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Colorado Concept 'All About Functionality'

by Jim Stickford

A vision of the future appeared at the recent Los Angeles Auto Show when Chevrolet introduced the Colorado ZR2 concept.

It was a look at how Chevrolet could take the all-new midsize truck's off-road capability to the next level, said GM spokesperson Otie McKinley. It also showcases the new 2.8L Duramax diesel engine that will arrive in the Colorado lineup later next year.

"The aggressively styled concept builds on the capabilities of the production Colorado Z71 and advances the legacy of Chevrolet's previous ZR2 production models," McKinley said.

Colorado Marketing Manager Tony Johnson added, "From the bold stance to the trail-ready special equipment, the Colorado ZR2 is all about the fun of driving where the pavement ends - and doing it in characteristic Chevy

"Chevrolet has a heritage of the ZR2 representing the ultimate in production-based offroad capability, and we'll gauge the public's interest in this concept as we continue to explore the possibilities for the all-new Colorado."

The Colorado ZR2's stance is four inches wider than a production Colorado Z71, Johnson said, with features including new front

and rear fascias designed to in- turbo-diesel four-cylinder encrease approach and departure angles when driving off-road. Ground clearance and rough terrain are handled with a two-inch lift and integral skid plates, while the wider track helps enhance stability in potentially unstable situations, said Johnson.

The Colorado ZR2's greater approach and departure angles -30.7 and 22.7 degrees, respectively, versus the Z71's 25/21 degrees - are enabled by new off-road fascias that drastically reduce front and rear overhang, Johnson said, adding that the fascias also feature integrated, flip-out aluminum tow hooks and the front fascia incorporates a built-in winch.

"The design of the ZR2 concept is all about functionality," said Johnson

"It is inspired by the needs for traversing rock-strewn trails, as well as the aesthetics of competition-style vehicles such as prerunners - with all elements contributing to safe, sustainable offroad driving.'

The Colorado ZR2 concept's new 2.8L Duramax diesel packs the power, Johnson said, with an estimated 181 horsepower at 3,400 rpm and 369 lb.-ft. of torque at 2,000 rpm - to tackle the toughest trails.

The 2.8L Duramax diesel is part of a new, global family of gines designed to deliver more efficient capability, said Johnson. adding that the diesel features a variable-geometry turbocharger for optimal power and efficiency across the rpm band and a balance shaft for greater smooth-

"While the ZR2 is a concept truck," McKinley said, "the 2.8L engine is very real. It is going into every trim level of the 2016 Colorado pickup next year.'

McKinley said that while the ZR2 is a concept truck, great care was taken to make it "real."

"When you talk about concept vehicles, one of two things happens," McKinley said. "Either the



Chevrolet's Colorado ZR2 concept truck

design is so 'Star Treky,' so cartoony that the vehicle looks cool, but it's not taken seriously, or the design is made 'real' and people get a sense of where the future is

The ZR2 designers, McKinley said, went for the latter.

They worked hard, he said, to make the truck as real as possi-

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GM to Invest \$200M in Metro Facilities

General Motors will invest \$200 million in its Orion Assembly and Pontiac Metal Center plants to prepare for a future vehicle program.

Orion will receive \$160 million for tooling and equipment, and Pontiac will receive \$40 million for new dies, said Orion plant spokesperson Chris Bonelli.

These investments are part of the nearly \$300 million in Michigan-based investments that GM CEO Mary Barra referenced in a speech at the Detroit Economic Club Oct. 28.

"This announcement is a shot in the arm for these two terrific plants known for their teamwork and employee engagement," said Cathy Clegg, GM North America Manufacturing vice president. "We're committed to growing our brands and producing the highest-quality and safest vehicles for our customers.'

While no new jobs will be created by these actions, Clegg said, this announcement brings the total investment in Orion Assembly and the Pontiac Metal Center to \$775 million since 2010.

Across the U.S., GM has announced facility investment of nearly \$11.4 billion since June 2009.

"We're not commenting at this time about when the work will be done to the plant," Bonelli said. 'Nor are we commenting on what new vehicle will be manufacturered here or how or if it will affect the production of vehicles currently being made at Orion."

UAW Vice President Cindy Estrada, who directs the union's

CONTINUED ON PAGE 2

Big 3 Open Hearts to Help the Needy at Thanksgiving

Chrysler Employees Donate to Food Banks

In the week before Thanksgiving, Chrysler employees across Illinois, Indiana, Michigan and Ohio took time out from building cars and trucks to donate food to local food banks to help 20,000 families in need enjoy a traditional holiday meal.

spokesperson Kevin Frazier, employee donations - everything from canned fruit and vegetables to cranberry sauce, stuffing and frozen turkeys purchased by The Chrysler Foundation - filled 35 pallets, enough food for more than 27,000 meals for families in Oakland. Macomb. Monroe, Washtenaw and Wayne Counties.

than 707,000 people are foodinsecure and despite a recovering economy, many working families are still having trouble making ends meet," said Gerry Brisson, president of Gleaners.

This much-needed support In Michigan, said Chrysler from Chrysler Group's Thanksgiving Food Drive will help Gleaners ease the burden for many families this holiday season."

"It takes 60 volunteers to run the pantry each day," said Karla Gardner, community development/donor relations director of the Hope Center in Macomb.

"The support of Chrysler Group volunteers helps Hope

"In southeast Michigan, more Center keep costs down (92 cents of every dollar donated goes to actual client programs).

"But our partnership also continues to raise awareness about the tremendous need in Macomb

Hope Center feeds nearly 500 households each week.

"Even in an affluent place like Oakland County," said Priscilla Perkins, chief development officer of the Lighthouse of Oakland County, "we still have more than 118,000 people living below the federal poverty level.

"The Chrysler Group's ongoing

CONTINUED ON PAGE 2

GM Orion Plant Employees Step Up to Help Homeless

by Jim Stickford

Mark Twain once said that everyone talks about the weather but no one does anything about it. Tell that to the folks at GM's Orion Assembly Plant.

They took it on themselves to help out folks who get cold really cold - when the winter weather hits the area.

Adam Lassen is Manufacturing Engineering director at the site and is also in charge of this year's Orion Christmas Coat

"We had a similar coat drive last year," Lassen said. "It was such a success that we decided to do it again this year."

The goal, Lassen said, is to help provide "slightly used" coats to people who are using the services of the Baldwin Center, a homeless shelter headquartered in Pontiac.

"The idea is for people to donate coats," Lassen said. "The drive was finished at the end of November. We also held a cotton

CONTINUED ON PAGE 4

Ford E-350 Joins Bed & Bread Fleet, Serves Meals to Hungry

As part of Ford Motor Compagasoline for the new vehicle. ny's expanded hunger relief efforts this year, the Dearborn automaker has donated a new truck to The Salvation Army's Bed & Bread Club.

The E-350, which joined the club last week, will help serve 5,000 meals a day to needy people in Detroit.

The vehicle joins the Bed & Bread fleet that provides a sandwich, fruit, beverage, soup and snack to city neighborhoods, said Ford spokesperson Todd Nissen.

The Salvation Army's Detroit Bed & Bread program is the largest one in the country. Marathon Petroleum Corporation will provide a year of free

"We're proud to help the Salvation Army's Bed and Bread Club travel to those in need, because hunger never takes a holiday," said Jim Vella, president, Ford Motor Company Fund and Community Services.

"By addressing the issue of hunger through other programs such as Ford Mobile Food Pantries, Ford Focus on Child Hunger and Meet Up and Eat Up, we are going further to create stronger communities."

The new E-350 is part of a combined investment of \$1.3 million across the U.S. in grants, vehicles and other assistance toward

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Salvation Army's new Ford E-350 delivers meals to the needy as part of the group's Bed & Bread Club.

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Colorado ZR2 **Concept Debuts** At L.A. Auto Show

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ble to show the public just what GM could do in the future.

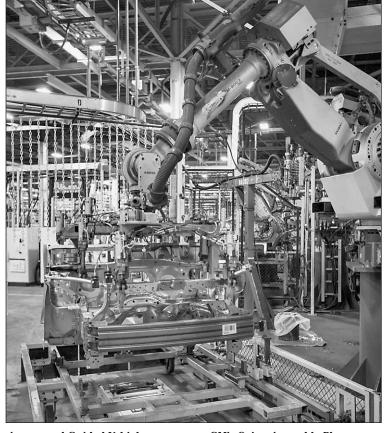
"The media really loved that truck," McKinley said. "If you look at the big truck sites and blogs like Jalopnik that covered the truck, their writers really

"But if you drilled down to the comments sections, and I believe the people who make comments can be counted as the 'public,' the responses were also very positive.'

While McKinley wouldn't speculate whether the ZR2 might go into production in the future, he said that every concept car that was approved for production had to receive strong support from the public.

This new Duramax diesel engine will take efficient capability to an entirely new plateau for the midsize truck segment," said Johnson.

"Its broad torque band makes it very powerful at low rpm, while the turbocharged performance provides a confident feeling of immediate and smooth power on demand - attributes customers will appreciate when



Automated Guided Vehicles operate at GM's Orion Assembly Plant.

GM to Invest \$200 Million In Orion, Pontiac Facilities

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GM Department, said, "I'm confident that our members represented by UAW Locals 5960 and 653 will bring the same hard work and quality as they always do to the new vehicle program.

"UAW members are proud to be an integral part of an industry turnaround that makes investments such as this possible and an opportunity to show the success we can achieve when we work together.'

In 2010, Bonelli said, GM announced a \$545 million investment in Orion Assembly, the 4.3million-square-foot plant in Orion Township, to launch the Chevrolet Sonic and Buick Verano.

This paid off, Bonelli said,

when Kelley Blue Book recently named the Sonic one of the "10 Best Back-to-School Cars of 2014" and the Verano "2014 5-Year Cost to Own Awards: Best Entry-Level Luxury Car."

Orion Assembly, Bonelli said, was the first GM facility to receive the Clean Corporate Citizen designation by the State of Michigan.

The Pontiac Metal Center, located in Pontiac, is a 1.2-millionsquare-foot facility that stamps metal parts for 20 different vehicle models.

Pontiac recently earned the U.S. Environmental Protection Agency's ENERGY STAR Challenge for Industry, one of only two GM plants in the world to meet the challenge three times.

Fiat Chrysler Agrees to Bring Localized Product to China

vehicle in China seems to be just around the corner.

Fiat Chrysler Automobiles (FCA) and Guangzhou Automobile Industry Group Co., Ltd. (GAC) on Nov. 19 entered into a preliminary agreement that would expand cooperation between the two firms.

FCA and GAC have agreed to bring a localized Chrysler product to China, adding it to the existing Fiat brand offering, said Chrysler spokesperson Shawn Morgan.

GAC Fiat will have access to the Fiat and Chrysler brand products announced during the FCA May 2014 Investor Day.

GAC Fiat also reaffirms its commitment to a full sport-utility vehicle offering through the Jeep brand with the localized production of three new Jeep models by the end of 2016, Morgan

"By 2018, the Jeep brand will have one of the most complete SUV portfolios in China ranging from subcompact SUVs to fullsize luxury SUVs," Morgan said.

In addition, the preliminary agreement includes the separation of commercial and industrial activities, said Morgan. The distinct entities will provide support and management in working toward the successful launch of the approved product plan, which will include the introduction of a second vehicle plant in Guangzhou.

A joint commercial operation will be established that will be responsible for all Sales, Marketing, Product Planning and Aftersales development of Jeep, Fiat and Chrysler brands, Morgan

Production of a Chrysler brand said. This operation will have responsibility for both locally produced and imported products.

The industrial operations based in Changsha will continue to support both the Changsha and Guangzhou vehicle and powertrain manufacturing plants, Morgan said.

This industrial group will retain responsibility for all GAC Fiat manufacturing activities, including assembly, quality, product engineering and supply chain management.

As part of the preliminary agreement, GAC and FCA will work to start laying the foundation for the aggressive network expansion required to support the development of SUVs through Jeep and passenger cars through the Fiat and Chrysler brands.

The best-performing dealers from the two existing networks in China will form the basis of both the Jeep SUV network and the Fiat/Chrysler passenger car network, Morgan said. Further investors will be required to support the doubling of both networks by 2018.

"CAG will take advantage of this opportunity to collaborate with leading auto brands from Europe and the United States to advance our globalization process, to achieve a more balanced growth, and to provide more options and better services for consumers," said Zhang Fangyou, chairman of GAC.

"China is a market of strategic importance to FCA in the next five years," said John Kett, general manager of Fiat Chrysler Asia-Pacific and head of the FCA's Jeep Brand APAC.

Chrysler Employees Help Feed the Needy

CONTINUED FROM PAGE 1

partnership is critical to helping the 1,800 families we'll serve this holiday season.

This partnership also enables Lighthouse of Oakland County to respond to the need of the more than 800 food-insecure families who visit our food pantry each month.

"It also helps them move from crisis to self-sufficiency."

Frazier said deliveries were also made to Faith In Action -Chelsea/Dexter and the Monroe County Opportunity Program, food banks supported by emEngine Plant.

We strive to make 'doing for others' part of everyday life at Chrysler Group, said Jody Trapasso, Chrysler senior vice president for External Affairs and president of The Chrysler Foundation.

"This effort is the culmination of a food drive that will allow families in our communities to enjoy a traditional holiday meal. We are grateful to Chrysler employees and the UAW for their generosity.

"Caring for our neighbors is needed more than ever. Over 46

Proving Grounds and Dundee each year, and nearly half of those are children and seniors."

This is the fourth consecutive vear that Chrysler has conducted its company-wide Thanksgiving Food Drive, Frazier said. In that time, the company estimates that the food drive has touched more than 60,000 families across the four-state area.







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Impala's CNG tank is intact after crash test at GM Proving Ground.

Chevrolet's Bi-Fuel Impala Can Handle Speeding Bullet

Being able to take a bullet and iected it to normal and extreme not quit is a sign of toughness.

That's just what the 2015 Bi-Fuel Chevrolet Impala's CNG tank does.

And, it withstands blazing fires from multiple directions.

Bullet and fire tests are conducted on the Bi-Fuel Impala's compressed natural gas (CNG) tank, which is what sets it apart from less strenuous testing of other natural gas-powered vehi-

A large piece of cast aluminum in the Impala helps protect the tank valve and connection from certain side impacts, said GM spokesperson Chad Lyons. Sheet metal plates on either side of the tank help protect it from loose objects in the trunk or rear seat.

'We designed this system for those 'what if' situations," said Nichole Kraatz, Impala chief engineer. "The customer shouldn't know it's there. They shouldn't even think about it. CNG should just be another fuel they use to power their vehicle."

Lyons added, "We wanted to tell people the story of how we go above and beyond the call of duty to show that this vehicle is

"There are certain safety testing protocols that we are obliged to follow to demonstrate vehicle safety. But we performed other safety tests - the bonfire test for example - that are not mandated

The bonfire test, Lyons said, is an industry test where a steady flame of 800 degrees fahrenheit is placed four inches from the tank. What GM engineers do is add trunk, backseat and underbody fires to test the pressure release valves on all sides of the tank.

These tests, Lyons said, are performed to show the public just how safe this Bi-Fuel Impala

Bi-fuel vehicles are currently very popular with fleet operations, Lyons said. There is only one passenger vehicle, made by Honda, available to the public.

Durability and safety testing at the tank's normal operating pressure of 3,600 PSI and higher sub-



situations, exceeding federal re-

quirements and CNG industry

guidelines. Examples are:

The industry-standard Bonfire Test confirms the CNG tank's pressure relief valves are operational and help prevent the tank from rupturing in a fire.

In addition to placing the tank about four inches above a steady 800-degree Fahrenheit fire, General Motors' engineers added trunk, back seat and underbody fires to test the pressure relief valves' ability to sense heat on all sides of the tank. And the tests were done at two different fuel levels.

• In the Penetration Test, the tank is filled to its service pressure and is shot with a 7.62 mm armor-piercing bullet. In order to pass the test, the bullet has to pass completely through one side of the tank without exiting out the other side. The goal is to have the tank maintain the bullet hole only as the weak structural point, without rupturing.

• Front barrier, side impact and rear impact crash tests were conducted on the Bi-Fuel Impala.

GM Continues Top Management Changes

Another shoe has dropped. GM's recent moves among top management didn't stop there.

More changes in top management have been announced.

Effective Jan. 1, 2015, Charlie Klein, currently executive chief engineer of Vans, Light Commercial Vehicles and Alliance Programs, is appointed vice president of Europe's Vehicle Engi-

Klein will replace Mike Ableson, who is moving back to the U.S. and will become vice president of GM's Global Product Planning and Program Manage-

Klein will report to Ken Kelzer, vice president, Global Vehicle Components and Subsystems and to Dr. Karl-Thomas Neumann, GM executive vice president and head of the Opel Group.

He will also replace Mike Ableson as a member of the board for Adam Opel AG.

"We welcome Charlie Klein to the Opel Group top management team," said Neumann. "He has been in charge of successful alliance projects with Renault and PSA in recent years, and we believe he is the right person to lead the more than 6,000 engineers at the International Technical Development Center (ITDC) in Rüsselsheim.

"At the same time, I would like to thank Mike Ableson, who put his stamp on the engineering work here in a relatively short time and played a significant role in the ongoing Opel/Vauxhall product offensive."

To further support Opel's comeback, according to GM, Carsten Wreth will join the company in a newly created position as vice president, Customer Experience, Europe, effective Jan. 1.

Wreth comes from Telefonica Global Services and will report to Peter Küspert, vice president of Sales & Aftersales and member of the Opel Group board.



Mike Ableson

tomer at the heart of everything the company does," Küspert said. "He will play a pivotal role in making our organization even more customer-focused."

Wreth has a degree in Business Administration and Mechanical Engineering from the University of Kaiserslautern, Germany.

In news closer to home, Stephen K. Carlisle has been named president and managing director of General Motors of Canada, succeeding Kevin W. Williams, who has led GM Canada since 2010. Williams will assist in the transition through the end of the year, said a GM statement.

Williams has elected to retire from General Motors, effective Dec. 31, the statement said.

Williams joined GM in 1983, holding progressively more senior roles in Manufacturing, Supplier Quality and Development, Purchasing and Service and Parts operations in multiple locations around the globe, including Canada, Mexico, Germany, and the United States.

"I'd like to thank Kevin for his leadership and significant contributions throughout a long and distinguished career with GM," said CEO Mary Barra. "In his most recent assignment, Kevin



Stephen K. Carlisle



Kevin Williams

helped rebuild GM Canada after one of our most challenging periods and has established a solid foundation for growth into the future."

In his new role, Carlisle will report to Alan Batey, president, GM North America. Carlisle most recently served as the vice president of Global Product Planning and Program Management based in the United States.

Previously, he held positions as vice president, U.S. Sales Operations, as well as president and managing director of GM's South East Asia Operations.







GM Orion Plant Employees Step Up to Help Homeless

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candy fundraising sale on Nov.

"The important thing there is that all the proceeds go to the Baldwin Center to go toward purchasing winter coats as a way to supplement the coat drive."

The sale was fun and simple, Lassen said.

Volunteers went around to friends and colleagues at the plant and sold them cotton candy they made using a special cotton candy machine.

The cotton candy was sold to workers at both shifts, Lassen said, at a price of \$2 per cone and, of course, the special value price of \$5 for three cones.

The cotton candy was colored blue, but the flavor was raspberry," Lassen said.

"I don't know how that works

"Some people ate the candy at lunch while others bought several sticks for their families at

Some people gave us \$20 for 12 cones and handed them out to their friends at the plant.'

Lassen said that when he was

setting up the coat drive, he asked if there was a need for any particular type of winter coat. He was told that the center needs coats for men, women and children - basically, coats for any-

"This is a joint project between the UAW and GM," Lassen said. "The people who volunteered their time know that it's all for a worthy cause.

"About 30 people stepped up and gave of their time to make this happen. They really went above and beyond the call of duty."

Lassen said that even though the coat drive was officially finished by the end of November, they are, naturally, still taking donations and are still looking to raise money for the Baldwin

"The cotton candy sale was just a fun way to raise money for a really worthy charity," Lassen

"We hope to give them a check for more than \$1,000 when everything is said and done.

"It's going to be a cold winter and there are people who can really use our help.

New Ford F-150 Boasts Top Fuel Economy

By DEE-ANN DURBIN AP Auto Writer

DEARBORN, Mich. (AP) - Ford said Nov. 21 that its new aluminum-bodied F-150 pickup will get up to 26 mpg on the highway, making it the most fuel-efficient gas-powered full-size pickup.

The Ram truck is the current leader among pickups, getting up to 25 mpg on the highway with a gas engine. The Ram gets up to 28 mpg with a diesel engine; Ford doesn't make a diesel version of

Fuel economy is a key selling point for the new F-150, which is arriving at dealerships this month. Ford shaved 700 pounds off the weight of the truck by switching the body from steel to lightweight aluminum, a dramatic change for the best-selling vehicle in the U.S.

Some analysts thought the truck might even top 30 mpg after Ford's multi-billion-dollar investment to develop and produce it. The final figure met Ford's expectations of a more modest improvement, and represents 13 percent greater fuel economy than the current F-150.

With gas now averaging \$2.84 per gallon, the aluminum F-150 will save the average buyer only \$100 to \$200 a year in fuel costs

Ford E-350 Joins

Bed & Bread Fleet,

Serves the Needy

hunger relief from Ford and Ford

Motor Company Fund, the auto-

maker's philanthropic arm, Vella

hunger and homelessness in

communities, providing millions

of meals for people across the

working with the Detroit Area

Agency on Aging to help provide meals to more than 6,000 home-

This is the seventh year Ford has donated \$40,000 to support

the Holiday Meals on Wheels

Thanksgiving program, as well

as provide additional funding for the daily meal service, Vella said.

Ford is collaborating with the

Parade Company and Gleaners

Community Food Bank to fight

hunger by collecting donations

for holiday meals from people

In addition, Vella said, Ford

has teamed up with Quick Lane

texting EAT to 85944.

Among the activities, Ford is

The support is helping tackle

CONTINUED FROM PAGE 1

over competing gasoline models General Motors Chrysler, said Larry Dominique, president of the ALG auto forecasting firm.

Doug Scott, Ford's truck marketing manager, said the majority of truck customers aren't solely focused on fuel economy. The new F-150 beats its rivals in both towing - of up to 12,200 pounds - and payload of up to 3,300 pounds.

Dominique agrees that buyers will focus on the total package. "The payload, the towing. Those aspects of it plus a little bit better fuel economy is definitely an increased value," he said.

Patrick Caraher, a relocation specialist at ALE Solutions in Phoenix, said he expected higher fuel economy. But he still plans to buy a new F-150 sometime in the next year.

"Losing 700 pounds on the truck is enough for me," said Caraher, 29. "Less brake, tire and shock and suspension wear is where I take my benefits.'

The F-150 will get 26 mpg on the highway with a 2.7-liter Eco-Boost engine, which Ford believes will account for 28 percent of sales of the new truck. The top highway fuel economy of the current truck is 23 mpg.

The company hopes the new truck's advantages outweigh customer doubts about the durability of aluminum or potential repair costs for the pricier metal.

It's a big risk. So far this year, one out of every three vehicles Ford sold in the U.S. was an F-Series pickup. It's been America's best-selling vehicle for 32 years.

2015 F-150

Ram's diesel-powered pickup gets even better fuel economy, at 28 mpg, but starts at \$30,215. Also, the price of diesel is currently 76 cents per gallon higher than gas. The F-150 starts at \$25,420 with \$495 premium for the EcoBoost engine, a popular

To further improve fuel economy, Product Development Chief Raj Nair says Ford is developing a 10-speed transmission to replace its current 6-speed. It's also working on smaller but more powerful engines.

He said a diesel engine doesn't make sense for the F-150 right

Ford also provided the fueleconomy breakdown for other engine types:

- The base F-150 with 3.5-liter V6 engine gets 25 mpg on the highway, or 20 mpg in combined city/highway driving. This version is expected to be 16 percent of sales of the new truck.
- The 3.5-liter EcoBoost V6 gets 24 mpg on the highway, and 20 city/highway combined. Ford expects this version to make up 28 percent of sales.
- The 5-liter V8 should get 22 mpg on the highway, and 18 mpg city/highway combined.

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bound seniors.

Industry, Military Working To Fortify Cyber Defenses

by JUSTIN PRITCHARD **Associated Press**

LOS ANGELES (AP) - Against the team of hackers, the poor car stood no chance.

Meticulously overwhelming its computer networks, the hackers showed that, given time, they would be able to pop the trunk and start the windshield wipers, cut the brakes or lock them up, and even kill the engine.

Their motives were not malicious. These backers worked on behalf of the U.S. military, which along with the auto industry is scrambling to fortify the cyber defenses of commercially available cars before criminals and even terrorists penetrate them.

"You're stepping into a rolling computer now," said Chris Valasek, who helped catapult car hacking into the public eye when he and a partner revealed last year they had been able to control a 2010 Toyota Prius and 2010 Ford Escape by plugging into a port used by mechanics.

These days, when Valasek isn't working his day job for a computer security firm, he's seeing how Bluetooth might offer an entry point.

Automakers are betting heavily that consumers will want not just the maps and music playlists of today but also Internet-enabled vehicles that stream movies and turn dictation into email. The federal government wants to require cars to send each other electronic messages warning of dangers on the road.

In these and other connections, hackers see opportunity.

There are no publicly known instances of a car being commandeered outside staged tests. In those tests, hackers prevail.

One was the Defense Department-funded assault on a 2012 model American-made car, overseen by computer scientist Kathleen Fisher.

Hackers demonstrated they could create the electronic equivalent of a skeleton key to unlock the car's networks. That may take months, Fisher said, but from there it would be "pretty easy to package up the smarts and make it available online, perhaps in a black-market type situ-

The project's goal is more than just to plug vulnerabilities - it is to reconceive the most critical lines of computer code that control the car in a way that could make them invulnerable to some of the major known threats.

The model code would be distributed to automakers, who could adapt it to their needs. That should take a few more years.

The industry is participating and not waiting.

One major association is helping establish an "information sharing and analysis center" patterned after efforts by big banks to try to thwart cyberattacks.

"Before, when you designed something, you looked at how might components fail," said Michael Cammisa, director of safety for the Association of Global Automakers.

"Now, you have to look at how would somebody maliciously attack the vehicle."

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FRONT END

Customer-Driven Makeover Set for 2016 Chevrolet Volt

If there's one thing Chevrolet Volt owners love about their cars, it's being able to recharge the battery easily.

Evidence of that is a U.S. Department of Energy study that shows more than 80 percent of all trips by Volt owners did not use the range extender, said GM spokesperson Michelle Malcho.

"The great thing about the Volt is that there is no range anxiety,' Malcho said. "It has that gas engine that can generate the electricity needed to power the car."

Rather, Malcho said, Volt drivers have been asking for devices and systems to make the car easier to use.

For example, Malcho said. Chevrolet has made the charging system in the next-generation Volt even easier for customers to recharge the battery - and to check the charge status. The next-generation Volt debuts in makes it easier for owners to January at the North American International Auto Show.

"Chevrolet used the real-world experiences of today's Volt owners to make the charging process simpler and more convenient in the next-generation Volt," said Andrew Farah, chief engineer for the Volt

"The new Volt will give owners greater flexibility for charging it on their terms.'

The new and enhanced features, Malcho said, include:

GPS location-based charg-

Owners will now be able to set their charging preferences exclusively for their "home" charging location and the vehicle will auto-matically adjust to that setting when it is at that location. The car will recognize when it arrives "home," based on GPS data.

This will allow owners to preset their charging level (8 amps or 12 amps on 120V only) and whether they wish to charge immediately, set a departure time for each day of the week, or set a departure time and a utility rate schedule to charge only at offpeak rates.

This is good, Malcho said, because owners can input their local utility's rate schedule into their Volt to assure they're using



Sneak preview shot of 2016 Volt

the cheapest electricity rates when charging.

"They will have to program the system only once and the Volt will return to these settings every time it is at its home location," Malcho said.

• New, more intuitive charge status indicators.

The next-generation confirm their Volt is charging and gauge charge status. The new status system features a specially designed tone that indicates when charging has begun, with additional tones for delayed charging. It will even indicate if the charge port door was left open after unplugging but before entering the vehicle.

With a glance through the windshield, an updated charge status indicator light on the top of the instrument panel will show the approximate charge level through a series of flashes.

In addition, an available illuminated charge port makes it easier to plug in after dark as well as indicate approximate charge level through a series of flashes.

• Portable cord set enhance-

A new 120V portable cord set includes a cord nearly 25 feet long, longer than the current portable cord. It can be locked using a small padlock to deter unauthorized removal during charging.

Based directly on customer feedback, Malcho said, a new storage bin for the cord is now located on the left side of the Volt's rear cargo area, above the load floor, for improved accessi-

Henry Ford Hospital, The Gallery, NAIAS Connect for Fundraising Event

Henry Ford Hospital has be- Popovich, Jr., M.D., Henry Ford come a fundraising partner of The Gallery, an annual event to raise funds for various organiza-

This January, the event will be held at the MGM Grand Detroit on Sat., Jan. 10, two days prior to the North American International Auto Show (NAIAS) Press Pre-

Gallery is an exclusive event featuring a collection of ultra-luxury, performance and exotic vehicles, said NAIAS spokesperson Joe Rohatynski.

NAIAS chairman Scott LaRiche said the new partnership is timely as Henry Ford Hospital will celebrate its 100-year anniversary in 2015.

"Henry Ford Hospital is Detroit's premier medical institution, and has been a critical part of our community for generations," said LaRiche.

"We are pleased to welcome it as fundraising partner of The Gallery, and look forward to a successful night."

As fundraising partner, Henry Ford Hospital will benefit from a portion of the proceeds from the evening. Funds will be generated through the sale of only 300 admission tickets at \$1,000 per ticket.

"We are thrilled to be a fundraising partner of The Gallery event," said John

Hospital president and chief executive officer.

"Henry Ford has been a destination for clinical excellence, education, and research for a century, and our partnership with the auto industry has been a driving force in discovery and innovation."

The Gallery, which in the previ-Now in its eighth year, The ous eight years has generated more than \$10 million in vehicle sales, will feature an estimated \$6 million worth of exotic brands and vehicles in a salon

The special evening also includes inspired meals prepared by celebrity Chef Wolfgang Puck and served at Ignite, MGM Grand-Detroit's sushi bar and lounge.

Guests will also be treated to a runway fashion show featuring striking attire for women and men provided by Neiman Mar-

While The Gallery's roster of cars is still being created, Rohatynski said participating brands have previously includ-Aston-Martin, Bentley, Corvette, Falcon, Ferrari, Jaguar, Lamborghini, Land Rover, Lincoln, Lingenfelter, Maserati, McLaren, Porsche, Rolls-Royce, and SRT Viper.

Tickets for The Gallery are available for purchase by calling 248-283-5126.



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39 AVAILABLE

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Cadillac's In-Seat Back Massagers **Geared to Ease Drivers' Long Trips**

massage therapist?

No problem.

On two 2015 models, Cadillac is offering front driver and passenger seats that can knead, roll and relax your back as you drive. An anti-fatigue option is also offered for the driver.

The idea, said GM spokesperson Eneuri Acosta, came from talking to customers.

"We're not aware of any auto manufacturer coming up with this idea before we did," Acosta

"We got it from customer feedback. We get a lot of our ideas that way. For example, the Escalade rear entertainment system has a remote that was designed by our engineers.

"When talking with customers, we learned that it was too complicated for young children to operate. What we came away with was that if we made the remote resemble a video game controller, the kids would be able to use it, so we did and they can."

The same thinking went into creating the Escalade's back massager system, Acosta said. Feedback said that while the seats are comfortable, drivers still get tired during long trips.

"The Escalade is often used for long family trips," Acosta said. "So we came up with the back massager for the driver. It's relaxing, yes, but we like to think of it as a real safety feature because it also keeps the driver alert and that's important during long trips.

The 22-way adjustable heated and ventilated seats now have a luxury option with a massage seat that works in the upper shoulder area, back lumbar or cushion.

"Many Americans have the Escalade Platinum Collection.

No time today to make it to the common misconception that spa or schedule a visit with the massage is just a luxurious way to relax. The benefits of massage are actually wide-ranging, especially for those that work that monotonous daily grind behind a desk or the wheel of a car," said Dr. Leena S. Guptha, board chair, National Certification Board for Therapeutic Massage & Bodywork.

While the seat is unable to provide the same experience as a trained practitioner, it can at least offer some comfort for a driver and passenger, Guptha

"This feature gives customers another way to improve their drive," said Elizabeth Hayes, General Motors Engineering Group manager.

"Once a massage setting is stored, a driver simply has to push the button and engage the luxury option. It's our goal to always find ways to make getting from point A to point B a little more pleasant."

The massage seats' settings can be stored in the car's memory like the seat positions, Hayes said. With a toggle switch or activation button, both on the outboard base of the seats, the driver and front seat passenger can direct the illustration of adjustments on the infotainment screen. The desired massage and intensity can both be controlled from the screen.

Once the optimal massage is found, the driver can save the kneading, rolling or anti-fatigue setting by pressing the memory button on the door, Hayes said. Reactivation can then occur by simply pushing the button on the seat base.

The massage seat is available on the XTS Premium and Platinum Collections and on the



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Back to the Future for 1939 GM Futurliner

by DAVE KURTZ The Star

AUBURN, Ind. (AP) - A 1939 GM Futurliner owned by the National Auto & Truck Museum is joining the new National Historic Vehicle Register.

The giant bus-like vehicle will take part with other vehicles on the register in a Cars at the Capital display May 3 and 4, 2015, on the National Mall in Washington,

The Futurliner already is in the nation's capital awaiting its appearance at the Washington Auto Show Jan. 23 through Feb. 1.

When its D.C. tour is through, the vehicle will come home next spring for its first display inside the Auburn museum, The Star reported. Until a recent remodeling, the Futurliner was too big to fit through the museum's doors.

Museum president John Pontius said the Futurliner's return will mark the first time that a National Historic Landmark building will display a vehicle on the National Historic Vehicle Reg-

Museum board member Jerry Muzzillo came up with a plan to enlarge an entrance door at the museum, and Sid and Belva Meyer of Auburn donated to move sprinkler heads to make space for the Futurliner, Pontius said. "Auburn Door took Muzzillo's idea and did a wonderful job making it work," Pontius added.

'We were excited about having it here this winter, because we're all ready for it," Pontius said about the Futurliner. "But when the chance for two shows in Washington, D.C., came along, it was a much better opportunity for the Futurliner and the museum. It brings us both attention."

Going forward, Pontius said, it will be out for the show circuit for the summers, but when it's not in a show, it will be in our mu-

Car collector Joe Bortz of



1939 GM Futurliner

Chicago donated the Futurliner to the museum in 1992. In 1998, a group of volunteers from Michigan, led by Don Mayton of Beaverdam, began a seven-year effort to restore the vehicle.

In return for their work, the museum allows the volunteers to exhibit the Futurliner at car shows across the nation in warmweather months.

Until now, the Futurliner has taken up residence for the winters in museums across the region, including a 2011-2012 stay at the National Military History Center and Kruse Automotive and Carriage Museum south of Auburn.

Only a few vehicles have been selected for the new National Historic Vehicle Register since a January announcement of a 1964 Shelby Cobra Daytona Coupe as the first choice. Since then, publicly announced selections include a 1947 Tucker 48 prototype, a 1964 Meyers Manx dune buggy, and a 1938 Maserati 8TCF Boyle Special that won the 1939 and 1940 Indianapolis 500 races.

The Historic Vehicle Association created the register in a project with the U.S. Department of the Interior. A vehicle chosen for the register must meet at least one of four standards:

- Ties to an important event in automotive or American history;
- Ties to significant people in
- automotive or American history; • Distinctive design, engineering, craftsmanship or aesthetic value; or,
- A vehicle that was the first or last of its type produced, has rarity as a survivor of its type, or is among the most well-preserved or thoughtfully restored surviving examples.

General Motors built the museum's Futurliner and 11 more like it for touring exhibits. They traveled the nation in a caravan during 1940 and again from 1953 to 1956, carrying displays of futuristic marvels such as microwave ovens and stereophonic sound.

Each Futurliner is 33 feet long, 8 feet wide, more than 11 feet tall and weighs more than 12 tons.

Only nine Futurliners remain, and five are reported to be in total disrepair, according to reports. An automotive publication said this week that the Auburn museum's No. 10 Futurliner has been on public display more than any of the others.



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GKN's Two-Speed eAxle Aids In Downsizing eMotors

eAxle, built by GKN in August, has entered production on the BMW i8 plug-in hybrid sports car.

With North American headquarters in Auburn Hills, GKN supplies automotive driveline components and systems.

'GKN's customers aren't just looking to make their next car more efficient - they want to create new driving experiences," said GKN Automotive CEO Andrew Reynolds-Smith.

"Our expertise in driveline efficiency, torque vectoring and electric drive systems is enabling automakers to connect drivers to the road in new ways. We are developing the systems that are helping bring a new generation of electric-drive vehicles to life."

"Being the first Tier I to deliver a two-speed eAxle demonstrates GKN's leadership in electric drive technologies and hybrid driveline systems," said Theodor Gassmann, GKN Driveline's vice president of Product Technology eDrive Systems.

"Two-speed eAxles will help manufacturers enhance hybrid and electric drivetrains and support the trend to downsize eMotors to reduce weight and

With the technology proven in a high-performance vehicle with high levels of refinement, significant savings in CO2 are possi-

Giving the electric motor an additional gear ratio improves acceleration and pure electric range, Gassmann said, benefiting both driving dynamics and CO2

GKN's two-speed eAxle also en-

The industry's first two-speed ables the motor and all its associated systems to be downsized, reducing mass and further increasing efficiency, he said.

eAxle technology enables automakers to produce "axlesplit hybrids," Gassmann said. A conventional or hybridized engine provides the primary power to either the front or rear wheels, with the other axle driven by an eAxle module.

The technology responds to deliver an instant high-torque allwheel-drive experience, a useful pure electric range or a refined, efficient parallel hybrid mode. No other hybrid architecture offers such a strong combination of efficiency, traction, dynamics and packaging, said Gassman.

Until now, electric and axlesplit hybrid vehicles have used single-speed transmissions, Gassmann said.

He further explained that using a fixed ratio limits electric drives in terms of either acceleration or top speed as they must disconnect at certain speeds to prevent the motor overspinning.

GKN's two-speed eAxle is the first to enable the electric drive to boost the vehicle's performance across its entire speed range, he said.

Designing the two-speed eAxle for a high-performance sports car application placed tight packaging requirements development Gassmann said.

To achieve high torque density in a package that weighs just 27kg and measures less than 325mm by 562mm by 313mm, some remarkable design decisions were made.



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November Sales Hot - Weather Not So Much

New-vehicle retail sales in November are expected to reach their highest level for the month since 2001, according to a monthly sales forecast developed jointly by J.D. Power and LMC Automotive.

New-vehicle retail sales in November 2014 are projected to come in at 1.1 million units, a 5.5 percent increase on a selling-day adjusted basis, compared with November 2013 (November 2014 has one fewer selling day than last year).

The retail seasonally adjusted annualized rate (SAAR) in November is expected to reach 13.5 million units, 200,000 units stronger than in November 2013.

Retail transactions are the most accurate measure of true underlying consumer demand for new vehicles, said J.D. Power spokesperson John Tews.

"The industry continues to demonstrate strong growth, which is exceptional considering that November is currently on pace to record the highest average customer-facing transaction prices ever," said John Humphrey, senior vice president of the global automotive practice at J.D. Power.

Through Nov. 16, retail transaction prices are averaging \$30,874, which is \$165 more than the previous record of \$30,709 in October 2014, Humphrey said.

Combined record transaction prices with strong new-vehicle retail sales has November on pace for a record month for consumer spending on new vehicle at \$33.3 billion, which is \$1.1 billion more than the previous record for the month of November set in 2013.

"Automakers will take advantage of the Thanksgiving holiday, one of the highest-volume holiday weekends of the year," said Humphrey.

J.D. Power forecasts that more than 238,000 units will have been sold over the Thanksgiving holiday weekend, Humphrey said, which would make it the secondhighest-volume holiday weekend of 2014. Labor Day weekend typically tallies the most sales of the year - this year, it was 279,000 units.

Total light-vehicle sales are projected at 1.26 million units in November 2014, up 5 percent from November 2013. November is typically a low fleet month, with November 2014 expected to come in below 15 percent of total light vehicle sales with volume of 178,000 units.

SBA Extends Its Deadline for Disaster Loans

The federal government's Small Business Administration (SBA) has extended the deadline to submit an application for a loan to help recover from the August floods. The new deadline is Monday, Dec. 15.

According to SBA spokesperson Michael Lampton, the extension is meant to allow businesses, homeowners and renters additional time to submit their SBA disaster loan applications.

These loans, if approved, have interest rates as low as 4 percent for business owners and 2.625 for private, nonprofit organizations, Lampton said.

Homeowners could receive a loan interest rate as low as 2.06 percent. Those specifically seeking SBA assistance can go online at disasterloan.sba.gov/ele, or call 1-800-877-8339.

To be considered for disaster assistance any kind from the federal government, interested parties may register online at the site disastersassistance.gov or call 1-800-659-2955 between the hours of 7 a.m. and 11 p.m. Eastern time for assistance.

As 2014 nears to a close, LMC Automotive is holding the 2014 U.S. light-vehicle retail sales forecast at 13.6 million units and total U.S. light-vehicle sales forecast at 16.4 million units, Tews

Humphrey said growth is currently expected to continue in 2015, but at a slower pace.

The forecast for retail sales is for 13.9 million units, and total light-vehicle sales are expected to increase to 16.8 million units, both up 2 percent from

"The 2014 close is shaping up as expected with November looking like another strong performance," said Jeff Schuster, senior vice president of forecasting at LMC Automotive.

"Looking forward, downward pressure has given way to upside momentum, with a stronger economy, significant new model activity and low gas prices creating an opportunity for the lightvehicle market to hit 17 million units in 2015"

North American production through October is at 14.3 million units, a 5 percent increase from the same period in 2013, Humphrey said. Vehicle inventory heading into November was at a 76-day supply, up from 64 days in September.

LMC Automotive has increased the North American production forecast for 2014 to 16.9 million units from 16.8 million units, which is a 5 percent increase from the 16.2 million units in 2013. Tews said.

North American production in 2015 is expected to eclipse 17 million units, with capacity utilization continuing to run at or above the 90 percent level.

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