

The Chaparral 2F of 1967 (acrylics with aerograph on paper).

5- Chaparral

Chaparral is the name of a species of medium-sized birds, which, although they are not able to fly, moving quickly with his long legs, revealing remarkable predatory of snakes. As these exist in large numbers in the fields of Texas, the Chaparral found, in that US state, a favorable habitat.

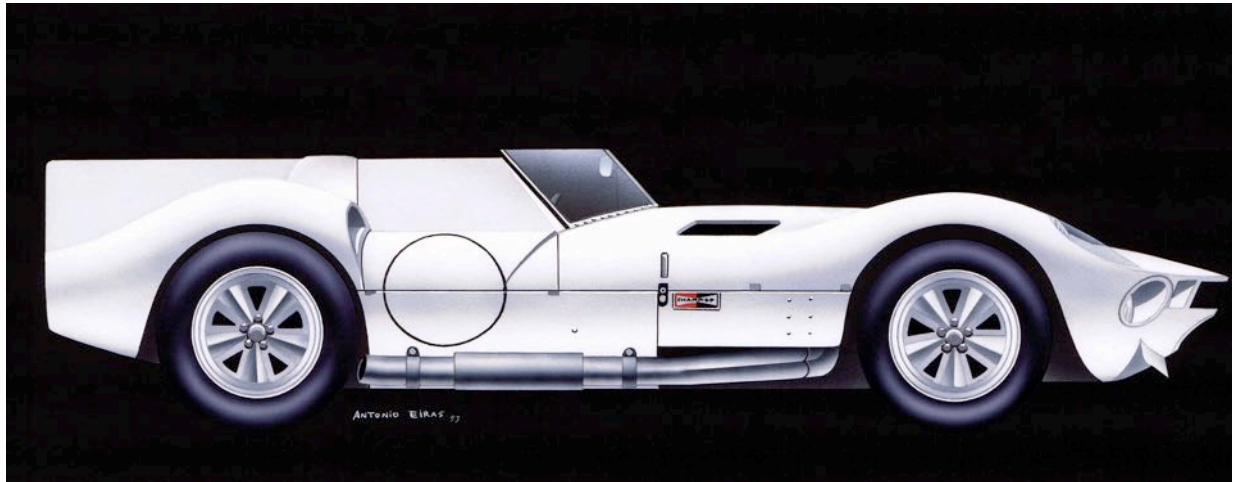
Synonymous of speed, Chaparral was chosen by **Jim Hall** to name their cars. The son of a wealthy Texan and graduate in mechanical engineering, Hall inherited from his father the exploitation of his family oil fields and knew how to conciliate that activity with the passion he always felt for motor racing. For some years he competed on American races at the wheel of European race cars, but in 1960 he allied to his friend **Hap Sharp** to create the Chaparral.

Until that time most Americans sports cars, like the touring ones, contrasted with European for their generous dimensions, the clumsiness of lines and the old-fashioned mechanical. Discontented and unhappy about this, Jim Hall would draw some of the most revolutionary racing cars of all time, creating concepts that are still used in the design of the most modern sports cars.

The project of the first Chaparral was commissioned to double designers **Barnes-Trautman** and the result was no more than an updated and corrected version of the Scarab, a car previously designed by this team of engineers. The **Chaparral 1** was

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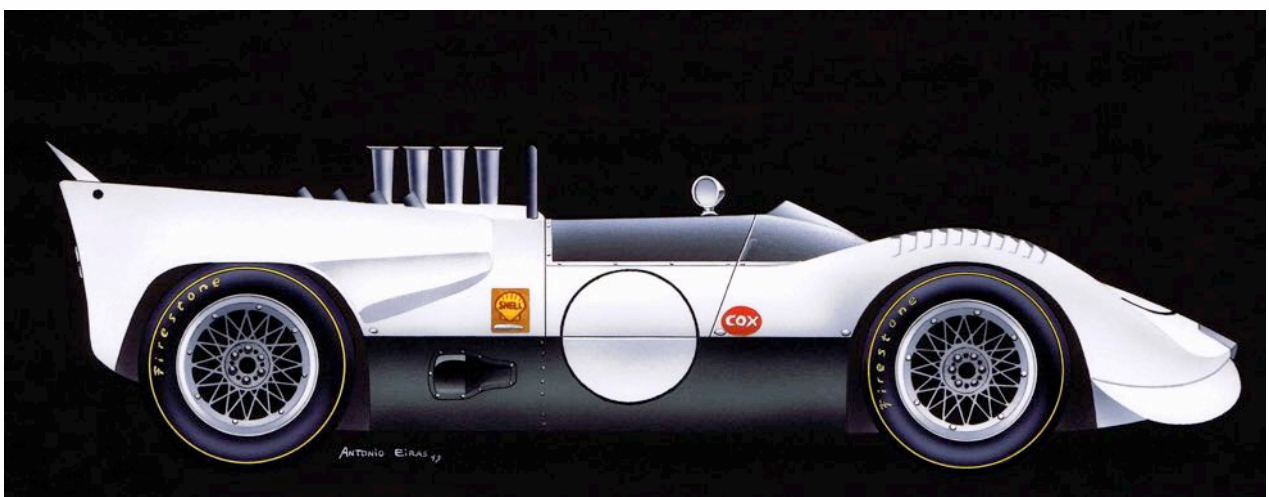
powered by a 5.4-liter and 8-cylinder V Chevrolet engine, placed in a traditional way, in forward position. There were made six cars of this model, which, although fast, would prove unreliable.



The Chaparral 1 of 1961 (acrylics with aerograph on paper).

In order to test and develop his future models, Jim Hall had ordered to be built on his land a test track, having equipped its facilities to test engines (12 years before Enzo Ferrari have inaugurated its innovative test track of Fiorano).

During the seasons of 1962 and 63, Jim Hall made contact with the circuits and teams of the Old Continent, by taking part in the Formula 1 World Championship at the wheel of Lotus cars of private teams. He had some success in this tour, but the most important was the technological knowledge that he acquired and that would prove crucial in the design of his future models.



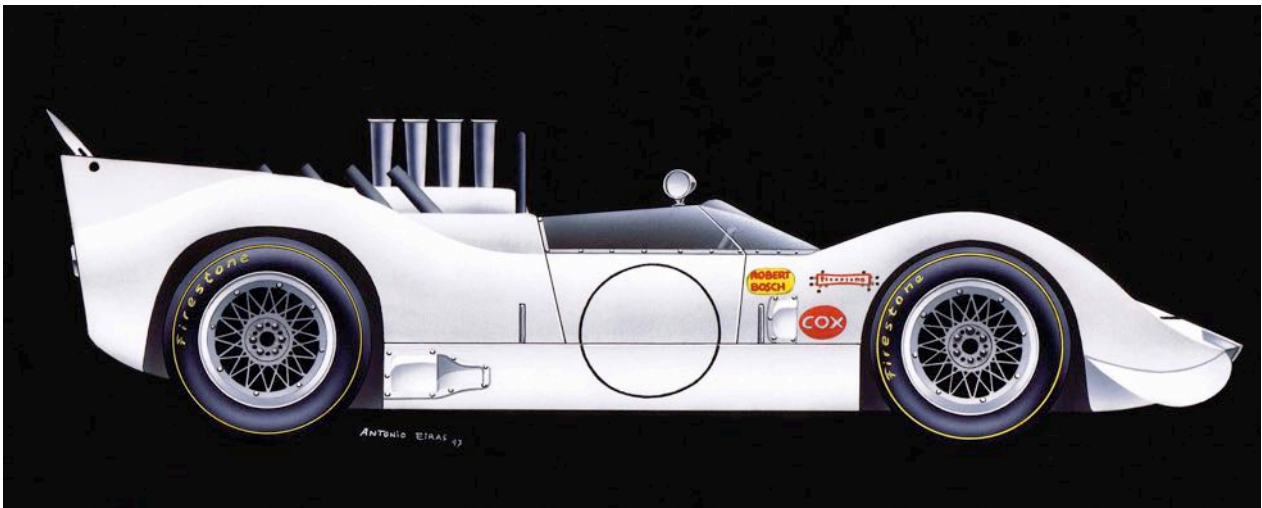
The Chaparral 2A of 1963/4 (acrylics with aerograph on paper).

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Indeed, the **Chaparral 2**, designed by own Jim Hall and ended in October 1963, used a monocoque chassis in composite materials, reinforced with aluminum and the engine, a V8 Chevrolet 5.4-liter who delivered 400 hp, was mounted in the rear center position. This model used, in the beginning, various components of Lotus (suspension) and Cooper (direction) models, which were being progressively replaced with original pieces designed by Hall.

The chassis would be used in all models 2 series until 1968 or in the aluminum version, either in the original composite materials, heavier, but also more comfortable and durable, due to better absorb the vibrations transmitted to the car.

The following year and in collaboration with General Motors, which already supplied the engines, built in alloy, another technological innovation was introduced, which emerged from the fertile imagination of Jim Hall: a hydraulic automatic transmission, of 2 speeds. The **Chaparral 2C** was already equipped with a huge rear spoiler and small front ones, which evened the downforce of the vehicle. In order to reduce the weight, Hall used the aluminum chassis in this model.



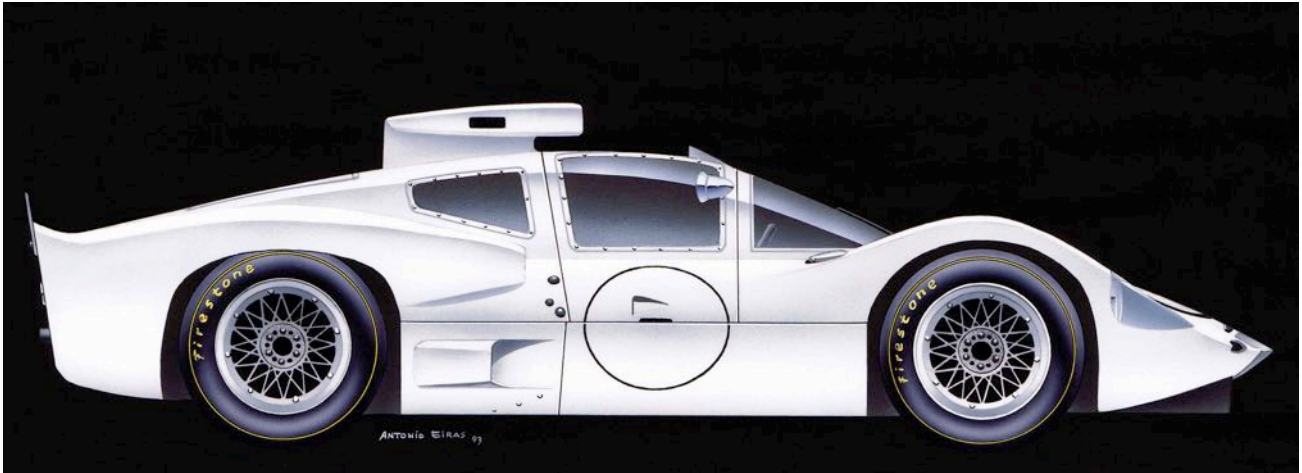
The Chaparral 2C of 1965 (acrylics with aerograph on paper).

The **Chaparral 2** and **2C** proved to be extremely competitive, would consecrate Jim Hall as SCCA champion (which would result in the CanAm) in 1965 and has even won the 12 Hours of Sebring of this year, a race of the World Championship of Sport-Prototypes. Following these successes and supported, albeit unofficially, by General Motors, Hall decided to proceed with a project to participate in this World Championship.

Presented in 1966, the **2D** model was designed as an evolution of its predecessor. It used the same monocoque chassis, but in composite materials, kept the automatic transmission and the V8 Chevrolet engine that delivered about 425 hp. The bodywork differed from previous in the cockpit, closed by regulatory imposition and whose doors

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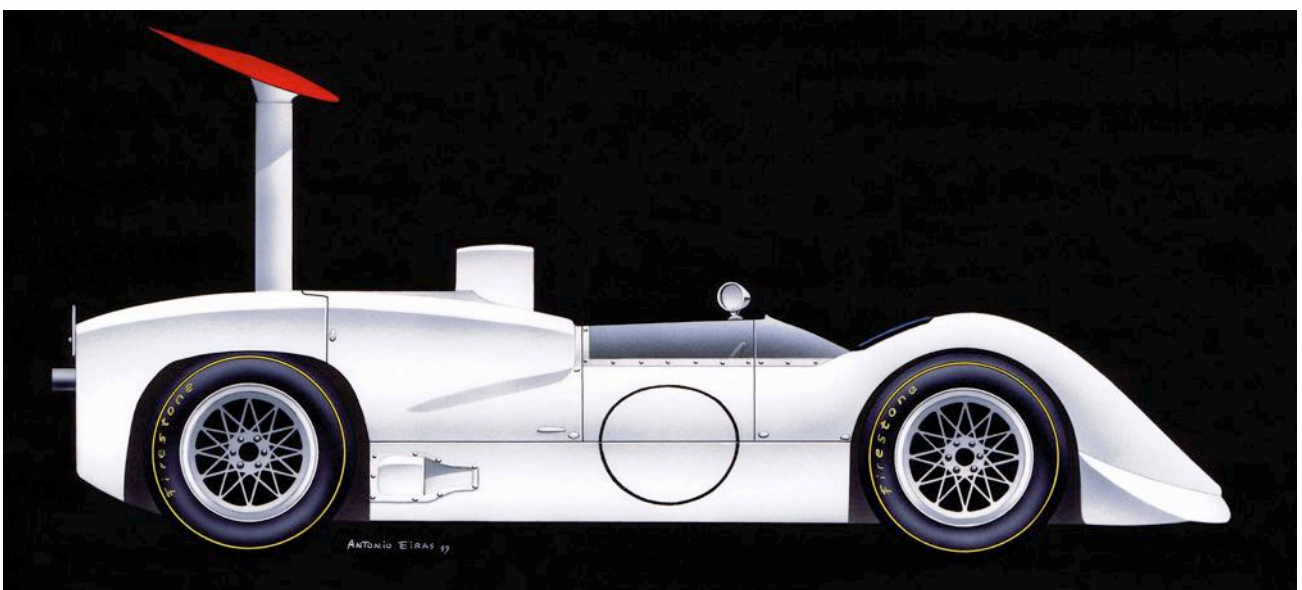
opened in "gull wings". The inclination of the rear wing could be regulated by the driver by means of a foot placed on the left of the brake. The use of a dynamic air intake to the engine trumpets completed the innovations list of this model.



The Chaparral 2D of 1966 (acrylics with aerograph on paper).

The **Chaparral 2D** proved to be very fast, from the start, having been penalized for various problems of minor importance and won the 1000 km of the Nürburgring, the only race of the World Championship that it finished.

While in Europe the **2D** struggled between the giants Ferrari, Ford and Porsche, in the US the new **2E** ensured the continued participation of Chaparral in the newly created CanAm Championship. Once again the fertile spirit of Hall surprised his opponents, with back placement of the radiators, in the side pods and with the use of a big wing separated of the body and placed in a raised position, supported in the rear suspensions.

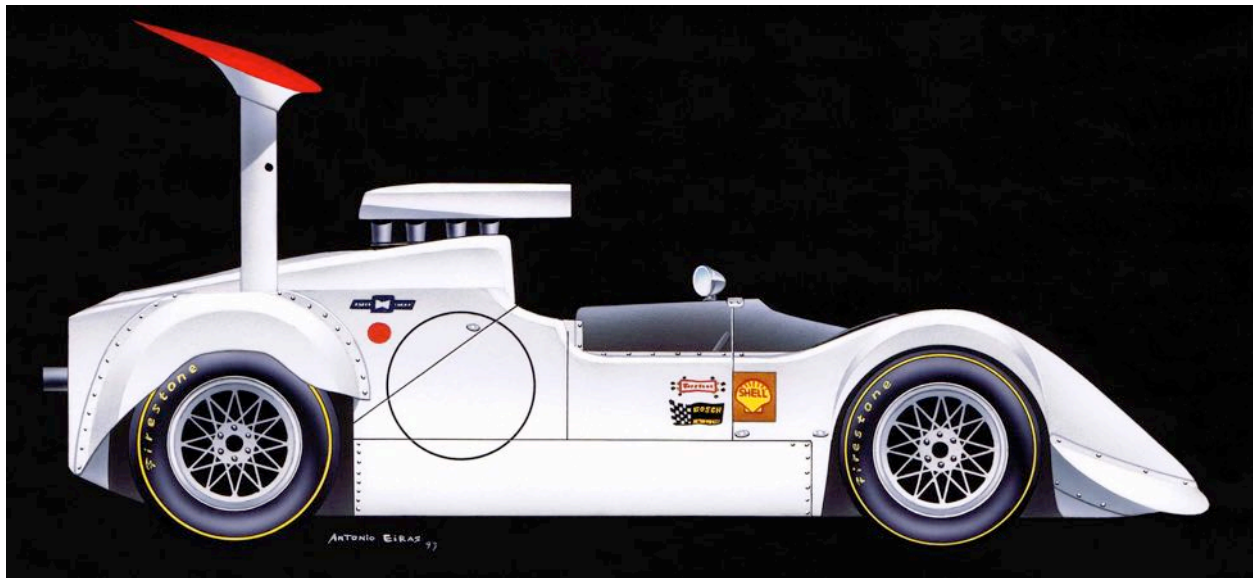


The Chaparral 2E of 1966 (acrylics with aerograph on paper).

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Although it has been revealed fast, the **2E** did not get, however, the success of its predecessors, finishing the season with just one win in his history.

For the season of 1967 Chaparral remained committed to the two championships and if the new **2G**, for the CanAm, appeared as an aerodynamic development of the **2E**, with a new 7 liters engine, the **Chaparral 2F** surprised everyone by innovating, decidedly, in the aerodynamics. Despite inheriting from the **2D** the same chassis and the same gearbox, although strengthened and with 3-speed, was at the aerodynamic level that the **2F** made look old fashioned their opponents.



The Chaparral 2G of 1967 (acrylics with aerograph on paper).

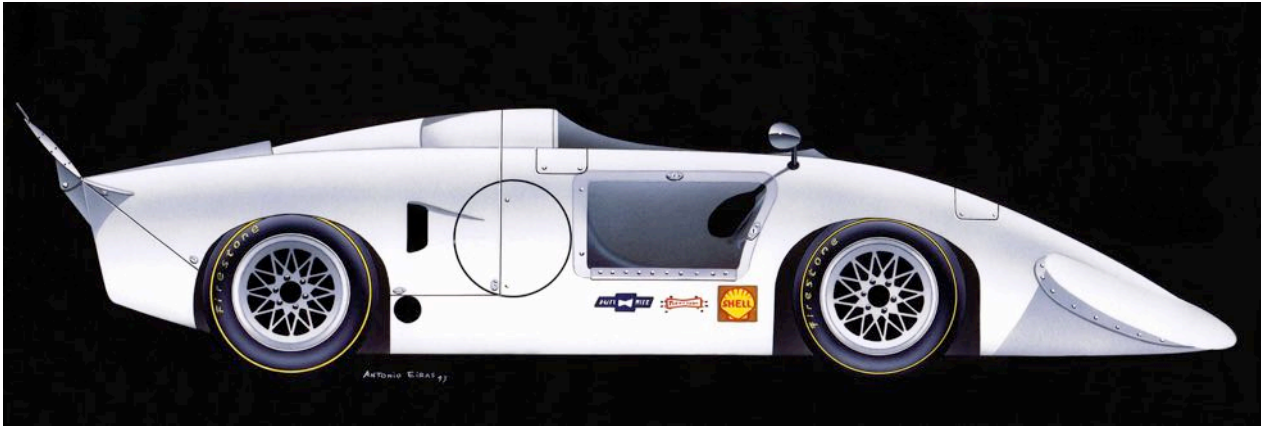
Indeed, the body with the front wedge, the truncated rear and sidepods, with vertical surfaces as well as the huge adjustable wing detached and supported on the rear suspensions movable elements, conferred to this model an innovative aspect that would make school in the following years and in the different disciplines of motorsport.

Under the body, the new Chevrolet 7-liter, 8-cylinder in V, engine delivered about 560 CV, power that revealed to be excessive to the gearbox and that originated several abandons dictated by the carbonization of the joints.

The **2F** sowed panic among his opponents, impressed with its superior power and stability, which made him a formidable rival. Limited, however, by the poor reliability of its transmission, the **2F**, as was the case with its predecessor, won the only race that ended, the 500 km of BOAC, raced at Brands Hatch by the end of the season, drove by Mike Spence.

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This would also be the last appearance of Chaparral in the World Championship, since the following year the 7-liter engines would be excluded by the new technical regulations.

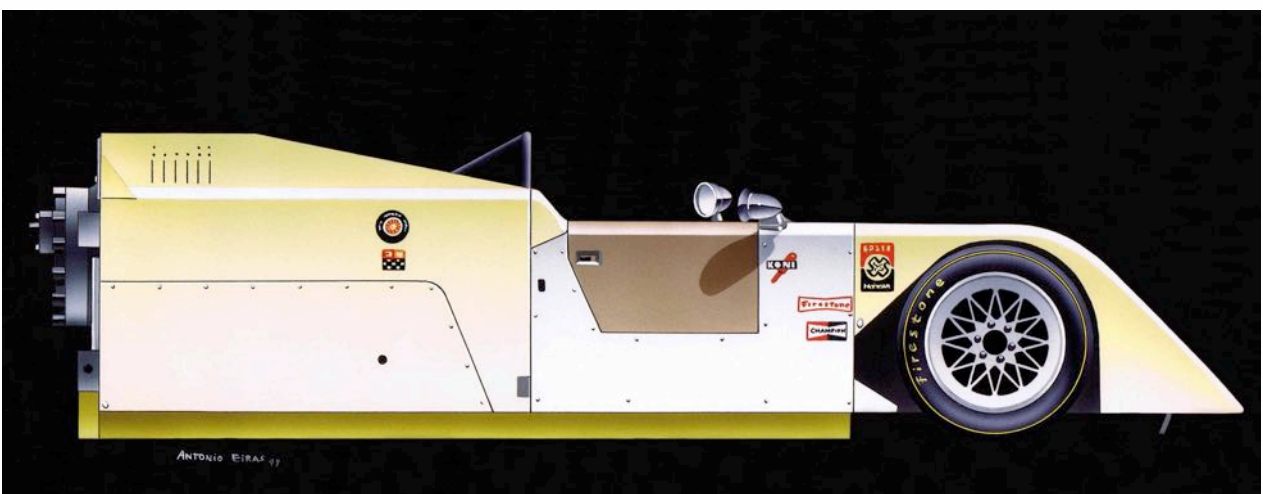


The Chaparral 2H of 1968/9 (acrylics with aerograph on paper).

For the 1968 season and concentrating its efforts on the cars for the CanAm Championship, Jim Hall designed and constructed the **2H** model, of original lines, that, however and due to the numerous technical problems had to be replaced by the **2G**, which proved more reliable but unable to beat the McLaren.

The premiere of the **2H** would only take place in 1969. His body of fluid forms and with the elongated front, contrasted sharply with the huge mobile wing placed to the roll-bar level. This aerodynamic device would be prohibited by CSI, following the serious accident during the Spanish GP of Formula 1, that year. The "windows" on the side pods intended to make legal the almost lying position of the "passenger" seat.

The successor to the uncompetitive **2H** would reveal to be even more amazing and introduced another innovative concept that would be revisited, some years later, in the design of racing cars: the "ground effect".



The Chaparral 2J of 1970 (acrylics with aerograph on paper).

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Dubbed the "shoe box" for its parallelepiped form, **Chaparral 2J** was powered by a 8 Liters V8 Chevrolet and had two fans, driven by a small Rockwell engine, placed at the rear of the vehicle that aspirated the air passing under the car, between this and the track and by this creating a negative pressure zone that greatly increased the adherence of wheels to the pavement. The tightness of this space was provided by "skirts" placed on the extension of the vertical side and rear surfaces of the bodywork, and were made of Lexan.

As the intake air was subsequently expelled back, this device raised serious safety problems for the vehicles that followed, who had serious difficulties in avoiding the debris and dust thrown in its direction.

Very fast but unreliable and difficult to set up, the **2J** was declared illegal by the CSI due to the use of aerodynamic mobile devices, represented by the blades of the fans.

After another disappointment, Jim Hall abandoned the design of his own cars, while remaining connected to motor racing in Formula 5000, TransAm, CanAm and Formula Indy championships, where his team participated with vehicles acquired to Lola and General Motors and where he obtained numerous successes, occasionally in association with Carl Hass.

In the late seventies and after the victory of his team in the Indianapolis 500 of 1978, with Al Unser driving a Lola-Cosworth, Hall hired a young engineer to project the one that would be the last Chaparral.



The Chaparral 2K of 1979/80 (acrylics with aerograph on paper).

Designed by **John Barnard** and built in England, the **2K** revealed the influence of the fabulous Lotus 79 and became the first IndyCar with "ground effect". Equipped with a Cosworth engine, it dominated the championships of 1979 and 1980 and won the Indianapolis 500 in 1980, driven by Johnny Rutherford.

After these successes, Hall moved away from the world of competition, having returned to the IndyCar Championship in 1991. He acquired a Lola chassis, equipped it

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with a Chevy engine and created the Team **Hall-VDS**. The debut could not have been more auspicious, with the victory in the inaugural event in Surfers Paradise and, since then, it had maintained regular presence among the best teams.

When asked about the future, Jim Hall does not hide the desire to build a new **Chaparral**, which would arise as a result of this learning phase which has been the last few seasons in Indy.

As always happened in the **history of Chaparral**, the future can only be unknown, but in the meantime, Hall and his cars have already left its indelible mark on the History of the Automobile.

PS This text was originally written in 1993 for an article in "Turbo" magazine and to do this, as well as to the achievement of the accompanying drawings, has been very important the bibliographical material that its founder and, by the time director, José Vieira, gave me.