

Production Corvettes Originate from Racing 'Vettes' Roots

DETROIT – It's been said that racing improves the breed, and when it comes to the Chevrolet Corvette, nearly six decades of checkered flags are the proof.

As Corvette marks its 60th anniversary in 2013, the design of the chassis, suspension and other drivetrain features are rooted in the rigors of competition.

"Candidly, Corvette was not a high-performance car until Zora Arkus-Duntov fitted it with a V8, and began campaigning Corvettes in racing," said Tadge Juechter, Corvette's vehicle chief engineer.

"Today, the Corvettes competing in the 24 Hours of Le Mans use many of the same components as Corvettes rolling off the assembly line at Bowling Green."

The Corvette C6.R is built on the same aluminum frame rails that underpin production Corvette Z06 and ZR1 models.

Other production chassis structures in the race car include the windshield frame, the hoop around the rear of the passenger compartment, the door hinge pillars, the drivetrain tunnel, the firewall and the floor pan. Corvette C6.R also uses the production steering column out of the ZR1, with a fully adjustable steering wheel, as well as production rack-and-pinion steering.

For the production Corvette ZR1, the racing influence is also evident in the rear transaxle design that helps achieve a near-perfect 51/49 weight distribution, as well as the racing-developed carbon ceramic brake rotors and Michelin Pilot Sport Cup Zero Pressure tires (developed by the same Michelin engineers who developed tires for Corvette Racing in the American Le Mans Series). These features contribute to the ZR1 running Germany's legendary Nürburgring in 7:19.63.

These are some of the chassis technologies that have shaped Corvette performance on and off the track:

- C2: Independent suspension, disc brakes and aluminum wheels – First-generation (1953-62) Corvettes used a modified passenger car frame and live rear axle, which worked well with the cars' comparatively modest performance output. Substantially greater power was on the horizon for the second-generation Corvette and racing-derived development spearheaded by the legendary Zora Arkus-Duntov – Corvette's first chief engineer – highlighted the need for a dedicated chassis system.

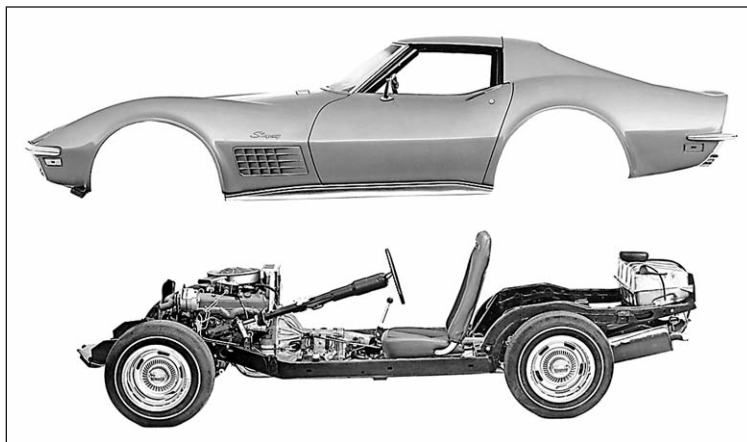
When the "C2" (Corvette second generation) launched in 1963, it featured a sturdy, ladder-type frame design that was 90 percent stiffer than the sedan-based "X"-

frame of the first-generation models. It also featured an independent rear suspension held in place by a unique transverse leaf-spring design. Besides offering greater handling capability, the independent rear axle was lighter than the previous solid axle design.

The C2 also introduced disc brakes and aluminum wheels, based on designs Duntov refined on Corvette race cars.

"Duntov pioneered the model of technology transfer by applying what was learned on the race track to improve the production cars," said Juechter, "That philosophy continues to play an integral role in vehicle development at Chevrolet."

- C4: Unitized structure, composite springs, antilock brakes and traction control – The C4 generation (1984-96) represented an even bigger leap in chassis tech-



Third-generation (C3) Corvettes employed the same basic ladder-frame design as C2 models, pictured above.

nology than the C2. The ladder frame that had served the Corvette for about 20 years was replaced by a unitized "backbone" chassis that, again, was inspired by racing cars.

It eliminated several cross members, allowing direct mounting of the rear differential and other components, which enabled greater interior room.

Motorsports Hall Ushers in Its New 'Class Members'

DETROIT – A strong and energetic contingent of friends, family, fellow legends and motorsports and auto industry insiders all converged at the Fillmore Theater last week to usher in an illustrious group of seven motorsports icons representing the Class of 2012.

Inducted were Ed Pink (drag racing), Derek Bell (sports cars), Ricky Johnson (motorcycles), Pop Dreyer (historic), Neil Bonnett (stock cars) and Vic Edelbrock, Sr. (at large).

Inductee Danny Sullivan (Indy Cars) was forced to miss the event due to an unexpected scheduling change that kept him in England on a motorsports TV shoot. Chevrolet's Jim Campbell served as master of ceremonies.

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