

## 'Flowtie' Design Aids Cooling of Z/28's Engine

Sometimes it's the little things that add up to the big developments.

In developing the 2014 Camaro Z/28, the Design team scrutinized every component looking for ways to improve track performance, lap after lap, said Chevy spokesperson Chad Lyons.

Even the iconic Chevrolet bowtie faced audit.

During aerodynamics testing, Powertrain Cooling Development engineer Richard Quinn noticed that the bowtie on the Z/28's grille was displacing air away from the radiator, which can impact engine cooling – an important aspect for all vehicles, especially track-oriented cars, Lyons said.

Removing the bowtie altogether did not seem to be an appropriate solution, Lyons said. Instead, Quinn took a cut-off wheel to the gold fill of the bowtie, leaving the silver outline intact. He installed the prototype on the grille and retested to see the results.

"There are engineers in our team that race as a hobby," said Quinn, "and we used that racer's mindset to look for ways small or large to get better performance out of the Z/28. Even the smallest details on the Z/28 were weighed for cooling benefit, and this is one that stuck."

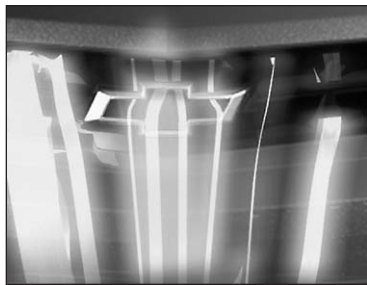
The "Flowtie," as the engineers now affectionately refer to it, is just the chrome outline of the traditional bowtie, with the center removed, Quinn said. This simple solution alone was enough to allow three additional cubic meters of air into the engine per minute.

Engineers found the Flowtie dropped the temperatures of engine coolant and engine oil by 2 degrees Fahrenheit during extended track sessions. That seemingly small improvement was enough to justify making the Flowtie standard on every new Z/28.

"The Flowtie is just one example of the team's focus on track performance," said Al Oppenheiser, Camaro chief engineer. "That same attention to detail is evident throughout the cooling systems for the LS7 engine, as well as the carbon ceramic brakes and the differential."

The naturally aspirated Z/28 weighs 300 pounds less than the supercharged Camaro ZL1 and 55 pounds lighter than the Camaro 1LE – with changes ranging from lightweight wheels to thinner rear-window glass, Quinn said.

"The Camaro Z/28 has more than 190 unique parts, compared to a Camaro SS," Oppenheiser said. "Like the Flowtie, each of these parts were changed with one objective: to deliver incredible performance on the track – not just for the first lap, but lap after lap after lap."



"Flowtie"



Standard Bowtie

## GM to Invest \$14M in Parma

General Motors will invest \$14 million at the Parma Metal Center in Northeast Ohio to support the installation of a progressive press that can eventually be used for both die tryout and regular parts production.

Startup is scheduled for late this year or early 2015. The new press will help Parma enhance product quality and productivity in support of its many customers across North America, said GM spokesperson Thomas Mock.

"People are the foundation of our business," said Parma Plant Manager Al McLaughlin. "We have a great team, and we all look forward to this opportunity to again prove that we are one team, one goal and world-class as we serve the customers who purchase our cars, trucks and crossovers."

Since 2009, GM has invested about \$120 million for improvements and upgrades at the 2.3-million-square-foot Parma facility,

Mock said.

It supports vehicle production at 13 GM assembly plants in North America and other customers, supplying 67 million parts last year. Parma's overall manufacturing processes include small, medium, and large transfer press lines, high-speed progressive presses and cut-to-length shear line.

The Parma Metal Center processes more than 1,000 tons of steel per production day, Mock said.

## Chevrolet's Spotlight Shines Brightly at Academy Awards

The film, "12 Years a Slave," wasn't the only winning film at this year's Oscars.

"Masterpiece," a commercial spot submitted by South Korean independent filmmaker Jude Chun, won a Chevrolet contest and aired during the Academy Awards ceremony on ABC-TV March 2.

The spot beat out 72 submissions by independent filmmakers from around the world in the Chevrolet and MOFILM Oscars film competition.

The 60-second film, created with the support of Eunhae Cho and Sunyoung Hwang, featured the 2014 Chevrolet Cruze, said Chevy spokesperson Cristi Vazquez. The spot told the story of children using their imaginations to create a short film called, "Speed Chaser."

It follows the children as they navigate their way through the filmmaking process, including costuming, makeup, props, sound and special effects.

"We asked filmmakers to create a short film that celebrates simple but significant moments in life that demonstrate the power of hope and possibility," said Tim Mahoney, Chevrolet's global chief marketing officer.

"A story about filmmaking, created by an aspiring filmmaker, captures the 'Find New Roads' mindset and is a perfect fit for The Oscars."

"Masterpiece" was filmed in South Korea, in an open field near Hwaseong City, Vazquez said.

"A big budget might help, but it's really imagination, creativity, and passion that gets movies made," said Chun. "Chevrolet's brand is about 'finding new roads', and that's exactly what filmmaking is."

An aspiring independent filmmaker, Chun has been producing films since high school, Vazquez said. This is the second competition he has won since he began working with MOFILM, a global creative community, in 2011.

Last June, Chevrolet announced the filmmaking contest and worked with MOFILM to call for submissions from its filmmakers throughout the world, Vazquez said.

Twenty-four filmmakers with early submissions received mentorship by a panel of celebrity experts and prominent professionals in addition to competing to have their film air during The Oscars, Vazquez said.

During Chevrolet's Oscars ad contest, 13 finalists were chosen from nearly 200 scripts and 72 films from 34 countries.

In 2012, Chevrolet and MOFILM used the same crowdsourcing method to produce the memorable "Happy Grad" spot that aired during Super Bowl XLVI, Vazquez said.

**DEBBIE**  
from **MALANAS**  
— now at —  
**RIVIERA HEIGHTS**  
• BARBER SHOP •  
(586) 268-4020  
Cell (586) 612-3141  
8527 Old 13 Mile • 2 Blocks East of Van Dyke  
Tues, Wed. & Fri. 9-6 • Sat. 8:30am-3:00pm

**GS COMPANY STORE**  
DELI & CATERING  
Best Corned Beef In Town  
Fresh Baked Good  
— Full Line Deli —  
Beer & Wine Available  
Dine-In • Carry-Out  
6177 Chicago Road  
(Previously Knights of Columbus)  
**(586) 825-0067**

**Nerby**  
CLEANING SERVICES  
CARPET • UPHOLSTERY • TILE • GROUT  
**586-677-1991**

**Kuhnhenh**  
Brewing Co.  
CRAFT BREWERY OF THE  
GM TECH CENTER  
- 5919 Chicago Rd. -  
Just East of Mound  
586-979-8361  
www.kbrewery.com

BEERS WITH  
DISTINCT  
PERSONALITIES  
SINCE 1998

HOMEBREWING AND  
WINEMAKING  
SUPPLIES.  
CONVENIENTLY  
LOCATED NEXT TO  
KUHNHENH BREWERY.

**Ventimiglia**  
IT'S THE BEST  
PLACE AROUND!  
• Delicious Soups & Salads  
• Submarine Sandwiches  
• Best Italian Food Items!  
• Large Choice of Cheeses  
35197 Dodge Pk. N. of 15  
**586-979-0828**

7 local centers in Metro Detroit: Auburn Hills, Clinton Township, Dearborn, Detroit, Southfield, Troy & Warren

## Management for Engineers

Are you an engineer who is managing engineers?  
Are you interested in expanding your influence and your paycheck?

Central Michigan University's  
Global Campus has the  
master's degree you need.

### Master of Science in Administration degree in Engineering Management

It's the perfect blend of career-focused administrative skills and the vital leadership abilities that will put you on the upward track.

- No entrance exams required
- 36 credit hours
- Online, face-to-face in Metro Detroit, or a combination of both

**CMU**  
CENTRAL MICHIGAN  
UNIVERSITY

CMU's Global Campus  
in Metro Detroit & Online  
**Contact us and get started  
today! 877-268-4636**  
global.cmich.edu/MSA

CMU is an AA/EQ institution (see cmich.edu/aaeo). CMUglobal@cmich.edu 38915 2/14