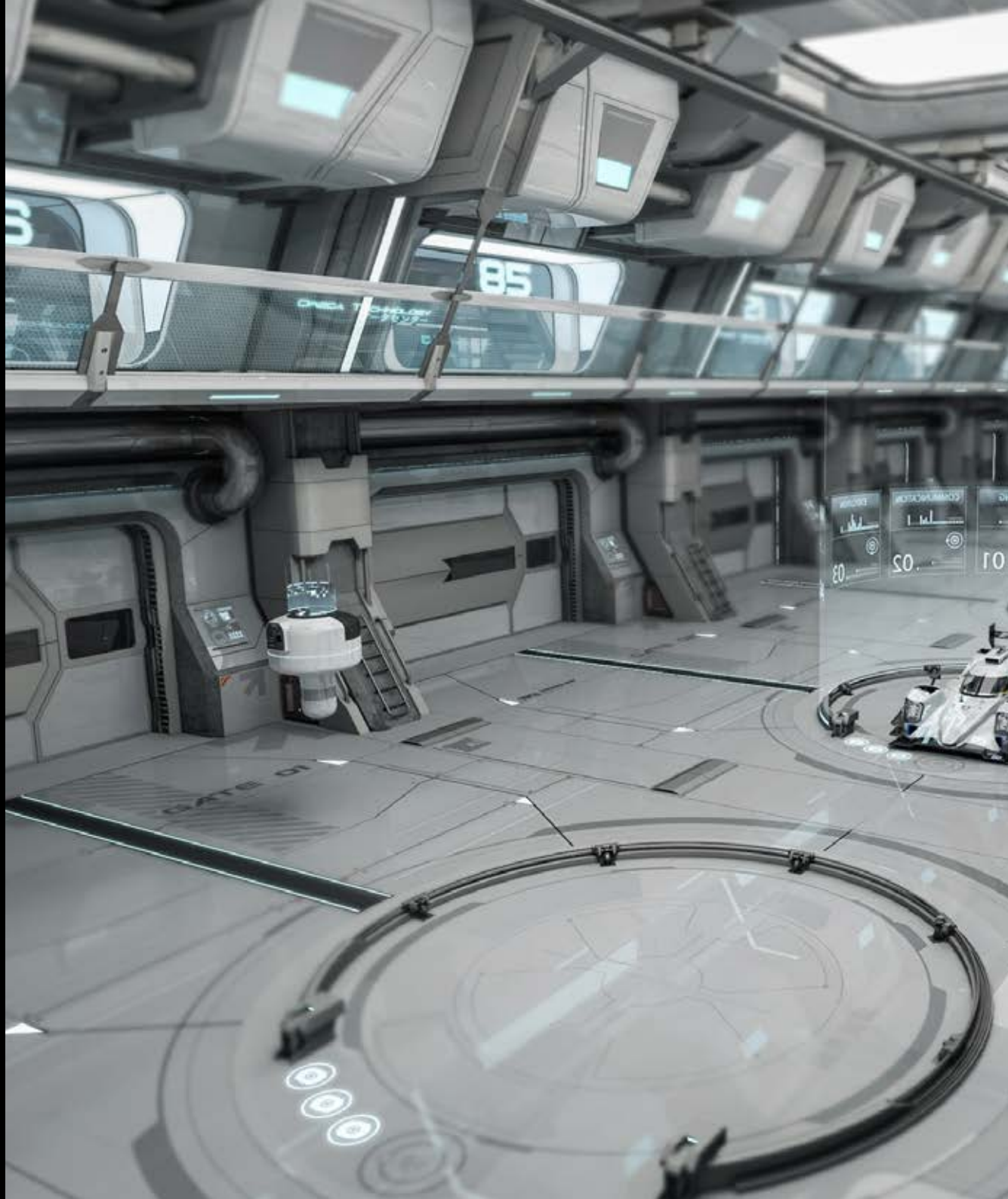


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ORECA 07 LM P2 - Technical Sheet

Chassis

- Monocoque: Carbon fibre & Honeycomb
- Length: 4.745 mm
- Width: 1.895 mm
- Height: 1.045 mm
- Front track: 1.570 mm
- Rear track: 1.550 mm
- Wheelbase: 3.005 mm
- Weight: 930 kg

Engine

- Gibson GK-428 : 4200 cc
- Type: Normally aspirated 90 degree V8
- Power output: 603 hp
- Max. revs: 9.000 RPM
- Lubrication: dry sump / staged oil pump
- Engine electronic control unit: Cosworth

Various

- Suspensions: double wishbones with pushrod
- Adjustable shocks, specifically developed by PKM
- Tyres, according to the teams choice: FRONT : 30-68/R18 , REAR : 31-71/R18
- Front rims: 12,5 x18
- Rear rims: 13 x18

Gearbox

- Supplier: Xtrac
- Type: Six-speed sequential
- Gear change: steering wheel-mounted paddles / Pneumatic paddle shift system
- Speeds: 6 + reverse

Brakes

- Ventilated carbon discs
- Calipers: 6 monobloc

Safety Equipment

- Six-point harness adapted for HANS system
- Safety rubber fuel tank

Bodywork

- Carbon – Kevlar Light lamination



Licence to win

by Hugues de Chaunac

Q. What is your inspiration behind this new ORECA 07?

A. "The work of the engineers on the details is impressive and, technologically, the level achieved is very high. I have the feeling that it gives a new outlook to the new LM P2 category. It's a huge leap forward. When I think back on the LM P1 cars we've had in our hands and look at the ORECA 07 now, what an evolution! It really has a different look and a style of its own."

Q. How important is the ORECA 07 for the Group ORECA?

A. "We don't really like to use the term outcome at ORECA but prefer to see it as a new step forward. Each time we built a new car, we crossed a new threshold: first between the ORECA 01 and the ORECA 03 – even though they actually belong to different categories – then with the ORECA 05 which is very special to us because it's the first closed-cockpit prototype carrying ORECA's name. With this ORECA 07, it's again different. It's also a large-scale project, an industrial project, but in the noble sense. We will be building more than a dozen cars in less than 4 months. Everybody is working on it. It's our technology showcase."

Q. The ORECA 07, is it only technology?

A. "No, it's actually not. When speaking about a car, one often tends to forget what's behind it. All the human resources required and time spent on research, conception, building, etc. All the different hidden aspects that cannot really be measured. And the enthusiasm as well as the motivation generated by it! Without forgetting that the ORECA 07 is also the symbol of our globalization since American, Asian and European teams will soon be racing with it."

Q. What's next?

A. "Lots of work for all ORECA departments because the entire group is involved. The links between the different departments are getting stronger. The development phase will be going on, the manufacturing will start before the first deliveries and the first public track test in the USA, etc. We will carry on! We are anxiously waiting for the first on-track battles with our rivals."

Q. To conclude, Licence to win...

A. "That's the goal! With the ORECA 03, we have written a beautiful story. With the ORECA 05, we've had two incredible years. As for the ORECA 07, it was designed with one purpose in mind: we wanted it to be the licence to win. We've worked on this and continue to do so with our customer teams. Here too, there are lots of human resources involved. And perhaps an irrational side too which is to do with our passion. Every team is specific and has its own character. We've established a specific relationship with each of them. I'm glad to see the ORECA 07 but I'm also happy to see the teams that will race with it. We often say that we win together, that we lose together. I also believe that we grow together."



*"Science without conscience
is but the ruin of the soul"*

Rabelais



ORECA's furthest-developed LM P2

by David Floury, Technical Director...

Q. What was the philosophy when the ORECA 07 was conceived?

A. "The ORECA 07 was conceived around the ORECA 05's monocoque and shares a certain number of the 05's mechanical components. The idea was to build on the success and the quality of the ORECA 05 while developing performance. Our concept was to design a completely new car around a base of existing components thus allowing the teams who own an ORECA 05 to update it to the 07, by trying to control the cost of conversion. This is in keeping with the philosophy of cost cap and allows the teams to pay off their investments over a longer period. This approach imposed a few compromises compared to a scenario where we would have started the whole project from scratch. Yet it also presented several advantages, allowing us to build a new car on a strong base that was already largely proven and thus focusing our energy and resources on the subjects that would help to obtain a better final product and to maximize its performance. We have not made one single compromise as such, in terms of performance and packaging. We have worked very hard to be able to offer a package that could be fully adapted to the new ways of working, resulting from the new FIA and ACO technical regulations for 2017. The power level in particular has clearly increased compared to that of 2016."

Q. How was the ORECA 07 born?

A. "This new car is the result of a very important team work, as always, including not only our design department but also all other departments at ORECA whether related to production, purchasing or customer support. Moreover, customer teams' feedback about the ORECA 05 has also been taken into account to make the ORECA 07 a better product. Our philosophy during the conception was a humble and open-minded one, not thinking that we know everything and not being stuck on the concepts of the ORECA 05. We did not try to copy popular concepts or solutions applied to other cars. The idea was to really conduct a comprehensive investigation – which actually reflects our company culture and values – without falling victim to technical stereotypes or pre-conceived beliefs. Any solution or concept must bring a quantified gain, the physics of which needs to be understood and comply with specific constraints in order for the whole idea to be approved. Finally, the ORECA 07 does not look like an ORECA 05, even though it shares the same monocoque and front crash-box. It's also very different from its rivals."

Q. In what ways is it different than its big sisters, the ORECA 03 and ORECA 05?

A. The ORECA 07 benefits from the experience and knowledge that we have developed from previous projects. Yet all previous prototypes have been designed within relatively different contexts. The ORECA 03 was our first LM P2. It was based on the monocoque of the ORECA 01 and was an open-cockpit prototype. Its conception dates back to 2010. At that time, the rules were very different in terms of the selling price being fixed by the cost cap. Since then, the standards in terms of aerodynamics have also changed a lot, looking to ensure better stability in hairpin bends. So changes in rules and regulations have a strong impact on performance and aerodynamic concepts too. The ORECA 05 was conceived in a record time with 2017 in mind. For that prototype we took into consideration most of what we knew of the 2017 technical rules at the time. That's why the ORECA 05 was conceived with a width of 1900mm, instead of the 2000mm permitted by the current rules. This choice did affect the car's performance, particularly on winding racetracks, but still was a good decision considering the overall scope of the project. Though the ORECA 07 can be obtained by upgrading the ORECA 05, it is our furthest-developed prototype to date, the one on which we have made the least compromises possible. We know that the competition in LM P2 will be even fiercer in 2017, we have fixed a goal for ourselves which is clearly ambitious in terms of performance and attention to details. As such, the ORECA 07 shares a trait of character with the older models: thirst for victory!"

Q. The car is different. Were the ways to achieve that also different?

A. "Throughout the years, our work tools and our knowledge have been strongly boosted which has helped us to improve the quality of our products. The ORECA 07 has largely benefited from this. Like the older models, aerodynamics has been completely developed in house with our CFD tools. But this time our power of calculation was increased thanks to the acquisition of a new cluster. Our methodology and tools were improved too. As was our production capacity either in machining, with a new DMG-Mori machine tool, or in composite, as the autoclave oven runs at full capacity to produce the ORECA 07 parts."

Q. Why did you wait for the end of October to conduct the first track test?

A. "For a few reasons. First of all, most of the parts have already been approved, as a result of that we do not have to test them on track like it's usually done with a 100% new car. Next, the cost cap forced us to optimise the usage of our resources in order to aim for the best result possible within the framework of a fixed budget. Hence we thought it more appropriate to dedicate more time for the research in order to maximise performance development, particularly in aerodynamics, and to give maximum attention to details.

It must be emphasized that we followed a similar approach before the certification of the Rebellion R-One and the ORECA 05. The Rebellion made its first lap at the end of April 2014 and mid-June of the same year it finished 4th overall at the 24 Hours of Le Mans. The ORECA 05 had only one track testing session before the certification. This time, the programme will be clearly more important. Our philosophy is to try to integrate the maximum amount of parameters during the conception of the car and to reduce the unknowns at the time of taking to the track."

Q. What is the programme for the weeks and months to come?

A. "We cleared all certification tests between March and June, on first attempt, just like with our previous projects. So that part is completed. We are now going to concentrate on the development of the car on track, by checking both its performance and reliability. That's why testing sessions are planned between the end of October 2016 and January 2017. The ORECA 07 will run in Europe as well as in the USA. It will be tested with three kinds of tyres: Michelin, Dunlop and Continental. The programme will thus allow us to improve the technical definition of the car before the certification and to adjust the final details by validating the package. Meanwhile we will assemble the first cars for our customer teams. We are also currently establishing working relationships with new customer teams as well as supporting our existing partner teams in switching to the ORECA 07. The final certification of the car is planned in early December with the FIA and later the same month for the IMSA. Daytona will come very quickly. Winter time will be busy without any doubt."

Q. Is victory the only goal of ORECA Technology in LM P2?

A. "The goal in any competition is obviously to give the best of ourselves and to win. But our philosophy goes clearly beyond this leitmotiv: our ambition is to support the teams and to build strong relationships with them. Our aim is also to enable our partner teams to achieve podiums and victories with ORECA chassis. And actually, the ORECA 03's and ORECA 05's statistics clearly demonstrate that we are successful in doing so. Let's not forget that our cars in LM P2 showcase our competences."



*"Life is like riding a bicycle, to keep
your balance you must keep moving"*

Albert Einstein



"It's game time"

by Christophe Guibbal, ORECA 07 Project Manager...

Q. What is the feeling that prevails after the first lap of the ORECA 07?

A. "Now, it's game time! We are eager to face our rivals!"

Q. The ORECA 07 is based on the ORECA 05 monocoque, could we think of it as a simple upgrade?

A. "During the preliminary draft we obviously reviewed the ORECA 05's strengths and weaknesses, as well as the elements that could be improved the most in order to achieve the required aims. It clearly appeared that the ORECA 05's monocoque was an excellent base for the conception of the ORECA 07. Its design, conception and production stand as top-level achievements, for which we have been able to rely on a closed-mold process which gave rigidity and saved weight. So, the monocoque did not appear as one of the parts requiring major developments. This allowed us to concentrate more on other elements to which the new rules offered lots of room for improvement. We always want to move forward, and do better and go quicker! A new regulations package needed to be met properly, of course, but this was also the opportunity to explore new ways. We could speak about mechanical upgrade since we did keep most of the elements that have been proven in the ORECA 05. Nonetheless we did validate again each of those elements in digital simulation and bench test."

Q. The ORECA 03 resembles the ORECA 01. The ORECA 05 has a similarity with the Rebellion R-One sharing the same monocoque. Could you talk about the ORECA 07's change in style?

A. "When working on the conception of a new car, style isn't a priority. Our only priority is the performance of the global package and respecting the specifications fixed during the preliminary draft. For Le Mans Prototype the final design is primarily a consequence of aerodynamics choices, for both the sprint package as well as Le Mans package. Each time and as soon as a new project ends, we immediately project ourselves and move on to the next one, looking to enhance the details. It wasn't any different for the ORECA 07. It's certainly the most developed car ever released from our workshop. Now it needs to do as well as the last two LM P2 models."



Q. When we see the new LM P2 cars, is it not frustrating for the R&D department that it will be at least four years before we see the next model after the ORECA 07?

A. "The LM P2 category is a true success and the 2017 season, in all series, looks very exciting by the quality and the number of teams. It's important for our teams and for the competition to ensure rules stability. Four years is a good timeframe. The evolution of the regulation is ongoing, particularly with regard to safety and therefore updates will be necessary during that time...
To wait four years without a project would be surely frustrating... but only if the ORECA 07 was an end in itself. Actually, various projects are already awaiting ORECA in 2017!"

Q. How is the project 07 perceived in house?

A. "ORECA never ceases to evolve and invest in technical means as well as human resources. These last few years, the company has mainly developed in the field of composite materials with the new workshops, cutting machines, autoclaves, etc. In early 2016, we expanded our production workshops with the acquisition of a new machining centre. The ORECA 07 is therefore a unique opportunity for us to implement our know-how with these new technological tools. Competition is an important vector for all the people working at ORECA and the ORECA 07 allows to gather everybody around a cross-departmental project where the level of competition is very high."



ORECA in LM P2, By the numbers

Châssis

36
chassis
built

3
types
of chassis

- > ORECA **03**, ORECA **03R**
Alpine **A450**, Alpine **A450b**
Birth date : Tuesday, February 1st 2011
- > ORECA **05**
Alpine **A460**
Birth date : Monday, March 2nd 2015
- > ORECA **07**
Birth date : Wednesday, October 26th 2016

Wins & Poles

41
wins

36
poles

- > ORECA **03** : 17 wins, 16 poles, 5th at Daytona 24 Hours
- > ALPINE **A450** : 1 win
- > ORECA **03R** : 8 wins, 5 poles
- > ALPINE **A450b** : 2 wins, 1 pole
- > ORECA **05** : 9 wins, 13 poles, 1st at Le Mans 24 Hours
- > ALPINE **A460** : 4 wins, 1 pole, 1st at Le Mans 24 Hours

Titles

12
titles

- > Teams title in Asian Le Mans Series:
Race Performance (2015-2016)
- > Drivers title in Asian Le Mans Series
- > FIA WEC LM P2 Teams Trophy: SMP Racing (2014)
- > FIA WEC LM P2 Drivers

Teams

11
winning
teams

Winning Teams with an **ORECA LM P2** chassis

- > Signatech-Alpine (FRA)
- > Thiriet bys TDS Racing (FRA)
- > Dragon Speed (USA)
- > KOMG (HK)
- > Race Performance (SUI)
- > Sébastien Loeb Racing (FRA)
- > Delta-ADR (GBR)
- > Pecom Racing (ARG)
- > G-Drive by Delta-ADR (RUS)
- > Murphy Prototypes (IRL)
- > G-Drive Racing by Jota (RUS)

Other Teams with an **ORECA LM P2** chassis

- > Boutsen Ginion Racing (BEL)
- > Craft Racing (HK)
- > SMP Racing (RUS)
- > Muscle Milk Pickett Racing (USA)
- > Eurasia (PHL)
- > Baxi DC Racing Alpine (CHN)
- > Jagony Ayam with Eurasia (IND)

Nationalities

12
nationalities



- > **3-time** LM P2 Teams title in European Le Mans Series:
TDS Racing (2012), Signatech-Alpine (2013, 2014)
- > **3-time** LM P2 Drivers champion in European Le Mans Series
- > LM P2 Manufacturers title in Le Mans Series: 2011 (Nissan Engine)
- > LM P2 Teams title in Intercontinental Le Mans Cup: 2011 (Signatech-Nissan)

