

## CORVETTE ROAD RACING HISTORY: THE MAKING OF A PERFORMANCE ICON

The Corvette C6.R race program continues Chevrolet's tradition of racing production-based vehicles to improve the breed. It is a commitment that has taken Chevy's two-seater from the runways of Sebring in the '50s to Le Mans in the 21st century. The continuous exchange of information and the constant transfer of technology between the racing and production programs ensure that lessons learned on the track benefit every Corvette on the highway.

Corvette Racing has followed the strategy first mapped out by legendary racer/engineer Zora Arkus-Duntov to put Corvette in the racing spotlight. Duntov launched Corvette on a motorsports odyssey that has taken the marque to race tracks around the world. It is a plan that still inspires those who have followed in Duntov's footsteps. For 50 years, racing has played a key role in defining Corvette as America's performance icon. America's favorite sports car now stands at the pinnacle of international endurance after winning five consecutive American Le Mans Series manufacturers championships, four straight drivers championships, and scoring four 1-2 class finishes in the 24 Hours of Le Mans in five years.

Since Corvette Racing made its competition debut in 1999, the factory Chevrolet team has won 45 of the 66 races it contested through the 2005 season. Corvette Racing's list of accomplishments includes 31 1-2 finishes, an overall victory in the Daytona 24-hour race, and three straight class wins at the 12 Hours of Sebring.

"The 2005 season was another milestone year for Chevrolet and Corvette Racing, and a great way to celebrate the 50th anniversary of the GM small-block V-8," said Ed Peper, Chevrolet general manager. "Corvette Racing again dominated the GT1 category and continued the winning tradition that began with company co-founder Louis Chevrolet. There is no better example of the interaction between racing and production than the advanced technology that is shared by the championship-winning Corvette C6.R race car and the award-winning Corvette Z06 supercar."

### Corvette Racing 2005 season review

Corvette Racing dominated the American Le Mans Series for the fifth straight year in 2005, but it wasn't as easy as it looked. The introduction of the new Corvette C6.R race cars, the emergence of powerful new rivals, and the impact of new rules shaped the season for Chevrolet's two-car factory team.

The yellow Corvettes raced to 10 victories in 11 starts, including the team's fourth win in the 24 Hours of Le Mans. Chevrolet won the ALMS GT1 manufacturers championship for the fifth consecutive year, and Corvette Racing swept the driver, team and pit crew championships. When the checkered flag fell on the victorious Corvette C6.R of newly crowned GT1 champions Oliver Gavin and Olivier Beretta at the ALMS season finale in Monterey, Calif., it marked Corvette Racing's 45th win in international endurance racing.

"I would say it is my best season as a professional race car driver," said Gavin as he reflected on the previous eight months.

Gavin and Beretta had a slow start in their run for the title as victory eluded them in the first three events, but they gained momentum as the season continued. They first stood in the winner's circle in June, when they shared the limelight with Jan Magnussen in Le Mans. When the ALMS resumed in North America, Gavin and Beretta were on a roll. By the end of the season, they won seven times, captured five poles and recorded the fastest lap in eight races.

"Olivier and I had been threatening to get a run of wins together last year, but things just hadn't gelled," Gavin recalled. "All of a sudden things just started falling into place for us and it looked like it was going to be our year. We got some breaks, and luck has an awful lot to do with winning any championship. Yes, the car was fast and the engineering staff, Doug Louth and Joe Kiefer, have done a brilliant job. Winning the championship and the final race at Laguna Seca was a very, very satisfying end to the year."

Gavin and Beretta's chief competition came from within Corvette Racing as defending champions Ron Fellows and Johnny O'Connell scored three wins in 2005, captured two poles and finished as runners-up in the title chase.

"I think we have a lot to be proud of on Corvette Racing," said O'Connell. "After a season like this one, Ron and I will train hard and come back hungry."

So close was the competition between the two Corvettes that the team scored nine 1-2 finishes. Five times the twin Corvettes finished on the same lap.

"You're splitting hairs when you look at the difference between the two cars," said Corvette Racing program manager Doug Fehan. "It comes down to a pit stop or traffic in a single corner. The amazing thing is that those cars run nose-to-tail in race after race."

### Corvette C6.R: the next generation

New Velocity Yellow paint wasn't the only trait that distinguished the Corvette C6.Rs from their championship-winning C5-R predecessors. In fact, the C6.R was a different animal under its carbon fiber skin.

"There is no question that we had a steep development curve with C6.R," said Fehan. "We developed this car for a year before it appeared in public, so it had many miles of testing before its first race at Sebring. You only have to look at the differences between the C5-R and the C6.R – a 1-inch longer wheelbase and 5-inch shorter body – to appreciate how much work had to be done. You can't just re-skin an old car and expect it to win."

The changes in the sixth-generation Corvette's exterior were striking: a single, large grille opening for the engine air intake, radiator, and brake cooling; flush headlights for better aerodynamics; and a smaller, sleeker shape that reduced drag. But there were invisible changes as well.

"Both the chassis and the aerodynamic package changed considerably," explained Steve Wesoloski, GM Racing road racing group manager. "The new regulations required more extensive use of the production car's chassis structure, retaining items such as the central drivetrain tunnel, the windshield frame and the rear bumper. These requirements affected the C6.R's weight distribution, and we had to understand how that change influenced its on-track performance. We also introduced new low-friction suspension attachments that made the car quicker to react, and that required the engineering team to make corresponding changes in the setup throughout the season."

"When you introduce a car with shorter front and rear overhangs, you have to understand what that means for the aerodynamics," Wesoloski continued. "We did a lot of CFD (computational fluid dynamics) analysis before the start of the season; but until the car is actually running on the race track, you can't accurately determine the effects of changes in ride height on the aero balance of the car. There were adjustments made throughout the season as we learned more about the characteristics of the C6.R in actual race conditions."

There were also new horses under the hood as well. The 2005 season saw the introduction of the LS7.R racing engine, a further refinement of the GM small-block V-8 that has been the world's most successful production-based racing engine over a span of 50 years. Lighter and more powerful than previous Corvette powerplants, the LS7.R shares technology with the production 505 hp LS7 that powers the 2006 Corvette Z06 supercar.

"While the small-block V-8's fundamentals and configuration remained unchanged, the LS7.R's internal components were designed to reduce horsepower losses due to internal friction and to reduce rotating mass," Wesoloski revealed. "We took a considerable amount of weight out of the engine, helping the balance of the car while also improving performance. Comparing the lap times at Road Atlanta from the race in April to Petit Le Mans in October, much of the improvement in lap times was the result of six months of engine development."

### Corvette Racing statistics

The following is a statistical summary of Corvette Racing's 2005 championship season in 11 events (10 ALMS races and the 24 Hours of Le Mans):

Victories: 10 (three by No. 3, seven by No. 4)

1-2 Finishes: 9

Fastest Qualifiers: 7 (two by No. 3, five by No. 4)

Fastest Race Laps: 8 (five by Gavin, three by Beretta)

Total Laps: 4,014 (2,001 by No. 3, 2,013 by No. 4)

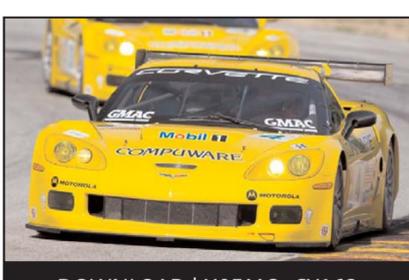
Total Miles: 14,654 (7,315 by No. 3, 7,339 by No. 4)

### Looking ahead

Reputations in racing are earned the hard way – with victories, championships and records. The Corvette legend continues in 2006 as Corvette Racing's championship-winning C6.Rs are replaced by two new cars for the 2006 campaign that begins at the Mobil 1 Twelve Hours of Sebring. The team's to-do list for the 2006 season includes continued refinement of the underbody aerodynamics and engine specifications as permitted by the series regulations.

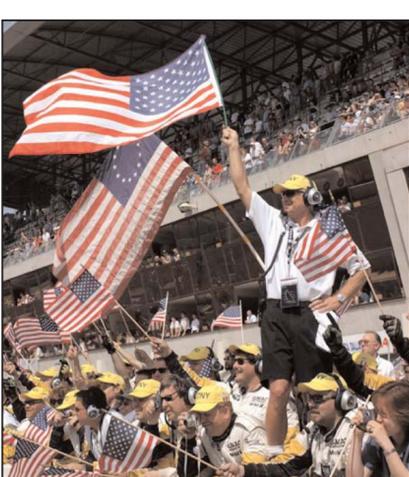
"The Corvette Racing program has not only benefited Corvette customers through the continuous improvement of production models, but it has also proved tremendously valuable for what it has done to energize the entire GM organization from the inside," said Mark Kent, director of GM Racing. "From the moment of the first track test in 1997, Corvette Racing was destined to do great things."

"Just when I think the Corvette team has done all that can be done, they surprise me," Kent continued. "I just can't wait to see what they do next, and I'm glad that our racing efforts will be part of making the next generation Corvette even better."



DOWNLOAD | X05MO\_CY162

Corvette Racing scored 10 victories in 11 races in 2005 with its new Corvette C6.R race cars and swept the American Le Mans Series GT1 manufacturers, drivers, team and pit crew championships.



DOWNLOAD | X02MO\_GM009

Corvette Racing realized Zora Arkus-Duntov's dream of winning the 24 Hours of Le Mans with four 1-2 finishes in the GT1 class in the last five years.



DOWNLOAD | X03MO\_CH070

Corvette Racing enjoyed a perfect season in 2004, winning every race in the ALMS.



DOWNLOAD | X05MO\_CH739

Corvette drivers Oliver Gavin (left) and Olivier Beretta shared the 2005 GT1 drivers championship after scoring seven victories, including a win in the 24 Hours of Le Mans with endurance racing teammate Jan Magnussen.



DOWNLOAD | X05MO\_CH338

Johnny O'Connell and Ron Fellows made history when they drove the Corvette C6.R to its first victory at Road Atlanta in April 2005.