



The American LeMans Series has established a leadership position in alternative fuel sources by allowing its cars to run on zero-sulphur diesel fuel, E10 and ethanol-based cellulosic E85. Intersport's Lola B06/10 prototype runs on E85 in the LMP1 class.

## IMPROVING THE BREED, 21ST CENTURY STYLE

by David Phillips

**F**rom the humble rear-view mirror to “clean” diesels, the array of devices and technologies that have made their ways from the race car to the consumer automobile is practically endless. Those four, six, eight or even twelve ceramic-encased spark plugs that fire your car’s engine? Their predecessors were first used by a fellow named Henry Ford in 1901 when he piloted his “Sweepstakes” to victory in a race staged by the Detroit Driving Club. (By the way, the prize money helped the winner found a little business called the Ford Motor Company.)

In order to dispense with the weight of a so-called “riding mechanic,” Ray Harroun famously mounted a mirror on his Marmon-Wasp in 1911 so that he could keep an eye on the competition behind him...and won the inaugural Indianapolis 500. Thus was born the rear-view mirror. Front-wheel-drive technology was advanced by the Millers and Duesenbergs that dominated American board-track racing in the '20s. Independent suspension? See the Auto Union Type D Grand Prix cars of the '30s. Disc brakes? Developed by Dunlop Tyres and first used on C-Type Jaguars at Le Mans in 1953. Low-profile tires? Fuel injection? Real-time tire pressure sensors? Multi-function steering wheels?



Scott Atherton, ALMS president/CEO announced the program at the 2008 North American International Auto Show.

Well, you get the idea. It’s difficult to find a single vital component of the contemporary automobile that hasn’t benefited from development in the competitive environment of the race track. And while every automobile manufacturer involved in motorsports uses its racing programs to sell cars, the smart ones also use racing to develop not only new technologies but the engineers and managers who will conceive, develop and implement them in the future.

Of course it’s a two-way street. Technology is also being transferred from passenger cars to the race track, be it seat belts, semi-automatic transmissions or

quality-control processes. And with the advent of driver aids like ABS and traction control, even relatively humble passenger cars have—in some respects—outstripped their racing counterparts; particularly as concern about driver aids diminishing the talent differential among race drivers led sporting bodies to ban their application on race cars.

As well, the exponentially increasing cost of producing and racing ever more esoteric automobiles led some motorsports bodies down the path of increasingly standardized cars. While cars built to rigidly controlled specifications (aka spec cars) may have controlled the growth in costs, in many respects they blunted racing’s historical role as an incubator/test bed of cutting-edge technology relevant to the needs of the automotive industry.

Which is where the American Le Mans Series—and its partner the Automobile Club de l’Ouest which sanctions the 24 Hours of Le Mans—comes in. “The A.C.O. has always considered competition as a testing laboratory in the service of technology,” states the organization’s mission statement. “The aim of encouraging innovation, improving reliability and above all improving vehicle safety led the Automobile Club de l’Ouest to create the “24 Heures du Mans” in 1923 and to continue to organise it today.”



When it comes to innovative technologies, much of the recent focus of the ACO and the ALMS has been on what has come to be called “green racing.” Featuring rules that not only allow, but encourage manufacturers to develop progressive technologies, the ACO and ALMS have played an active role in the use of alternative automotive fuels in racing applications. The competitive use of multiple alternative fuels such as bio and cellulosic ethanol and zero-sulfur clean diesel has been achieved in partnership with the auto makers participating in the ALMS, including Acura, Audi, Aston Martin, Corvette, Dodge, Ferrari, Ford, Mazda, Panoz, Porsche and Saleen. Indeed, the ALMS has announced plans for a Green Challenge award, based on the Society for Automotive Engineers’ (SAE) Green Racing protocol, to be presented at the 2008 Petit Le Mans race at Road Atlanta in October.

As the Green Racing protocol suggests, there’s more to green racing than alternative fuels. Focused on performance, fuel efficiency and ecological impact, the SAE protocol includes the use of multiple engines, fuels and powertrain configurations, renewable energy powertrain technologies, fuel allocation based on wheel-to-wheel energy and GHG analysis, emission-control strategies and systems and the development of fuel-allocation regulations based on wheel-to-wheel energy and GHG, as well as renewable bio-based fuel or fuels.

Of course, the ACO and the ALMS are not alone in embracing Green Racing. The Indy Racing League switched to a 100% ethanol fuel formula last year, while Formula One is considering a wide range of progressive, eco-friendly rules in the coming seasons, including hybrid engines and energy recovery and storage systems.

But it is also noteworthy that the technological strategy of the ACO and ALMS is not limited to green racing. Rather it encompasses the larger desire to provide a real-world laboratory for the development of progressive technologies, one that simultaneously appeals to the automotive industry and motorsports fans from Le Mans to Sebring. In the final analysis then, the ACO and the ALMS take their marching orders from a Frenchman by the name of Antoine St-Exupery who, more than half a century ago wrote, “As for the future, your task is not to foresee it, but to enable it.” □



Ready to fuel a Corvette C6.R with E85 fuel are ALMS President/CEO Scott Atherton (right) and Doug Fehan (white shirt) GM Racing Program Manager.



The GM Factory Racing Team’s E85-fueled C6.R Corvettes compete in the GT1 class.

Here’s the Drayson-Barwell Motorsport Aston Martin Vantage running on E85 in GT2.

