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Racecar engineering



THE LOST PROPHET
The Allard J2X lacked results but it changed prototype design



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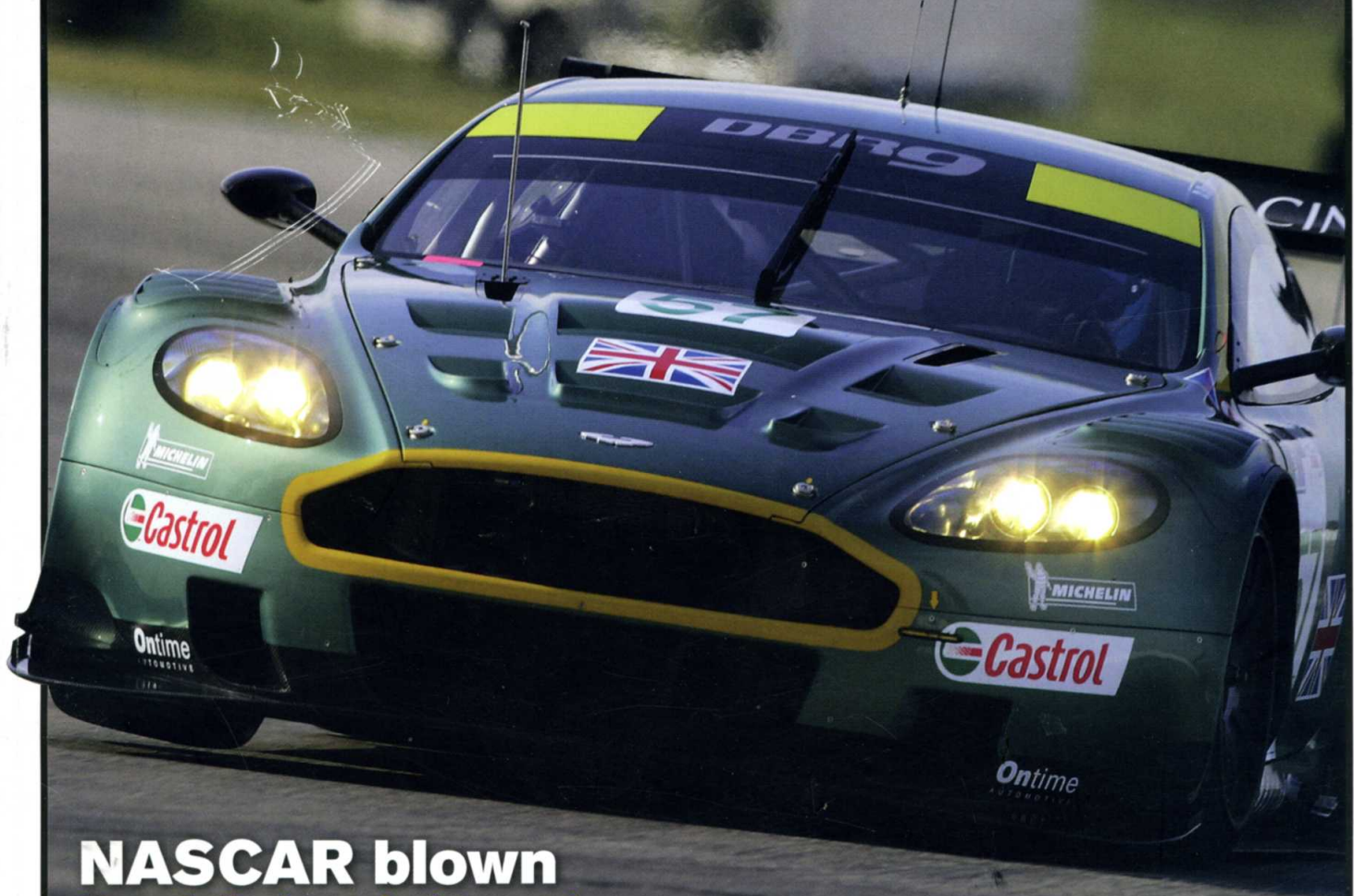
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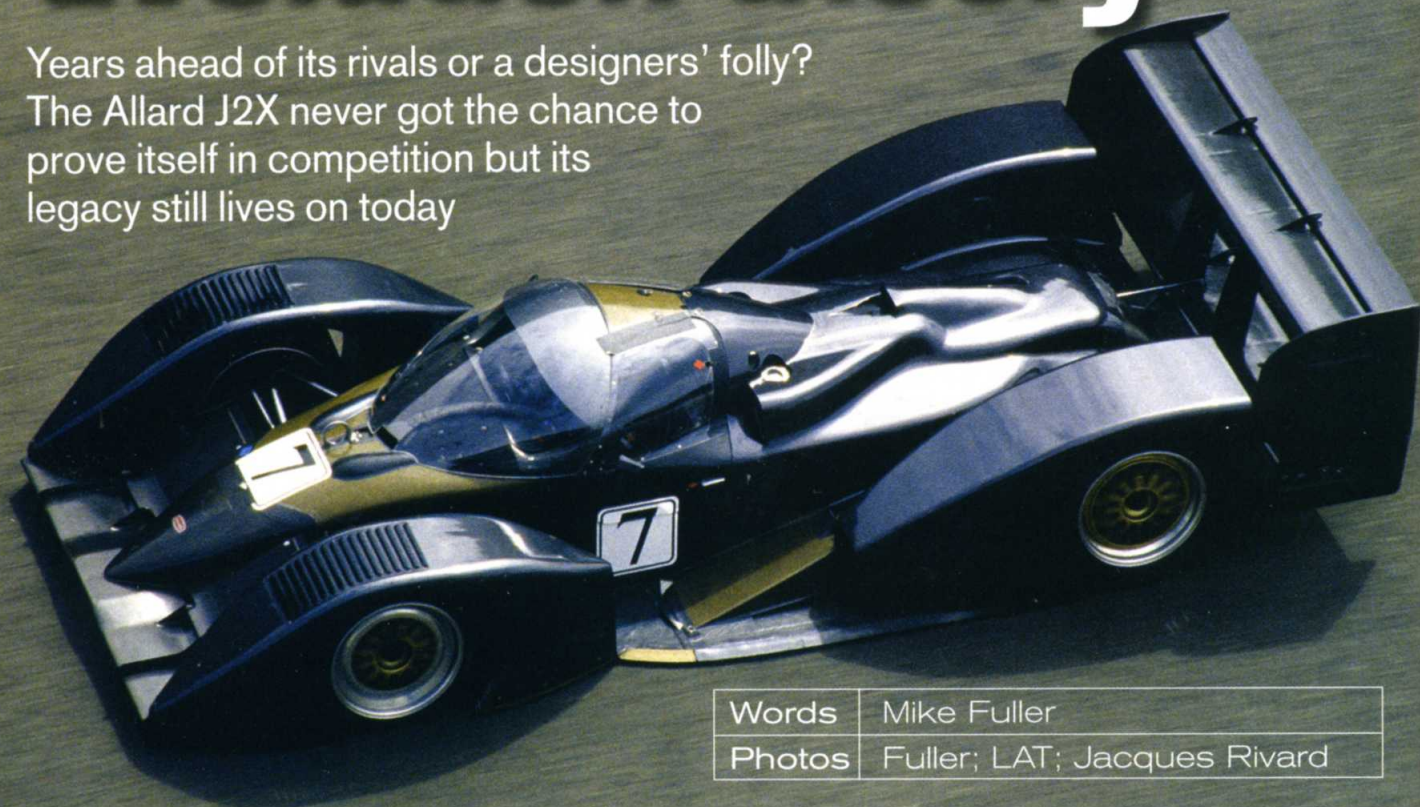
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Years ahead of its rivals or a designers' folly?
The Allard J2X never got the chance to
prove itself in competition but its
legacy still lives on today



Words	Mike Fuller
Photos	Fuller; LAT; Jacques Rivard

Some of the most advanced sports prototypes ever designed were born out of the 3.5-litre Group C championship. The 3.5-litre cars relied on superior aerodynamic efficiency and ever increasing downforce to produce lap times eclipsing those of the previous Group C era and it was into this environment that the independently designed Allard J2X was born – a car that accelerated the pace of thinking at a time when the development graph was already quite steep.

In the late 1980s, a designer named Chris Humberstone revived the Allard name. Humberstone had a flair for tackling and managing complex engineering projects, having previously worked with various racing teams and manufacturers, including Beatrice/Force F1, Benetton, and Brun Technics. He approached Alan Allard, the son of company founder Sidney Allard, about licensing the family name for a future road car project. Though delayed a number of years, in the early '90s Humberstone finally formed Allard Holdings with the intent of moving forward.

Starting late in 1990 he quickly amassed a group of young, enthusiastic (if somewhat inexperienced) designers and engineers for the project, starting with Brun Technics' Hayden Burvill. The Australian born Burvill became chief designer for the J2X, with John Iley, also from



Testing at Le Mans in '93 proved the J2X unsuitable for the race itself, due to its clear performance deficit

Brun, joining him as the car's aerodynamicist in early '91, and conceptualisation began straight away. 'We had seen people do maximum cross section for chassis stiffness (Brun C91) and we knew about the XJR-14 being very low profile. Our approach was to optimise the package to allow maximum volumes for investigating the aero solution,' says Burvill. John Iley adding, 'you always look for targets, areas for improvement, areas of strength with existing designs and ways to get the most from the category's regulations... There is also the difficulty of striking the right balance during development of very original new concepts versus iterative steps.'

From the start, the primary goal was minimal frontal area and the maximisation of aero development area, and the J2X's radical look was a direct result of this. Some 1/10 scale study models were built to evaluate ideas, with Burvill and Humberstone contributing and Iley joining a few months later. What began to emerge was a combination of all the best elements – a narrow tub and bubble canopy, detached front pontoon wings, a complex front wing, and very low profile rear bodywork.

Two 1/3 scale wind tunnel models were used to evaluate as many ideas as possible. It would have been preferable to use the Imperial College wind

