

Corvette Z06 Emerged from Wind Tunnel As High-Performance, 'Street-Legal' Car

by Jim Stickford

Getting the new 2015 Corvette Z06 ready for the 2014 NAIAS meant finding out as much of what couldn't be done as what could be done.

Jose Gonzalez, lead designer for the Z06, said they only had a year to come up with the Z06 designs. He calls the vehicle "the next step up" from the Stingray, which had its debut at the 2013 NAIAS.

"We had to make it better," Gonzalez said. "That meant discovering how much downforce we could generate with new designs, how much aggressive we could get with the design and how much faster we could make the vehicle."

Part of what makes the Z06 special, Gonzalez said, is that the design team got ideas from the C5-R racing Corvette.

"When we were developing our design strategy, the C5-R gave us ideas on what the requirements

and standards could be," Gonzalez said. "The job became to get these standards from the C5-R racing Corvette to the production car Z06."

Gonzalez has since moved on from Z06 to trucks. He said that the Corvette was his first time as a designer on a high-performance vehicle.

"What surprised me," Gonzalez said, "was how much time – and it was hours and hours – we spent with our models in the wind tunnels. Each new iteration meant making changes based on the data we got from putting that model in the wind tunnel. Each new iteration then had to be tested in the tunnels."

And, Gonzalez said, GM has a lot of different teams making changes to a lot of different models. That meant waiting in line for wind tunnel time.

"My personal goal was to make sure the Z06 performed as it should," Gonzalez said. "I'm basically a truck guy, and what I want

to hear from customers about the Z06 is that everything we did with it worked."

The biggest change of the Z06 was how wide the car is compared to the Stingray, Gonzalez said.

"We made a lot of changes to get this model ready," Gonzalez said.

"About the only thing we didn't change from the Stingray is the front fascia, the doors and the upper canopy."

The biggest pressure Gonzalez felt was the pressure of time in meeting the performance numbers they wanted to achieve.

The design team also ran into complications in trying to meet performance numbers from engineering and manufacturing realities.

"The components we were working with came from the engineering department," Gonzalez said. "What we could do with these parts was a factor in our design. We wanted to make



2015 Corvette Z06

things as light as possible, but that's not always practical from a manufacturing point of view."

For example, Gonzalez said, they wanted to make the hood extractor very thin, but manufacturing realities limited them. And there were legal limits to what they could do, so they had to eliminate some design technology used in racing cars to make the Z06 "street legal."

"I would say that we got 90 percent of what I sketched done," Gonzalez said. "I am very pleased that racing C7.R Corvette that was introduced at the 2014 NAIAS is a direct reflection of the work we did on the Z06, which is a real high-performance car. We were able to do what we set out to do with the Z06 and that's something everyone is very proud of."

New Brake System Helps Caddy's ELR Capture Green Car Technology Award

Green Car Journal has awarded the Cadillac ELR electrified luxury coupe its 2014 Green Car Technology Award for the Regen on Demand brakes.

The system allows the driver to use paddle shifters on the steering wheel to temporarily regenerate energy and store it as electricity in the battery pack for later use.

The award was announced at The Washington Auto Show in Washington, D.C., on Wednesday, Jan. 22.

"Regen on Demand is one of the key systems enabling the Cadillac ELR to merge performance with efficiency in a dynamic new way," said Jim Vurpillat, Cadillac's director of Emerging Markets.

"Putting regenerative braking at the driver's fingertips supports the ELR's 340-mile total driving range while also adding a fun-to-drive element to the premium luxury coupe."

Traditional performance vehicles allow drivers to upshift and downshift the mechanical transmission through steering wheel-mounted paddles.

ELR's Regen on Demand feature is unique to the vehicle and builds on Cadillac's performance-bred heritage, Vurpillat said.

"Cadillac has cleverly evolved a common electric-drive efficien-



2014 Cadillac ELR

cy system into an intriguing feature that adds a new dimension to the driving experience," said Ron Cogan, editor and publisher of Green Car Journal and CarsOfChange.com.

"Ever-increasing efficiency is crucial to our driving future, yet efficiency itself is not an attraction for a great many car buyers," he said.

"Cadillac's Regen on Demand is an inspired example of how technology can increase efficiency while connecting with a driver, enhancing driving dynamics along the way."

In addition to the exclusive Regen on Demand system, the ELR comes equipped with standard advanced technology features such as Cadillac CUE with Navigation, LED front and rear exterior lighting, Lane Departure Warning, Forward Collision Alert, and the Safety Alert Seat, Corbett said.

Powering the ELR is a combination of pure electric drive and an ef-

ficient, range-extending 1.4L gasoline-powered electric generator.

A T-shaped, 16.5 kWh lithium-ion battery pack is located along the centerline of the vehicle, between the front and rear wheels to make the most of weight distribution.

The pack supplies energy to an advanced electric drive unit to propel the vehicle.

Nationwide sales of the 2014 Cadillac ELR began earlier this month.

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Feds Propose Law To Save Children

(AP) – Child car seats would for the first time have to protect children from death and injury in side-impact crashes under regulations the government proposed Jan. 22.

The proposal by the National Highway Traffic Safety Administration would upgrade standards for child seats for children weighing up to 40 pounds to include a new test that simulates a side crash.

The agency estimates the standards will prevent the deaths of about five children and injuries to 64 others each year.

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Experts Predict Strong Sales

Demand for new vehicles remains strong and sales growth continues, according to a monthly sales forecast developed jointly by J.D. Power and LMC Automotive.

According to the forecast, new-vehicle retail sales in January are expected to reach 847,400, a 3 percent increase from January 2013.

The January 2014 seasonally adjusted annualized rate (SAAR) for retail sales is projected to reach 13.1 million, an increase of 400,000 units from December and 300,000 units ahead of January 2013.

Retail transaction prices in January, according to the report, are also on track to exceed \$29,500, up nearly \$300 from January 2013, and consumer spending is expected to increase by \$1 billion vs. January 2013, which is driven by both higher prices and higher sales volume.

"We are forecasting January 2014 to have the strongest level of retail sales for a January since 2004, and transaction prices will be the highest on record for the month of January," said John Humphrey, senior vice president of the global automotive practice

at J.D. Power. "In combination, the strong sales rate and record transaction prices are expected to result in record levels of consumer spending for the sector."

Other noteworthy trends include strong demand for vehicles in the compact CUV segment, which currently accounts for 16.3 percent of industry retail sales, up 3.5 percentage points from last January, Humphrey said.

"The growth of the CUV segment reflects the confluence of several factors, but most notably the availability of recently redesigned products that offer new technology and improved fuel economy," said Humphrey.

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