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THE PURSUIT OF EXCELLENCE

INDYCAR

IN DALLARA'S AMERICAN FUTURE THERE ARE THREE CONCEPT CARS FOR THE NEXT FIVE YEARS OF THE SERIES AND THE PROJECT OF AN INDIANAPOLIS HEADQUARTERS

F.3

2010 PROMISES TO BE A GREAT SEASON FOR THE NATIONAL CHAMPIONSHIP

FORMULA 1

LOTS OF TALENTED DRIVERS ARE NOW SUCCESSFUL IN F.1 THANKS TO THE DALLARA SCHOOL

A DOUBLE VICTORY

THE AMERICAN CHAMPIONSHIP AND THE ITALIAN SINGLE-SEATERS, A COMBINATION THAT HAS LASTED SINCE 1997 AND THROUGH EXTRAORDINARY SUCCESS HAS TRANSFORMED INDYCAR INTO A SINGLE BRAND

Justin Wilson and Ed Carpenter fighting hard on the Miami Speedway

IndyCar is synonymous with Dallara. Since 1997 we have had luck on our side. The name of the championship has changed together with the type of championship, people in charge, drivers and teams. But Dallara is a fixture in the races, defined as the fastest in the world, in which the single-seaters can reach average speeds of 370 kilometres an hour on the fast oval tracks such Indianapolis and Fort Worth, and compete to the last lap on city and road circuits.

The numbers speak for themselves. The first race of 2010 will be Dallara's 150th victory in the competition (victories in over 82% of entered races since its debut), made up of 9 Indy 500s and 11 championships. Thirty-one drivers, and 14 teams, have known the joy of success in a Dallara.

From the road of Long Beach, California to the ups and downs of Sonoma; from the Indianapolis Motor Speedway to the track made by utilising Edmonton Airport; the IndyCar challenge is one of the most competitive for someone planning and building a car. "*You need to take into account the two different requirements*", explains Andrea Toso, head of R&D and of the American Dallara projects. "*A car for the oval has many asymmetrical components. The camber, for example, is positive on one side but negative on the other, and the external wheel have a diameter bigger than the internal one. There are also details from a functional point of view, just think of oiling. When the car only turns left, the oil tends to accumulate in one part, creating problems for both the uptake and return. As the centrifugal force is very high, we are talking about 5g. For the same reasons, the petrol tank must be specially designed*".

The challenge is also about the drivers and their safety and comfort: "*The driver is constantly leaning on right headrest, but this is not all; with a force of 5g, one foot can weigh 20kg and well designed heel rests are needed if feet are not to slide off the pedals… It is a different philosophy*".

«We've always had a good relationship with the team because they know we are helpful and they can count on our complete honesty and privacy. This is the basis of a fruitful exchange of information, knowing that only benefits come from the partner»
Andrea Toso

To complicate things come the expansions, initially only on the oval tracks. "*On the road courses the car is very different. For example, the differential should be added, and the suspension must resist completely different forces. There is acceleration and breaking, and there are kerbs whilst on the oval circuits the weight is predominantly to one side during a race covered at high speed on a curve. In 2002, with the ovals in mind, we designed a car with pull-rod suspension, to lower the mass. Once it had been decided that we also had to deal with the road courses, making the adjustments did not prove to be the best for comfort*". The result was successful and opened the way for a design more orientated towards versatility. Also thanks to the experience gained since the start of a range that developed around Indy.
"*The beginning was very difficult*", remembers Toso, "*because we faced a new world, a reality completely different from that which we knew. It was necessary to face the new world, and the change was made by listening to the teams. Realising that they were right in many aspects, because they had much more experience*". Despite the enormous challenge, there were three victories in the 1997 season, one of which was the second race entered, at Phoenix. "*We've always had a good relationship with the team because they know we are helpful and can count on our complete honesty and privacy. This is the basis of a fruitful exchange of information, knowing that only benefits come from the partner*". With a second season completed we had an impressive result, with the addition of the title, another eight victories out of eleven races and, above all, the double at Indianapolis, which began the years of domination .
"*Indianapolis is everything, the winners remain in history, and their names will be remembered for ever, more than just every other race or every other championship*". In 1999, the first eleven cars that finished the Indy 500 Miles were Dallaras. From this point on the supremacy that became a monopoly began. "*It should always be remembered that the IndyCar Series does not have a single brand, but this is the way it is. An effect of the results. In the beginning we were viewed with suspicion, now we have reached the stage where to win you need to have a Dallara chassis. We are very proud of this and hope to continue along the same route*".

IndyCar singleseaters need to be set in different ways for speedways and street circuits: a challenge won by Dallara's engineers

A path that has taken an Italian business to be the constructor with the most wins in the history of IndyCar. Achieving also a safety record that would have been almost impossible to imagine in the past, creating a unique symbiosis between technology, professionalism and two countries separated by distance but united in unprecedented success.

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Andrea Toso

INDYCAR

ON THE COUNT OF THREE

DALLARA HAS DESIGNED THREE PROJECTS FOR THE FIVE YEAR PERIOD 2012-2017. THE GOAL IS NOT ONLY TO PUT ON A SHOW BUT TO ACCOUNT FOR SAFETY, THE ENVIRONMENT AND COSTS; TO CONTRIBUTE TO THE GLOBAL REDEFINING OF THE CAR INDUSTRY

The IndyCar Series has established four fundamental rules for cars entering onto the track, with the formula of the single brand, in the five year period of 2012-2017, and Dallara have put their cards on the table. With three concepts that look towards the future but present themselves as immediately feasible. *"None of these concepts is just an exercise"*, explains Andrea Toso. *"We will be able to start constructing them, then put them on the track where we would have all three of the desired performances. IndyCar is facing a very delicate phase, having to choose a project that will take it up to the end of 2017, and adapt it to choices that have not yet been made. Perhaps one week the race will be in Daytona and another in Alaska in the cold and the car must be ready for each situation. Requiring assistance and changes, all the things that we have already been able to guarantee for years"*.
The first thought is safety, with the priority being to avoid potential contact between wheels at high speed. *"All three of the cars have chassis wider than the track, with protection structures close to the wheel to prevent wheel to wheel contact*". The show factor is next, responding to the need for a well-balanced race, overtaking and fighting for position, relying on immediately recognisable cars, aesthetically satisfying, with a large space for the sponsor.
In a moment of global economic

«The new generation of IndyCar will probably exist as a single brand. The teams will not need all the different parts available that are necessary now for the different track types»

Andrea Toso

difficulty, the commercial aspect and costs should not be underestimated, they are fundamental: *"The reduction in price is the consequence of various factors, above all the fact that the new generation of IndyCar will exist as a single brand. The teams will not need all the different parts available that are necessary now for the different track types.*
All these factors come from the competition between G-Force and Panoz. Furthermore, the new cars will be constructed in the United States, and this will lead to savings in terms of duties, customs and even currency".
Not forgetting performance and efficiency. The new IndyCar will have to be a reflection of the rethinking in both the American car and the world. *"Our IndyCar is American in all respects, ready to be born into the new American base at Indianapolis, and all three concepts include the option of new generation turbocharged engines"*. Technology that will be applied also to road cars of the future, and that will join the push towards energy efficiency. The reduction of the weight and the aerodynamic development will actually maintain the present performance levels. Less than six hundred horse power will be necessary to reach a 360 kilometres an hour average, thanks to a weight reduction.
The impact will be on the technology, on the visual side, on the show factor but also on the environment. After using biofuel for several seasons, IndyCar wants to survive and reconfirm itself at the top; less weight and power and greater efficiency will certainly go in its favour. Three different versions have been proposed, with the same contents. *"All three cars are the result of careful numerical study, both with regards to suspension and aerodynamics. There is a fairly traditional car, directly evolved from the existing model; one of the models has an angular '90s look, a bit retro; and finally the more radical third car is more original. It is this one that I like the most, because it makes a leap forward compared with present standards. In this case the sidepods are further back. The more important anti-contact structure is in front of the front wheels, whilst the back is similar to the prototype. The front end is lean and clean. It unites the technical necessities with the fact that is truly a* beautiful product of design". The idea is put forward, to restore the American open wheel championship to the leading position that the fastest series in the world deserves.

The American headquarters: a research centre connected to universities and open to the public

The idea is to have a base on the other side of the Atlantic, able to create and exchange technological expertise, not just to produce and assemble cars. *"Dallara's American headquarters would be an achievement but also a starting point, capable of developing the engineering business that represents 40% of the turnover of the Italian factory, both in the field of racing and supercars"*, says Andrea Pontremoli, Dallara's CEO and General Manager.
It is not by chance that this multifaceted centre is a few steps away from the Indianapolis Speedway, able to establish a connection between high technology and the surrounding area, through partnerships with local suppliers; but also creating a relationship with American universities, who can provide input with regards to research, and develop effective methods to be used in future Dallara projects. *"An exchange between US and Italian engineers is predicted, with the aim of studying and better understanding the different realities of motorsport in the two countries* - says Pontremoli - *with Italian staff being employed in the States and American engineers travelling to Italy for educational and maintenance workshops"*. A wide-ranging project and a long term capacity to integrate into the American reality in the best way, designed in a multi-functional space where the new simulator, which is being designed in Italy, would be installed: *"To give drivers and track engineers the opportunity to develop and test the cars before putting the wheels on the track, and also to give visitors the thrill of a virtual test in an IndyCar"*. In Dallara's philosophy, expertise and passion go hand in hand.

«Our IndyCar is American in all respects, ready to be born into the new American base at Indianapolis, and all three concepts include the option of new generation turbocharged engines»
Andrea Toso

Discovering the drivers that started their professional career on a Dallara car

THE SCHOOL OF CHAMPIONS

The Dallara school is well represented in the world of F1. A lot of the new generation of drivers were able to technically develop driving the Italian constructor's single-seater. From F3, the European Championship or national series, to the World Series by Renault 3.5 or the GP2 Main Series, the Formula One Grand Prix starting grid is made up of many of Dallara's "students". In this issue we look at certain drivers who will be on the track in Bahrain and have made their way in motorsport driving the Italian car.

Lewis Hamilton

Lewis Hamilton, F1 world champion in 2008 with McLaren-Mercedes, lent his name to the Dallara brand for three seasons, from 2004 to 2006. The British talent raced for two seasons, in the European F3 Championship: he finished fifth in 2004 with John Booth's Manor Team; the following year he became the winner of the category, whilst the championship belonged to the ART team. With the same team, Hamilton made his debut in GP2 Main Series and straight away in the first year took the title.

2004: Dallara-Mercedes F.3 Euro Series
2005: Dallara-Mercedes F.3 Euro Series
2006: Dallara-Renault GP2 Main Series

Sebastian Vettel

The young talent of Red Bull, began his path towards F1 by taking part in the F3 Euro Series with a Dallara-Mercedes for the Mucke team in 2005. Finishing the season in fifth place, the following year he obtained second place in the same category, with the same German team. In 2007 he was promoted to the World Series by Renault 3.5, a category that he had already had experience from some races in 2006, with excellent results. Whilst the Dallara, for the Carlin Team, clearly dominated the overall classification, Vettel was called directly to F1 to replace Scott Speed.

2005: Dallara-Mercedes F.3 Euro Series
2006: Dallara-Mercedes F.3 Euro Series
2007: Dallara-Renault World Series Renault 3.5

Robert Kubica

The Pole, first pilot from eastern Europe to win an F1 Grand Prix, began his brilliant professional driving a Dallara single-seater with the Prema team in the F3 Euro Series of 2003. He remained in the same category the following year, competing with the Mucke team. Kubica then made the leap to the World Series by Renault 3.5 and with the team Epsilon Euskadi, in 2005, he immediately won the championship. The Polish driver then became the F1 BMW test driver in 2006 and half way through the year had the chance to make his world debut.

2003: Dallara-Opel F.3 Euro Series
2004: Dallara-Mercedes F.3 Euro Series
2005: Dallara-Renault World Series Renault 3.5

Sébastien Buemi

After the Swiss driver of the Red Bull team had obtained some experience in the category which follows karting, he graduated to the European F3 Championship where he met the Dallara single-seater of the Mucke team. Buemi stayed in the category for two years, where he had the chance to test the Dallara GP2, alternating between the two series. The Swiss driver was placed second in the F3 Euro Series. In 2008, he made the transition to GP2 with the Arden team, finishing in sixth position, from there he moved up to F1 with Toro Rosso.

2006: Dallara-Mercedes F.3 Euro Series
2007: Dallara-Mercedes F.3 Euro Series
2008: Dallara-Renault GP2 Main Series

Nico Rosberg

The current Mercedes driver made his way to high level international racing in the Dallara-Opel of the F3 Euro Series. In 2003 he gained experience, and the following year Rosberg continued with the team managed by his father in the F3 Euro Series, finishing in fourth place overall. The German driver, son of Keke Rosberg, the F1 World Champion in 1982, was promoted to GP2 still connected with the Dallara brand. He reached victory on the first attempt with the ART team, which opened the doors to F1.

2003: Dallara-Opel F.3 Euro Series
2004: Dallara-Opel F.3 Euro Series
2005: Dallara-Renault GP2 Main Series

Jaime Alguersuari

The Spaniard made F1 history for being the youngest driver to participate in a Grand Prix. The event occurred in the Budapest race of 2009. Alguersuari then moved up into the Toro Rosso without having to go through testing, coming directly from the World Series by Renault 3.5 where he drove the Dallara-Renault with the Carlin team. A very good demonstration of the school of the single-seaters constructed in the Italian factory, and it shows the ease with which Alguersuari was able to adapt to the F1 Toro Rosso's drive. Previously, Alguersuari had participated with the Carlin team's Dallara in the British F3 Championship, winning on his debut.

2008: Dallara-Mercedes British F.3
2009: Dallara-Renault World Series Renault 3.5

Nico Hulkenberg

He is a new face in the F1 world in 2010. Hulkenberg will make his debut with the Williams team and in his professional training he is closely tied to the Dallara brand. The German Pilot began in the F3 Euro Series 2007 championship, finishing third with a car managed by the ART team. Still with the French team, Hulkenberg won the continental F3 championship in 2008. Like Hamilton, he won his debut at the GP2 Main Series, with the trusted ART team.

2007: Dallara-Mercedes F.3 Euro Series
2008: Dallara-Mercedes F.3 Euro Series
2009: Dallara-Renault GP2 Main Series

THE ITALIAN JOB

SINCE 1980, AND IN PARTICULAR IN THE LAST 20 YEARS, DALLARA HAS BEEN A MAIN CHARACTER IN F3, AND HAS ALL THE RIGHT CARDS FOR THE 2010 SEASON, WHICH PROMISES TO BE A CLOSELY FOUGHT AND EXCITING SEASON

The Italian F3 Championship will have many participants and after some years of difficulty it will return to be a national reference within Europe. The Dallara has always been one of the category's protagonists. The first championship was taken in 1980 by Guido Pardini and the title was taken again the following year by Eddy Bianchi. The competition with British chassis in F.3 was never an easy one, but Dallara took back the Queen's crown between 1985 and 1989, and then went on to win between 1991 and 2009. The Dallara and the F3 national competition have a long and happy history together, and Dallara has established itself with various engines: Alfa Romeo, Volkswagen, Opel and Fiat. This last one became the official engine, the only one in the category. Recently, thanks to the good work done by CSAI (the Italian Federation) with the prize for the top three, together with the testing with Ferrari F1, the Italian F3 has regained the momentum it had lost. No less than 26 cars are predicted for 2010. A field of competitors enriched by the presence of the teams that have made F3's history (such as Prema, RC Motorsport, Ombra) and that have re-entered in the national competition after years of absence and who join the traditional teams such as Corbetta, Lucidi, BVM Target, Ghinzani and new members Cram-SG, TP Formula, RP Motorsport. It will not lack competition with a foreign constructor who will further raise the technical challenge in the Italian F3. In these weeks the collective testing is taking place, to prepare for the first race of the calendar on 25th April at Misano. In total there will be eight races, two of which will be abroad.

Team Prema's Dallara (above)
and team Corbetta's one (bottom)

The Dallara victories in the Italian F3

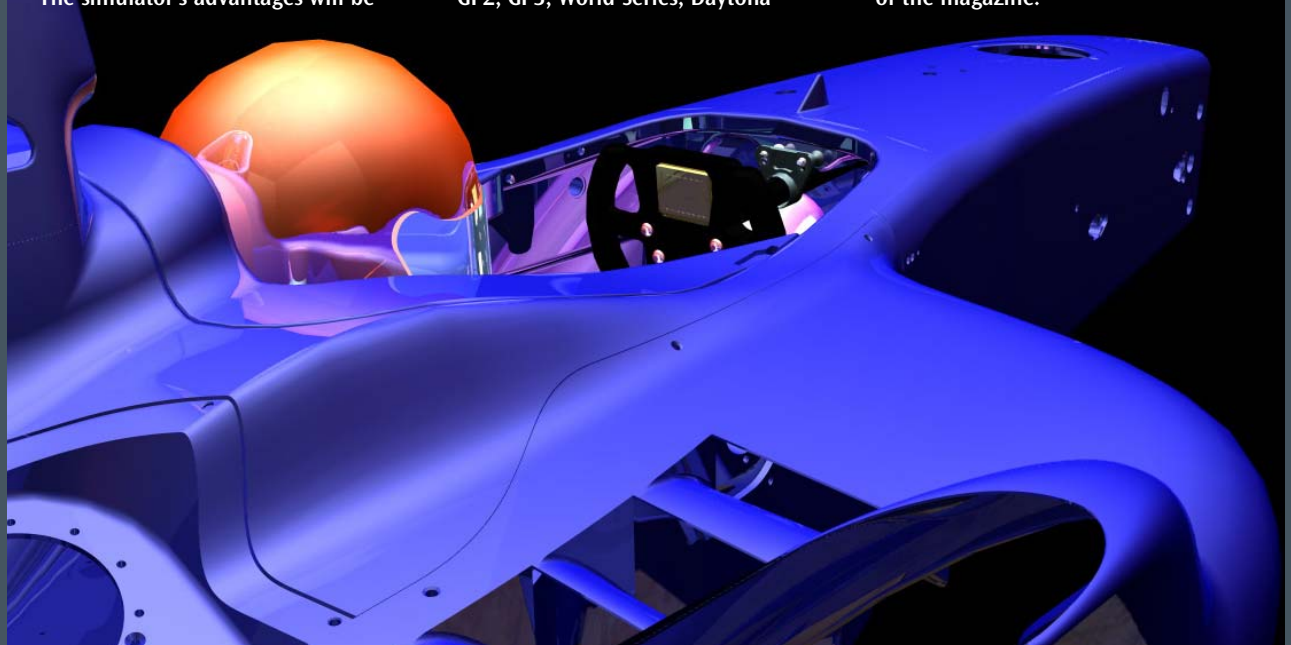
From 1980 to 1981
From 1985 to 1989
From 1991 1991 to 2009

Dallara Prototype, a truly unique model

After a year of meticulous work, focused on details, Dallara Automobili and Racer Slot Cars are pleased to announce the imminent release of the 1/32 scale models, faithfully reproduced from the Daytona prototypes made by the Parma Constructor.
The car currently competes in the Grand-Am Rolex Sports Car Series in the United States and is driven by Italian star Max Angelelli and American talent Ricky Taylor.
The model is a reproduction of the version that was raced by Max Angelelli at Laguna Seca in the 2009 championship and by Brian Frisselle and Wayne Taylor.
The models, originally marketed for the SunTrust Racing Team, will be available from the beginning of March with the brand, "SIDEWAYS Slot cars by RACER".
For more informations, it is possible to contact the producer at this email address: info@racerslotcars.it

With the new simulator the revolution is... real

The idea to start a revolution in how the car is thought about was born a year ago at Dallara. It is Dallara's responsibility to react innovatively to the economic crisis in general and in particular in motorsport, to develop safe, competitive vehicles that are pleasant to drive, but at the same time keeping the cost to a minimum. The latest instrument that the factory has been equipped with is an exiting new driving simulator that is the state of the art in its field.
It is an ambitious aim: to develop a vehicle; train drivers and track engineers; and to shed light on the mental mechanisms the develop in the interaction between man and machine. The collaboration between Dallara and the teams will be the key to its success. The simulator's advantages will be both their experience on the track and the value they take from it in the future. The driver will be able to measure his own potential in a controlled and repeatable environment; the engineers will be able to objectively record the experience which the car gives to the driver; the vehicle will be able to be improved in situations that are difficult to plan for on the track.
Unlike many of the simulators that are already commercially available and only designed for one type of vehicle, the Dallara simulator is designed to transform and adapt itself to a wide range of clients and cars (racing, automotive and more), because Dallara is present in several championships, for example: IndyCar, Indy Lights, F3, GP2, GP3, World Series, Daytona Prototype, and others.
The Dallara simulator will be constructed in an aluminium composite and will be completed with the forefront in audio and video.
To create a high level of immersion and realism, the internal structure(the drivers "office") is made from real monocoque, with a changeable function depending on the vehicle being studied.
Weighing more than two tons, the structure will run on a system with over 100 kilowatts of power and will be anchored to a foundation of over two hundred tons. In short, a real laboratory of virtual reality which we will have the possibility to better understand and deepen our knowledge in all aspects, in the upcoming issues of the magazine.



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