Tech Center News

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From left, Via, Bingham and LeMasters stand at attention at the TACOM change of command ceremony.

Saluting Changing of the Guard at TACOM

by Jim Stickford

The change of command ceremony at the U.S. Army's TACOM Life Cycle Management Command in Warren went off with a bang - a 17-gun salute to be precise – on May 2.

The ceremony honored Maj.

Gen. Gwen Bingham, who commanded TACOM for the past two years, while welcoming the new boss - Maj. Gen Clark W. LeMasters Jr., who officially assumed command of TACOM.

Part of the ceremony involved a 17-gun salute on TACOM's grounds. It was so loud that the

car alarms of nearby vehicles were activated.

The ceremony was overseen by Gen. Dennis L. Via, who is in charge of the U.S. Army Material Command, which encompasses TACOM.

Chevy Honors Navy SEALs

May is National Military Appreciation Month, and Chevrolet is joining the National Navy SEAL Museum to honor the men and women who have served in the U.S. military, particularly its special forces.

Chevrolet will donate a portion of the proceeds from the sale of the new Special Operations 2016 Chevrolet Silverado to benefit the Navy SEAL Museum and its foundation, said GM spokesman Tom Rippinger.

Although many know Chevrolet has supported the U.S. armed forces - and institutions such as the Navy SEAL Museum - for many years, Rippinger said there are some facts that most people don't know. They include:

• The unlikely General: William Knudsen, president of Chevrolet and later General Motors, accepted President Franklin D. Roosevelt's request to lead U.S. war production efforts during World War II, giving up his \$300,000 annual salary in 1940 (equivalent to more than \$5 million today) to work for \$1 per year in Washington. Knudsen became a U.S. Army Lieutenant General, and received the Distinguished Service Medal in 1944.

• The Arsenal of Democracy: As World War II began, Chevrolet and General Motors answered President Roosevelt's call to build "An Arsenal of Democracy."



William Knudsen

Between 1942 and 1945, Chevrolet manufactured 60,000 Pratt & Whitney bomber and cargo plane engines; 500,000 trucks; 8 million artillery shells; 3,000 90 mm cannon barrels; 1 million tons of aluminum forgings; 1 million tons of grey iron castings; 2,850 tons of magnesium forgings; and 3,800 T-17 Staghound armored scout cars.

• National Military Appreciation Month: May was selected as Military Appreciation Month because it has most days set aside for celebrating and commilitary's memorating our achievements, including Loyalty Day, established in 1921; Victory

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Takata's Newest **Recall Boosts** Total to 69 Million

by Tom Krisher AP Auto Writer

DETROIT (AP) - Takata has agreed to recall another 35 million to 40 million air bag inflators, a stunning increase that will more than double what already is the largest automotive recall in American history.

The recall expansion would bring to as many as 69 million the total number of inflators to be replaced, a task that will take until the end of 2019 to complete, according to a statement May 4 from the National Highway Traffic Safety Administration.

Takata air bag inflators can explode with too much force and injure people. So far, at least 11



2016 Chevrolet Malibu

Ford, Fiat Chrysler Sales **Up in April; GM Cuts Fleet** DETROIT (AP) – America's love

Sales last month rose 3.6 per-



2016 Ford Explorer



of trucks and SUVs helped push cent to an annual rate of 17.4 milthe auto industry to its best April lion. Last year the industry set a ever, with most automakers reporting healthy increases.

U.S. consumers bought just over 1.5 million vehicles in April, nudging out the old record set in April of 2005, according to *Kelley* Blue Book.

This time around, it's consumer demand that is driving sales. In 2005, automakers offered wildly generous discounts and lease deals to keep their factories running. Some sold cars or trucks at a loss. Now, since the companies cut factory capacity during the Great Recession, they're selling vehicles for strong prices.

"I think it's full-steam ahead," said Rebecca Lindland, senior analyst for Kelley Blue Book, who doesn't see any economic forces that would cause car sales to slow.

record with sales of 17.5 million.

Ford posted record SUV sales. Fiat Chrysler was up 6 percent on record Jeep sales, and Ford rode an April record for SUV sales to a 4 percent increase.

General Motors, Volkswagen and Hyundai were the only major automakers to report sales declines. GM blamed its 3.5 percent drop on a strategy of cutting lowprofit sales to rental car companies. VW sales fell almost 10 percent as its emissions-cheating scandal continued. Hyundai sales were off 8.5 percent from a record April last year.

Ford Motor Co. said it sold more than 65,000 SUVs, the best April in company history, led by the Explorer with a 22 percent increase. Fiat Chrysler was led by a 17 percent increase in sales of Jeep SUVs.



2016 Jeep Cherokee

It was FCA's best U.S. April since 2005.

KBB is forecasting sales to be flat from last year's record 17.5 million, but Lindland says they could even fall off a bit as GM and other automakers reduce sales to rental car companies. Still, she says retail sales to individual buyers would be up, and that is healthy for the auto indus-

Regardless of whether sales keep growing, the overall pace of growth is slowing. Two years ago, for example, April sales jumped 8 percent, or double last month's expected pace. J.D. Power and Associates predicted that April sales this year would run at an annual rate of 17.6 million. For now, the sales outlook is

deaths and more than 100 injuries have been reported worldwide.

Replacing that many inflators will be a daunting task because automakers involved in the current recall of 28.8 million inflators have only been able to fix 28 percent of the cars involved after more than two years. Air bag manufacturers have had trouble ramping up to make enough replacement inflators, and automakers have had trouble finding owners and persuading them to get their cars repaired.

"The acceleration of this recall is based on scientific evidence and will protect all Americans from air bag inflators that may become unsafe," Transportation Secretary Anthony Foxx, whose department oversees NHTSA, said in the statement.

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Warren Library Offers Exciting Lectures in May

Biker and author Rob Pulcipher will be at the Warren Civic Center Library at 6 p.m. on Thursday, May 19, to talk about biking the back roads of Michigan and will present his two books, "Best Bike Rides Detroit and Ann Arbor" (a Falcon Guide) and "Dirt Road Washtenaw," said Warren librarian Jennifer Lund. Books will be available for purchase and signing after the presentation.

In a separate library event, Lund said those interested in the music of the 1950s can listen and groove to the oldies' beats of "Magic Moments."

"Dress up in your fifties' finest (optional) and enjoy this fun, upbeat program on Tuesday, May 24, at 6 p.m. at the Warren Civic Center Library," Lund said.

Military historian Professor Don Borsand will join the library on Thursday, May 26, at 6 p.m. in the Warren Civic Center Library Conference room to discuss an historic event.

"The U.S. response to Japanese expansionism in China, S.E. Asia, and the Pacific resulted in the firebombing of virtually all of Japan's cities," Lund said. "Despite the destruction, the Japanese government refused to surrender, so President Truman ordered the atomic bombing of Hiroshima and Nagasaki, causing the surrender of Japan and the end of World War II in the Pacific."

Call 586-574-4564 to register for any of these programs.

Headquarters for M-1 Rail Center Opens Its Doors

DETROIT (AP) – A multimillion-dollar technical center at the north end of Detroit's light rail line has officially opened.

The Penske Tech Center will function as the headquarters for M-1 Rail, the operating organization for the QLINE, as well as the

Research into Trends Determines Future Auto Colors

by Jim Stickford

Paul Czornij, technical manager for the BASF Color Excellence Group, has an interesting task. It's his job to find out what's going to be the new black.

Czornij recently unveiled 65 different paint colors developed by BASF after more than a year of "painstaking" research. He and his team investigated color trends in art, architecture and technology. They then developed paint colors and coatings based on what their research revealed.

Czornij said that the 65 different colors they came up with were developed in BASF design centers around the world.

Different regions of the globe had different trends, Czornij said. Over all, 20 colors came from Europe, 20 from North America and 25 from the Asia/Pacific region. He noted that China now has its own development center and five of the 25 Asia/Pacific colors were developed there.

Now that the colors have been selected and developed – and it wasn't always easy, said Czornij, to develop the coatings and paint colors desired – they'll be taken to automakers who can now use them as the basis for their new color palettes.

Basically, Czornij said, BASF

has spent the last year or so trying to develop colors that will be used to paint cars that will be made three to five years from now.

"BASF has a good track record," Czornij said. "The overarching theme for this year's collection of 65 colors is 'Parallax,' a concept where objects appear shifted or changed when viewed from different angles. The two competing vantage points that shape our modern world are the fascination of the virtual world and the longing for honest selfexpression."

In North America, BASF's three main new colors are Raingarden, Primordial Soup and Aerialist Wish, Czornij said. Raingarden is a metallic silver with green and blue elements meant to show the lines of how individuals behave in society and how the influence of technology blurs things.

Primordial Soup, Czornij said is a deep, blood red that was inspired by the heart and is meant to represent a collective passion while also showing individualization.

Aerialist Wish is a black color with a silky silver throughout. It is meant, Czornij said, at first to represent a grittiness, but the darkness of the color is supposed to be mysterious and luxurious and relates to society's feelings of recent urban development.

"A lot of people think of a car's color as an exterior expression of who the owner is," Czornij said. "The interior is private, but the exterior is meant to be a statement, and the color an owner chooses says something."

BASF, Czornij said, worked hard to develop colors that changed a little when the perspective of the viewer changed. That's important because most cars only have one color on the body and appearing slightly different from different angles is a way of changing things up without having to change.

It's important to give OEMs 65 different colors to choose from, Czornij said, because different colors work better for different models.

A good Jeep color isn't the same as a good Lincoln or Cadillac color. As OEMs try to create the image they want for a particular model, having a lot of color choices is something that can help.



Czornij shows off new colors developed by BASF for OEMs.

Takata Faces Further Troubles Over Air Bag Scandal

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Under an order issued last year, the government has wide authority over Takata to prompt additional recalls. The NHTSA news release says the order has been amended to include the additional inflators.

The expansion will be phased in between this month and December 2019, with older cars and those in areas of high heat and humidity getting priority, the agency said.

Takata uses the chemical ammonium nitrate to create an explosion that inflates air bags in a crash.

But the chemical can degrade over time when exposed to heat and humidity and burn too fast, blowing apart a metal canister and spewing shrapnel into drivers and passengers.

The expanded recall covers all front air bags that do not have a chemical drying agent known as a dessicant. But it does not cover side air bags without the drying agent, nor does it cover another 32 million air bags that have the dessicant.

Sen. Bill Nelson, a Florida de-

mocrat, whose state includes several of the injuries and deaths from Takata inflators, said the pace of the recalls still isn't fast enough.

"The top priority must be doing whatever is necessary to get these potentially deadly air bags out of people's cars as quickly as possible.

"If we wait another three or four years for these to get replaced, more people are likely to die," he said in a statement.

Even without the expansion, it would have taken until the end of 2017 for enough replacement parts to be manufactured, said Scott Upham, CEO of Valient Market Research in Rochester, N.Y., which tracks air bag sales.

Upham said other makers of air bag inflators such as TRW Automotive, Daicel and Autoliv have agreed to ramp up production even more.

"They're pitching in to the best of their ability, but even with their help, it's going to be very difficult to really ramp up production to cover this," Upham said.

He said it will be difficult for Takata to survive financially with

the expanded recall. He expects the company to file for bankruptcy and emerge as a smaller corporation specializing in seat belts, electronics and air bag assemblies without inflators.

The additional recalls come as authorities in Malaysia investigate two more recent deaths in cars with Takata air bags that

ruptured. Honda says the inflators spewed metal fragments in the crashes, but the cause of the deaths has not been officially determined.

The crashes occurred in April and May. If they were caused by Takata inflators, they would be the 12th and 13th deaths worldwide.



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maintenance and storage facility.

The May 3 opening event featured its namesake, Roger Penske, a racing team owner, businessman and M-1 board member. He said the project has helped Woodward Avenue become "one of the most successful corridors in the state" after a long decline. Staff members have already moved into the facility.

Officials say light-rail passenger service should begin in spring 2017.





Tech Center News

COVERS THE TECH CENTER AND THE IMMEDIATE AREA

Saluting Changing of the Guard at TACOM

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The ceremony was held outdoors under a cloudy sky and 52 degrees temperature. Via jokingly said it was interesting coming up to Michigan and seeing the state's summer weather.

'Warren has a history," Via said. "For more than 75 years, the base here has provided for our soldier. The Arsenal of Democracy is alive and well in Warren."

And he said that he was proud to be at the ceremony to honor the work done by Maj. Gen. Bingham and to welcome LeMasters to the post in the knowledge that the facility will be in good hands.

'The passing of unit colors has come to symbolize the rich heritage of our great Army," Via said.

Bingham said that her two years at TACOM were enriching and that everyone on the base worked hard to meet the demands of American citizens "who want to ensure and be assured that our soldiers get the best equipment and that our defense remains strong.'

LeMasters also spoke, saying that he has much to live up to at TACOM, but that he will enjoy being based in Warren because he's a car buff himself. He owns three Corvettes - a 1962 model, a 1965 model and a 2016 model.³

year's Woodward Dream Cruise," LeMasters said. "And I will be guiding my team and stay focused on the job at hand. Which is doing the right thing, not the easy thing. The lives of our soldiers depend on the work that we do here."

After the ceremony, LeMasters spoke briefly with the press. He was asked about consolidation of military facilities and how it might affect TACOM.

This is an election year,"

"I am looking forward to this **Clark LeMasters**

> LeMasters said. "So no consolidation decisions are going to be made until after the election. But as I look across the Army and what this facility provides and its proximity to where so much of the technology comes from, I have a good feeling."

Engineers Talk Autonomous at MCC Event

by Jim Stickford

Once an autonomous car has enough information, from various sources, "the car then has to plan what to do," said Steve Buckley at a May 6 symposium.

Buckley, senior technical fellow for Electrical and Electronics at Fiat Chrysler, was speaking at a Macomb Community College symposium titled, "The Road to Autonomous Vehicles.'

He was joined by Gary O'Brien, global director of Advanced Engineering at Delphi's Electronics and Safety Division.

Buckley spoke about the challenge of how the environment around a car affects automated or autonomous driving.

He noted that there are five levels of automation. Actually, Buckley said, there is a level zero. That's where the driver is responsible for everything. But cars today come with a variety of automated tech, including rearview cameras and adaptive cruise control.

As cars move up the spectrum from level one to level five, the need for the vehicles to be able to sense what's in their environments is going to grow, Buckley said. And that won't be easy, he added, because sensing the environment encompasses a wide variety of factors, including vehicles around the car, traffic signs, off-road data sent to the car from outside connections, and, of

the systems together so that they work in harmony.

"Let's face it, bad weather is a real thing and a real problem,' O'Brien said. "So fusion of these different systems is important to overcome individual weaknesses.

Buckley noted, "As technology advances and more automated cars become a reality - and automated vehicles are going to be here in the next five to 10 years -OEMs and suppliers have to do a few things."

First, they must be able to assure the public that their privacy is protected.

Secondly, he said, these systems must have sound cyberse-

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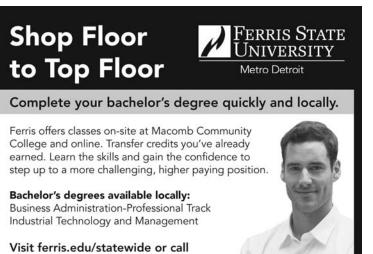
curity. The public must be convinced that their vehicles won't be hacked.

Third, Buckley said, the software that runs the cars of tomorrow must be reliable. That isn't easy, he said, when you're talking about 50 central processing units using 100 million lines of code.

Finally, he said, the systems must behave in a manner that people expect.

What that really means is drivers must know how to use it and trust it, Buckley said.

When asked about acceptance of this technology, O'Brien said the younger the driver, the more they accept it.



Chevrolet Donating Funds To U.S. Navy Seals Museum

CONTINUED FROM PAGE 1

in Europe (VE) Day, commemorating the end of WWII in Europe on May 8, 1945; Armed Forces Day, created in 1949; Military Spouse Appreciation Day, established in 1984; and Memorial Day. Chevrolet is celebrating National Military Appreciation Month by expanding its Military Discount Program to include all 21 million military veterans, regardless of separation date. To learn more, visit ChevySalutes.com.

• The National Navy SEAL Museum: The museum is located in Ft. Pierce, Fla., because the Navy's first Underwater Demolition Teams (UDT) - nicknamed "frogmen" for their swimming skills trained on the museum grounds during World War II.

• Not Always SEALs: The UDT teams were not known as SEALs until 1962, when President John F. Kennedy recognized their value and commissioned them as Sea Air Land Teams, again expanding their mission beyond their traditional role.

• The Naked Warriors: Because UDT teams went to battle wearing little more than swimming trunks, they were nicknamed "The Naked Warriors." A statue in their likeness salutes their bravery at the museum.

• Saving Captain Phillips: In 2009, Maersk Alabama Capt. Richard Phillips – portrayed by

Tom Hanks in the 2013 film, "Captain Phillips" – was held hostage by pirates off the coast of Somalia until U.S. Navy SEALs rescued him from the ship's lifeboat. The lifeboat is on display at the museum.

• A Unique Memorial: The Navy SEAL Museum is the only memorial in the world dedicated to the UDT divers and Navy SEALs who have made the ultimate sacrifice. Like the Vietnam Veterans Memorial in Washington, D.C., their names are carved into black granite panels on the walls surrounding the sculpture of a modern Navy SEAL diver and its reflecting pool.

• More Than a Museum: Through its Trident House Charities program, the Navy SEAL Museum provides assistance to military families. The Trident House itself provides complimentary respite to the families of Navy SEALs and other special operations forces. The Navy SEAL Museum Scholarship Program provides help to children from the families of special operations forces for their education.

• Tools of the Trade: The UH-60 Black Hawk is a four-bladed, twin-engine, medium-lift helicopter manufactured by Sikorsky Aircraft. The helicopter on display at the Navy SEAL Museum was donated by the "Night Stalkers" 160th Special Operations







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course, the weather.

"The car then has to localize itself on the map, and consider local regulations like speed limits and other traffic rules. And then maybe even plan a route to a destination using all this important information.'

To be able to do this, O'Brien said, vehicles are and will be using a variety of different sensors. Each sensor has its own strength and weakness.

He explained that radar, for example, doesn't work well in tunnels because of the curved roof. Vision systems like rearview cameras have the same weaknesses as the human eye. Fog, for example, blinds them.

A similar device, lidar, that emits pulsed laser light instead of microwaves, O'Brien said, can be affected by objects that don't reflect light well and dirty optics can affect it.

Because no one sensor system can do everything, O'Brien said, the trick is fusion, integrating all





tion plans.

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GM Engineers Build Bikes for Pontiac Kids

GM Global Propulsion Systems works on developing powertrains that will be used around the world.

But employees based at its Pontiac headquarters have decided to also develop powertrains on a more local level that can be used around the block.

Liz Dallacqua, a designer release engineer for Global Powertrain Systems (GPS), said that, for the second year in a row, engineers and other workers at GPS have held a "Bike for Kids" program that provides bikes for vouths in need in metro Detroit.

"We started 'Bikes for Kids' in 2015," Dallacqua said. "I was given the task as part of a teambuilding exercise to come up with something that would bring the engineers together.

"I found a charity in Detroit called 'Back Alley Bikes' that works with kids and teaches them how to repair and take car of bicycles."

The idea is to get the kids bikes, Dallacqua. This gives them mobility.

"I thought this was a good charity," Dallacqua said. "So last year we worked with them to get kids bikes and to teach them about the bikes."

The program proved to be a great success for the kids, Dallacqua. And the engineers enjoyed the work and helping the kids.

So when 2016 rolled around, Dallacqua decided that bikes



From left, GM engineers John Douro, Joe Folk and Kiel Vanderhovel

were the way to go. But this time she decided to work a little closer to home.

"We wanted to work on a project in Pontiac, where GPS is located," Dallacqua said. "So we partnered with KLM Bike & Fitness in Rochester. They provided, at wholesale prices, bike kits and spare parts, as well as the mechanics who know how to put them together.'

So on April 29, 74 volunteer GPS engineers, as well as the folks from KLM Bike & Fitness, had a bike build, Dallacqua said. In all, 12 new bikes were put together and 21 bikes in various states of disrepair were worked on and made whole

to the Woodside Community Center in Pontiac, a local organization that works with 465 students in Pontiac. All but one of the bikes were distributed to kids at Woodside.

The last one was auctioned off to raise money for the Baldwin Center on May 6.

"The Baldwin Center also received some matching funds from GM as part of the GM Cares initiative," Dallacqua said.

"It was great to see all the engineers come to the build event and work together to repair and build the bikes. This turned out to be a true team-building exercise because the bikes were built by teams put together that day."

The bikes were then donated

Tesla Sees Large Losses in First Quarter

DETROIT (AP) - Electric car maker Tesla Motors Inc. brushed off a big first-quarter loss and cheered investors with news that it plans to accelerate its produc-

Tesla's loss rose 84 percent to \$282 million in the first quarter as it struggled with parts delays for its new Model X SUV. The company's stock-based compensation costs also more than doubled during the quarter to nearly \$90 million. The loss, of \$2.13 per share, far exceeded Wall Street's

Sun 12-4

forecasts. Analysts polled by FactSet expected a loss of 87 cents per share.

But Tesla's shares jumped 3 percent to \$229.48 in after-hours trading last week after the company said it's pushing ahead its plan to make 500,000 vehicles per year to 2018, two years earlier than scheduled. That's up from 50,000 vehicles in 2015.

Tesla said it remains on track to deliver 80,000 to 90,000 vehicles this year after resolving the Model X production issues. It



also reaffirmed that production of the lower-cost Model 3 car will start in 2017. Tesla has set July 1, 2017, to start production of the Model 3 and wants to make 100,000 to 200,000 cars in the second half of the year.

Tesla CEO Elon Musk, who has a desk and a sleeping bag at the company's Fremont, Calif., factory, said he celebrated the first flawless production of a Model X at 3 a.m. April 29 – eight months after the company started deliveries to customers.

He stressed that the Model X with its gull-wing doors and freestanding rear seats - is much more complicated than the Model 3, so industry watchers shouldn't assume the company will have similar production problems. Tesla also will be tougher on suppliers who can't meet its deadlines, he said.

"No element of Model 3 can be approved unless manufacturing says it's easy to manufacture, Musk said May 4.

The Model 3 was unveiled on March 31. With a starting price of around \$35,000, it will be the most affordable car in the company's history. Tesla said more than 325,000 people paid a \$1,000 deposit to reserve the car in the first week after the unveiling.

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Mary



Ford and Pivotal employees working on a new Dynamic Shuttle app.



Museum founders Donald and Genevieve Gilmore in a Stanley Steamer.

Show Honors Pre-War Autos

Hickory Corners, near Kalamazoo, is celebrating its golden anniversary with a new event in honor of its founder.

Called "The Donald Gilmore Classic," this pre-WWII car show and swap meet will be held Saturday, May 21, with a driving tour taking place on Friday, May 20

The Museum, which turns 50 this summer, considers this new show an homage to its roots, said Gilmore spokesman Jay Follis. The nonprofit's very first event, held in the spring of 1966, was a "Brass & Gas" car show, so named for the pre-1916 autos that had brass head lamps, bulb horns and windshield frames, rather than the chrome we know today.

"The Donald Gilmore Classic" will be dedicated to all pre-WWII vehicles dating from 1896 to 1942, Follis said, representing both the first 50 years of the automobile, as well as cars that established the Gilmore Car Museum

"The Museum hosts more than a dozen car shows each year," Michael Spezia, Gilmore executive director said, "and for this one, we honor the legacy of Museum founders Donald and Genevieve Gilmore."

agement from his Genevieve. Donald Gilmore became an antique car hobbyist in call 269-671-5089. 1963 when he acquired just two "old" cars. Within three years, however, he had obtained 57 vehicles, ranging from the pioneering 1903 Columbia Electric to a 1929 Duesenberg, the auto of the ultra-wealthy. Those, Follis said, are also the types of cars to be featured at the May 21 event. as well as such exceptional models as the rarely seen high-wheeled motor buggies - true horseless carriages, and one-cylinder autos like the 1903 Curved Dash Oldsmobile, as well as the classic luxury cars of the 1930s from the likes of Cadillac, Lincoln and Packard. The celebration, Follis said, will include antique car rides, narrated auto parades through the museum's campus, and meeting the show car owners – many of who will be dressed in the period attire of these magnificent vehicles.

The Gilmore Car Museum of the crank-starting of the popular Model T Ford "Tin Lizzy," lighting a fire under a steam-powered Stanley, and revealing the mammoth 522-cubic-inch engine of a 1909 Thomas Flyer – something you'd expect to find only in the high-performance muscle cars of the 1960s.

> Follis said the museum anticipates this one-day event to be the largest public gathering of pre-WWII vehicles - passenger automobiles, commercial vehicles and trucks, and motorcycles - in the region. In addition to the more well-known brands of Buick, Chevrolet, and Dodge Brothers, many of the cars that are expected to attend carry names long lost to history, including DeSoto, Hudson, Kissel, Nash, Overland, Packard, Pierce, Reo, Studebaker, and Winton.

> The show will also include a swap meet area for car parts, tools, vintage attire, and antiques.

> Follis said no hot rods, customs or modified vehicles will be included. Spectator admission to the show is \$12 a person and includes visiting the entire Gilmore Car Museum campus and all exhibits at no extra charge, and those under 11 are free.

The Gilmore Car Museum is located just 20 minutes northeast Spezia said that with encour- of Kalamazoo on M-43 and Hickowife ry Road. To learn more, visit

Ford Develops 'Pivotal' Software Alliance

cloud-based software platform company headquartered in San Francisco, to further enhance its software development capabilities and deliver innovations to customers more quickly.

The \$182.2 million investment in Pivotal, said Ford spokesman Alan Hall, aims to help drive Ford's transition to an auto and a mobility company.

Ford is continuing to focus on and invest in its core business designing, manufacturing, marketing, financing and servicing cars, SUVs, trucks and electrified vehicles, Hall said.

At the same time, the company is aggressively pursuing emerging opportunities through Ford Smart Mobility – its plan to be a leader in connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics, Hall said.

"Expanding our business to be both an auto and mobility company requires leading-edge software expertise to deliver outstanding customer experiences," said Mark Fields, Ford president and CEO.

"Our investment in Pivotal will help strengthen our ability to deliver these customer experiences at the speed of Silicon Valley, including continually expanding FordPass - our digital, physical and personal mobility experience platform.'

Ford, Hall said, recently teamed up with Pivotal to deliver FordPass, an innovative consumer experience platform that launched last month.

FordPass will offer new customer services, like remote access to vehicles through a smartphone app, and mobility solutions, such as parking and car sharing.

ly, Pivotal and Ford IT engineers

Ford is investing in Pivotal, a are working side-by-side to create new kinds of consumer experiences for FordPass members, Hall said.

Building on this existing relationship, Fields said, Ford plans to accelerate the incorporation of Pivotal's advanced software development methodologies and technology across the IT, product development, and research and advanced engineering teams.

Ford will put Pivotal's nextgeneration cloud platform and analytics capabilities to use on the company's new mobility projects - such as its on-demand Dynamic Shuttle pilot program, Hall said.

"Today, we are at a major inflection point in global business, and Pivotal is at the fulcrum of that change," said Rob Mee, Pivotal CEO. "We are collaborating with iconic companies like Ford to help transform their businesses with our unique software development methodology and modern cloud platform and analytics tools.

"We are thrilled to create a deeper partnership with Ford through this investment as we drive its evolution to becoming both an auto and mobility company - reinventing yet again how the world moves.'

Fields said Pivotal's advanced software development methodologies and cloud platform complement Ford's already strong embedded software capability that supports EcoBoost engines, the SYNC 3 connectivity system, driver-assist technologies like active park assist and more.

Software plays a growing role in new vehicles, as demonstrated by the new F-150 that features more than 150 million lines of code, whereas a typical smartphone operating system has about 12 million lines, Hall said.

Engineers are capitalizing on software to deliver precise control over aspects of vehicle performance such as engine and transmission calibration to improve fuel economy and for the connectivity experience by giving customers hands-free access to their smartphones through SYNC 3.

In fact, Hall said, the very success of EcoBoost engine technology can be attributed to software.

Software is the secret sauce to the fuel efficiency EcoBoost delivers because it allows engineers to maximize the use of each drop of fuel at a molecular level.

Ford has 275 patents on Eco-Boost technology and another 200 pending, with a large majority covering different aspects of software controls and calibration.

"Investing in Pivotal builds on our current strengths in software development." said Marcy Klevorn, Ford vice president and CIO, who will join the board of directors at Pivotal.

"We plan to quickly add new state-of-the-art software engineering capabilities across the Ford enterprise."

In addition to these moves, Hall said Ford and Pivotal plan to open up new software development laboratories in strategic locations across both the United States and Europe.

The labs will be staffed with software architects, engineers and user experience experts - all using Pivotal's advanced software development methodology. Ford's investment in Pivotal is subject to customary regulatory approval.

"We have not released the details about the locations yet," Hall said. "Stay tuned for more details in the near future."



Innovating and iterating quick-

Demonstrations will showcase

www.GilmoreCarMuseum.org or

Model T Driving Lessons Are Set

The Gilmore Car Museum in Hickory Corners near Kalamazoo is offering attendees an unusual opportunity – the chance to learn how to drive an authentic Model T Ford – cost is \$105.

Museum spokesman Jay Follis said each session is taught by a handful of long-time Model T owners and enthusiasts and includes practice drives in genuine Model T Fords around the museum's three miles of paved roadwav.

Museum historians provide a bit of history on Henry Ford, the early Ford Motor Company, and up-close inspections of various Model Ts during the course's special guided tour.

То learn more, go to www.GilmoreCarMuseum.org.

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hicle assembly has been halted because of supply chain interruptions caused by earthquakes in Japan.

GM spokesman Tom Wickham confirmed May 4 that manufacturing that was put on hold on April 25 is expected to resume on May 9 at plants in Spring Hill, Tenn.; Lordstown, Ohio; Kansas City, Kan.; and Oshawa, Canada.

U.S. workers covered by the United Auto Workers contract with GM receive about threequarters of their gross wages while assembly is idled.

The powerful earthquakes that struck southwestern Japan last month killed 49 people and disrupted manufacturing and logistics.

Company, union and state officials met at the Tennessee plant last week to celebrate a \$790 million investment to build a new high-efficiency engine and upgrade vehicle production, creating nearly 800 jobs at the facility.

Mike Herron, the chairman of UAW Local 1856, said the company had little choice but to stop assembly of the Cadillac XT5 midsize SUV at the plant that will also begin producing the GMC Acadia later this spring.

"There's some integral electronics that are used in the entire auto industry," Herron said. "The parts are made solely in Japan and it's impacting everybody to some extent."

GM's North America Manufacturing Manager Arvin Jones said the company was working to minimize the shutdown due to the parts shortage.

"As we go through this, we're trying to figure out how we balance ourselves off to keep us rolling and continuing our production," Jones said.

We have suppliers all over the world - that's the balance of the business, and we're working through all the issues."

GM produces the Chevrolet Cruze in Lordstown and the Chevrolet Malibu in Kansas City. The flex line in Oshawa makes the Chevrolet Camaro and Camaro Convertible, Chevrolet Impala, Buick Regal and Cadillac XTS.

The Detroit automaker has said that the two-week halt to vehicle production is not expected to have a "material impact" on annual production plans or financial results for GM North America.

Fireworks Show Salutes Detroit's Current Revival



EXPERIENCE

- NO APPOINTMENTS NECESSARY FOR OIL CHANGES -



DETROIT (AP) - This year's annual fireworks display over the Detroit River is billed as a salute to progress made toward Detroit's revival and optimism for the future.

The event's producers, The Parade Co., announced May 5 that The Ford Fireworks on June 27 will be themed, "Go Forward Detroit.'

The show by Zambelli Fireworks will include more than 10,000 pyrotechnic effects visible for miles along the river between Detroit and Windsor, Ontario.

It's the 58th year for the event. Dearborn-based Ford Motor Co. has been the title sponsor since 2013.

This year, Ford will offer free admission to Belle Isle for the first 1,000 vehicles to arrive at the location.

The island park is among the popular spots for watching the fireworks.

Autopalooza is Back with **All Kinds of Special Treats**

Car buffs have taken their along Wayne Road between Joy prized possesion out of storage, revved up the engine, put the convertible top down and went for a joy ride. When they came back, they looked for more nostalgia by checking the recently 2016 Autopalooza released schedule.

Autopalooza is a celebration of Southeast Michigan's automotive heritage that encompasses a series of major car cruises, auto races and auto shows during the summer.

Some of the major events:

 The Chevrolet Detroit Belle Isle Grand Prix June 3-5, features cars of the IZOD IndyCar Series, the Grand-Am Rolex Sports Car Series and the Pirelli World Challenge Championship Series.

• The FireKeeps Casino 400. Held at the Southeastern Michigan International Speedway, is scheduled for the weekend of June 10-12.

• The Eastpointe Gratiot Cruise, in its 18th year, takes place the weekend of June 18.

 The EyesOn Design Automotive Design Exhibition is scheduled for June 19 at the Eleanor and Edsel Ford Estate in Grosse Pointe Shores.

• The Motor Muster, scheduled for June 18-19, celebrates one of the innovative eras of American automotive history -1933-1976.

• The Sloan Museum Auto Fair takes place June 25-26 at the Flint Cultural Center campus.

• Cruisin' Downriver is set for June 25 and runs on Fort Street from Sibley Road to Outer Drive through the cities of Lincoln Park, Riverview, Southgate and Wyandotte.

• The All-American Cruise takes place on July 9 in Westland

Road and Glenwood. In addition to the cruise, there will be a line up of vintage cars at the Westland Historic Village.

• The R.E. Olds Transportation Museum Carp Capital Auto & Bike Show is scheduled for July 30 in Lansing.

The Concours d'Elegance of America show is set for July 31 at The Inn at St. John's in Plymouth.

Township Clinton • The Gratiot Cruise takes place on Aug. 7.

• The Back to the Bricks Cruise Weekend celebrates its 12th year Aug. 11-15. The event covers Michigan's automotive history in Flint, Grand Blanc and Burton.

Woodward Dream • The Cruise is on Aug. 20. This is the world's largest one-day celebration of classic car culture.

• The Pure Michigan 400 race and associated events are scheduled for Aug. 26-28 at the Michigan International Speedway in Brooklyn.

• The Cruisin' Hines event, which runs along 7.5 miles of road in Wayne is scheduled for Aug. 28. This is the only cruise in Southeast Michigan where the road is closed to everything but classic cars and hot rods.

• The Old Car Festival will be held Sept. 10-11 on the streets grounds of Greenfield Viland lage. The event celebrates cars made between the 1890s and the early 1930s.

• Autopalooza finishes up in Ypsilanti with the Orphan Car Show on Sept. 16. The event celebrates the orphan brands that are gone but not forgotten.

Visit www.autopalooza.org. for more information.











April Results: Fiat Chrysler, Ford Sales Up

still sunny. Consumers are on track to spend more than \$36.9 billion on new vehicles in April, surpassing the previous record for the month set last year, according to J.D. Power and LMC Automotive.

But there are some worrying trends for the industry.

Buyers are flocking to SUVs and trucks, which might force manufacturers to discount cars to move them off lots. That's good for buyers in the short term, but incentives can flood the market with cars and hurt resale values.

At Fiat Chrysler, car sales fell 8 percent for the month. Sales of the Chrysler 200 midsize car tumbled 60 percent to around 7,600. Ford's car sales fell 12 percent.

Although sales of sedans are dropping, Lindland doesn't see big price wars developing because many auto factories can now switch easily from cars to SUVs. Many SUVs are built on the same underpinnings as cars.

Some cars bucked the downward sales trend. Sales of GM's new Chevrolet Malibu and Honda's new Civic each rose nearly 25 percent.

Sales to individual consumers also appear to be slowing, so automakers are relying more on less profitable sales to rental-car companies and other fleets. J.D. Power expected April sales to individual buyers to rise 4 percent, while sales to fleets were expected to jump 8.7 percent.

John Humphrey, senior vice president of J.D. Power, said consumers likely spent more on new cars and trucks than any other April on record. But he said slowing growth, the shift away from cars and rising fleet sales "pose significant challenges to manufacturers as they compete in the marketplace."

No Recalls For Ford F-150 Required

DETROIT (AP) – United States safety regulators have closed an investigation into power brake assist failures in Ford F-150 pickup trucks without seeking a recall.

The National Highway Traffic Safety Administration said an analysis of complaints and testing showed that even in worstcase situations, the trucks can be stopped with a moderate increase in brake pedal pressure.

In June, the agency began investigating about 250,000 pickups from 2011 and 2012 after finding seven crashes and 466 consumer complaints. All the trucks had 3.5-liter six-cylinder engines. Ford's F-Series trucks are the top-selling vehicles in the U.S. But the investigation found that most of the crashes happened at low speeds and in driveways or parking lots, and that the trucks could be stopped by the driver. Two complaints that alleged electric vacuum pump failures contributed to rear crashes at road speeds "are not believed to be related to the alleged defect," the agency wrote in paperwork posted May 2. No injuries were reported in any of the crashes. In addition, drivers will hear excessive noise or will feel a vibration or a change in brake pedal feel before any pump failure happens, the agency said. Also, Ford extended the warranty on the electric brake vacuum pump to 10 years or 150,000 miles.