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## '13 Chevy Malibu Wins the Battle Against Hot/Cold Temperature Test

Can your car withstand the freezing temperatures of Denali, Alaska, or the baking heat of Death Valley, California, or the cruel humidity of the Gulf Coast?

Aside from a long, potentially miserable road trip, there's only one way to find out: ask the engineers at GM's vehicle development and validation testing to torture your car in the Climatic Wind Tunnel at the Tech Center in Warren, and see how it holds up in the 150-mph winds and 40-below-zero temperature, then the 140-degree heat and 1,155-watt simulated sunshine.

“Testing in the Climatic Wind Tunnel reduces the need to travel to remote locations, which helps save time and money,” said Ben Cruz, GM engineering group manager for thermal testing at the Climatic Wind Tunnel.

That fortunately makes the miserable road trip obsolete, then, so Cruz and his team decided to use their wind tunnel to put the all-new 2013 Chevy Malibu Turbo to the test.

First, the engineers conjured up a blizzard to test the Malibu's air induction system, designed to keep ice and snow from clogging the vehicle's air cleaning system.



The 2013 Chevrolet Malibu Turbo endures sub-zero conditions in the GM Climatic Wind Tunnel.

Next, they tested the Malibu's cabin air conditioning system against the tunnel's simulated Gulf Coast heat and humidity.

Finally, the engineers scrutinized the powertrain cooling system, for what good is turbo if it can't handle the heat?

So they decided to bring on Death Valley-like extreme hot daytime and cold nighttime temperatures.

In all three atmospheres, the Malibu Turbo performed nicely,

which was probably a relief to Cruz's team of engineers; surely none of them wanted to pursue the backup real-world road trip.

Also delighted with the Malibu Turbo's climatic wind tunnel performance was Jeremy Loveday, the vehicle's program engineering manager. He's most concerned with passenger comfort and convenience.

In a press release, Loveday explained how the wind tunnel testing helped, saying, “The new Mal-

ibu turbo was designed with the things that matter to our customers in mind, like starting on cold mornings and not overheating on hot summer days.”

The wind tunnel also simulates driving actual roads with real-world weight burdens, such as hauling a fully loaded trailer up a steep incline by applying resistance through the wheels of the tunnel's dynamometer, a tool that also allows simulated driving speeds of up to 155 mph.

## Chevrolet Gets Ready to Make Splash at SEMA

by Jim Stickford

Chevrolet is looking to make a big splash at the upcoming Specialty Equipment Marketing Association (SEMA) Show in Las Vegas by showing how its vehicles can be personalized by the consumer.

Jim Campbell, Chevrolet vice president of Performance Vehicles and Motorsports, said the SEMA show, which will be held from Oct. 30 to Nov. 2, is important for the brand.

Campbell said Chevrolet, since 1955, has been a leader in the V8 aftermarket world. Since 2010, the brand has been moving to improve its standing in the small-car market.

Last year, about two-thirds of Chevrolet's SEMA resources were dedicated to the small-car market. This year, that figure will be about 60 percent.

“Chevy has increased its small-car portfolio,” Campbell said. “And we want to show the world how consumers can personalize their vehicles.”

Chevrolet will unveil new production packages as well as concept vehicles at SEMA for the Sonic, Malibu, Camaro, Cruze, Corvette and Silverado at the SEMA show.

## Former Gov. John Engler Refers to 'Great Uncertainty in the Economy' In Detroit Economic Club Speech

There is still time for Congress to pass important legislation that will help turn the economy around, said former three-term state governor John Engler at a luncheon held in the Westin Book Cadillac for the Detroit Economic Club on Monday, Oct. 15.

Engler, who is now president of the Washington, D.C.-based Business Roundtable (BRT), an association of chief executive officers of leading U.S. companies with more than \$7.3 trillion in annual revenues and nearly 16 million employees.

The speech was titled, “The Economy and Uncertainty and the Costs of Inaction: a Business Perspective on Restoring Growth.”

Engler said for all that's changed in the last four years, there are still a lot of the challenges we faced left over from that time.

Washington, Engler said, has failed to deliver. The people of Michigan understand all too well the problems that come from this economy.

We all know someone, Engler said, who has been really hurt in the downturn, which has created a great deal of uncertainty and has hurt business.

The most recent survey of CEO members of the BRT showed that the companies were not planning on making a lot of new hires anytime soon.

This shows great uncertainty in the economy, he added, and part of the problem is that there is no functional tax code today, which makes businesses hesitant to invest even when they have cash on the books.

Engler said he considers himself an optimist and doesn't believe there is no way out of these economic doldrums. But one



Former Governor John Engler

thing people have to realize is that we're in a global economy and that 95 percent of the customers of American businesses live outside the United States.

Either a country can compete or it can't, Engler said. “Global competition is fierce and unrelenting, and all U.S. companies, no matter the size, have a great stake in winning in the international marketplace.”

He added, “Michigan has many name companies – Ford, Kellogg, Dow, Amway – who have a global presence. Tens of millions of Americans are directly and indirectly employed by this global economy.”

The BRT issued a paper in

## 'Future Lies with Hardware and Software Design Technologies,' Says Delphi's Ferris

by Jim Stickford

The Troy-based Tier I auto supplier Delphi was on hand at the recent SAE Convergence conference at Cobo Hall Oct. 16-17 to show the world just what the company can and will be doing in the field of advanced automotive technology.

Linda S. Ferris, senior communications manager at Delphi – Electronics and Safety, said the Convergence conference was the perfect place for Delphi to be because the company is “an auto supplier with a core competency in electronics.”

Ferris said innovation is in the company's DNA and that they understand that the only way automotive technological innovation can work is if it's innovation for the real world and it meets real-world OEM and consumer needs and desires.

“The concept of convergence of different electronic technologies ranging from infotainment to thermal systems, powertrain systems, safety systems, is important to OEMs,” Ferris said. “Delphi provides electronic controls for a vast array of auto systems, such as the ones I just mentioned.”

Ferris said Delphi also showed off its proprietary “My-Fi” family of infotainment systems, as well as a full suite of active safety systems that go along with My-Fi.

The safety systems include electronically scanning radar hardware and software for adaptive cruise control.

“We have these infotainment systems and active safety technologies and we can now integrate them together,” Ferris said.



Tier I auto supplier Delphi was on hand at the recent SAE Convergence conference to show how much of its technology is used on a variety of different systems – ranging from thermal to electric to safety – that are used in today's automobiles. Photo by Jim Stickford

## Chrysler Changing Battery Chemistry In Its Advanced Plug-in Test Fleet

AUBURN HILLS – Chrysler Group LLC is withdrawing from service its test fleet of advanced plug-in hybrid-electric vehicles (PHEVs) to conduct a battery-pack upgrade.

“This action is being taken to build upon the lessons from the initial deployment and to concentrate resources and technical development on a superior battery,” said Michael Duhaime, global director – electrified powertrain propulsion systems.

Three of the fleet's 109 pickups equipped with plug-in hybrid powertrains sustained damage when their prototype 12.9-kWh lithium-ion propulsion batteries overheated.

There were no injuries and the incidents occurred when the vehicles were unoccupied.

No similar issues have occurred with 23 plug-in hybrid minivans deployed as part of a parallel project. However, they are also being withdrawn from service for a battery upgrade.

Both projects are jointly funded by Chrysler Group and the U.S. Department of Energy.

A different battery chemistry will be used in the projects' next phase, which will focus on grid interaction and improved safety. The complexity of the engineering solution will determine how

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