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DECEMBER 24, 2018

Detroit Automakers' Engines Earn High Honors eTorque Hybrid Technology Ford Engines GM 6.2L V8 Ups Mileage Drives FCA 3.6L Pentastar With No Loss of Power

has won a 2019 Wards 10 Best Engines Award. The award-winning 6.2L V8 employs industryleading Dynamic Fuel Management – or DFM – to save fuel without sacrificing performance.

'General Motors' thundering 420-horsepower V8 in the Silverado exemplifies how engineers continue to find ways to improve efficiency without giving up something in return," said WardsAuto Senior Content Director Drew Winter.

"DFM determines 80 times per second exactly how many cylinders require fuel to meet power demands. And, incredibly, it uses as few as two cylinders to propel the full-size pickup down the highway.

"The truly amazing part is the cylinder deactivation is imperceptible, so seamless that the only thing the driver notices is fewer stops at the pump.'

For the entire competition, WardsAuto editors evaluate every all-new or significantly improved engine or electric propulsion system available in

The 2019 Chevrolet Silverado production vehicles in the U.S., said GM spokesman Tom Read. Vehicles must have a starting MSRP less than \$64,000.

The editors score eligible vehicles on horsepower, torque, technology, observed fuel economy, relative competitiveness and noise characteristics.

The 6.2L V8 and the optional 5.3L V8 are the first V8s available with Dynamic Fuel Management. Compared to Active Fuel Management, which alternates

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GM's 6.2L V8 engine

FCA's development of its eTorque mild-hybrid engine system has paid off.

The editors at WardsAuto have named the proven 3.6-liter Pentastar V6 engine with its innovative eTorque mild-hybrid system as one of Wards 10 Best Engines for 2019.

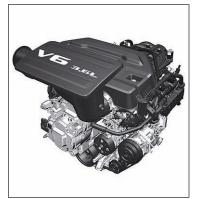
Making its debut in the new 2019 Ram 1500, and rated at 305 horsepower and 269 lb.-ft. of torque, the Pentastar V6 engine with eTorque helps to improve fuel economy - without sacrificing horsepower, torque or capability - and requires no extra effort by the driver, said FCA spokesman Dan Reid.

Fuel economy is U.S. EPA-rated at 20 (city)/25 (highway)/22 (combined) miles per gallon (mpg) in rear-wheel drive and 19 (city)/24 (highway)/21 (combined) mpg in four-wheel-drive Ram 1500 models. The city mpg rating is an 18 percent improvement and the combined mpg rating is improved 10 percent from the previous model.

The Pentastar V6 engine with eTorque shows how electrifying components of conventional engines can create magic under the hood," said Drew Winter, senior content director at WardsAuto. "The all-new 48-volt mild-hybrid eTorque system provides a dollop of electrical propulsion during launch and while shifting gears, creating seamless, buttery smooth power to the wheels and improved fuel economy.

"Our judges recorded 21 to 22 mpg, outstanding for a full-size, four-wheel-drive pickup. The power of the eTorque system

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FCA's 3.6-liter Pentastar V6

Take 2 Spots Ford engine designers are doing something right. At least that what the editors at WardsAuto seem to believe when they listed

two Ford engines on their Wards' 10 Best Engines for 2019 list. Ford was the only Detroit OEM to have two entries on the Wards list.

The engines are the 5.0L Double OverHead Cam (DOHC) V8 used in the 2019 Mustang Bullitt, and the 3.0L TurboDiesel DOHC V6 used in the 2019 F-150.

Editors noted that Wards Intelligence data confirms falling take-rates for big V8s, adding, "but that doesn't mean we can't enjoy a few last hurrahs. And the latest iteration of the 5.0L V8 in the '19 Ford Mustang GT – and in particular, the pitch-perfect version in the Bullitt – makes us smile every time we punch the throttle.

We have no complaints with the 460-horse powerplant in the standard GT, but there's something extra-special about the Bullitt, which breathes through a wider throttle body borrowed

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Nissan Board **Still to Find** A Chairman

by YURI KAGEYAMA AP Business Writer

YOKOHAMA, Japan (AP) - Nissan's board met Dec. 17 but failed to pick a new chairman to replace Carlos Ghosn, who was arrested last month on charges of violating financial regulations, saying more discussion was needed.

Nissan Motor Co. Chief Executive Hiroto Saikawa told reporters that the board approved a special committee of outsiders to strengthen governance at the company. A date for the selection of a chairman was not decided.

"We plan to be cautious in this process, and I do not plan to rush this," Saikawa said. The recommendations for beefing up governance are due in March, and Saikawa said he was willing to wait until then to choose a chairman. The board meeting came amid an unfolding scandal that threatens the Japanese automaker's two-decade alliance with Renault SA of France and its global brand, and highlights shoddy governance at the manufacturer of the Leaf electric car. Ghosn and another board member Greg Kelly were formally charged last week with falsifying financial reports in underreporting Ghosn's income by about 5 billion yen (\$44 million) from 2011 to 2015. They were arrested Nov. 19 by Tokyo prosecutors and remain in detention. A source close to Ghosn's familv savs Ghosn is innocent, as the

FCA, UAW Guide Students Along Career Path

A path to their future career noons at the World Class Manuthrough college is the route most students assume they will take, but the reality is there are other options, depending on what best fits each student – including skilled trades and automotive industry work.

"Students may not be straight-A students and maybe college is not for them, but that doesn't mean they don't have a mechanical aptitude and wouldn't succeed in a skilled trade career," said Shawn Fain, former co-director of the National Training Center.

"Our focus is naturally on the shortage of skilled trade workers in this country, along with the lack of employees with manufacturing knowledge out there."

With manufacturing continuing to be Michigan's largest sector, a program called School to Work encourages students to consider a career in the automotive manufacturing field. The program is a partnership between the UAW-Chrysler National Training Center in Warren and Hazel Park Schools, and the Students to Work program is a community outreach effort by the NTC, Fain said. Automotive officials say there is a major shortage of workers who have a general knowledge of manufacturing and manufacturing processes. This program looks to bridge the gap for automotive employers while preparing students for future careers. Participants are juniors and seniors from Hazel Park High School and Hazel Park Alternative High School who attend regular classes in the morning at

facturing Academy in Warren in the afternoon. Students earn high school credit as well as onthe-job experience.

Hazel Park teacher Christopher Benedetto said that, as juniors, the focus of the training is on life skills like public speaking, workplace etiquette, punctuality, conflict resolution and problemsolving skills.

"These are qualities that will help with any type of job," he said.

Seniors dive into more complex concepts, studying specific career paths and participating in hands-on lessons. Students are

BELEDAR

introduced to pipefitting, sheet metal work, robotics, electrician skills, pneumatics, drywall, carpentry and more, said Benedetto.

The School to Work program recently graduated its first class of 12 students and interest continues to grow, Benedetto said. Due to its intense nature, approximately 20 students are selected each year based on their application, one-page essay and other criteria.

Through their studies, students are adjusting the trajectory of their lives. Shy students are opening up to others and sharing. Students that weren't on a path to graduating enrolled in

URU

summer classes. Those who frequently skipped class discovered the importance of showing up on time, Benedetto said. Students with an uncertain future developed a passion for a specific career path.

"We've seen some huge transformations as students have flourished," said Benedetto. "Students are super-supportive of each other. They have created a safe atmosphere where they can be themselves among friends."

By constructing birdhouses with hand tools and no batteryoperated devices, students put

CONTINUED ON PAGE 4



school, and spend their after- High school students from Hazel Park receive job training at FCA's Warren NTC facility.

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Visit DetroitAutoScene.com for Scrollable Version of This Week's Paper

GM 6.2L Engine Praised for Power, Performance, Mileage Detroit Auto Scene ®

speeds.

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authority mixes cylinder pat-

terns constantly to optimize effi-

ciency and power delivery at all

Active Fuel Management cylinder

deactivation system in 2005, and

Dynamic Fuel Management is a

natural progression of the tech-

nology," said GM's Jordan Lee,

Small Block chief engineer.

"Chevrolet first introduced its

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for the next edition of Monday William Springer II, publisher Lisa A. Torretta, operations Jim Stickford, editor

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enables only the cylinders needed to deliver the power you between eight- and four-cylinder want, seamlessly delivering the modes, DFM features 17 cylinder best balance of power and fuel patterns, Read said. That greater economy."

The 6.2L with DFM - the largest and most powerful gas V8 in the segment, said Read is manufactured at GM's Tonawanda engine plant in New York. It is SAE-certified at 420 horsepower and 460 lb.-ft. of torque and paired with a Hydra-Matic 10-speed automatic transmission.

And the 2019 Silverado is larg-"Dynamic Fuel Management er than before, including a wheel-

base that is up to 3.9 inches longer and an overall length that is 1.6 inches longer, enabling both more cargo volume and more interior room for all cab lengths, Read said.

It's also lighter, weighing 450 pounds less than today's truck when comparing crew cab V8 models.

Editors at Ward's also said that "General Motors demonstrates with its silky 420-hp 6.2L V8 in the '19 Chevy Silverado that there are ways to wring more efficiency from them through good old-fashioned engineering. The

updated small-block 6.2L uses what GM calls Dynamic Fuel Management, the automaker's most advanced cylinder-deactivation technology."

F-150 and Bullitt **Are Highly Rated** For V8 and Turbo

from the Shelby GT 350 and gets a freer-flowing active exhaust

FCA Pentastar V6 Engine Possesses Latest Hybrid Technology

CONTINUED FROM PAGE 1

also makes the Ram's fuel-saving stop-start system work almost imperceptibly. It's one of the best around.

The eTorque mild-hybrid system replaces the traditional alternator on the engine with a belt-driven motor generator unit that performs several functions.

The motor generator unit works with a 48-volt battery pack to enable improved fuel efficiency, drivability, performance and value with quick, stopstart functions and energy recovery with brake regeneration used to support increases in towing capacity and payload, Reid said.

With the engine running, eTorque's motor generator unit feeds 48-volt current to a 430 watt-hour lithium-ion nickel (NMC)manganese cobalt graphite battery.

The battery pack includes a 3kilowatt DC-to-DC converter to maintain the battery's state of charge and convert 48 volts to 12 volts to power the Ram 1500's accessories and charge its conventional 12-volt lead-acid battery.

The Pentastar V6 engine with eTorque retains a conventional 12-volt starter motor, used for cold starts and the first start of the day due to its greater efficiency in extreme temperatures, Reid said.

In addition to spinning the engine for restarts to help launch the vehicle, eTorque also recaptures energy during deceleration and braking to charge the battery pack. eTorque also enhances the driving experience by adding torque to the crankshaft during gear changes to minimize noise, vibration and harshness (NVH).

The liquid-cooled eTorque motor generator is mounted on the front of the Pentastar engine and employs a pair of belt tensioners to keep the eight-rib drive belt tight when the unit is generating electricity or adding torque to the crankshaft.

"The versatility of our workhorse Pentastar V6 engine family is unquestioned with more than 9 million produced," said Bob Lee. head of Engine Powertrain and

Electrified Propulsion Systems Engineering, FCA-North America.

'And this latest Wards milestone represents the sixth time the 3.6-liter engine has been recognized with three different iterations.

"With the new eTorque mildhybrid system, receiving the Wards 10 Best recognition validates our mission to provide customers optimal ownership value without sacrificing performance."

Nissan Still to Name New Chairman

alleged income was never decided upon or paid.

Aubrey Harwell, the U.S. lawyer for Kelly, an American, says he is innocent, and that Nissan insiders and outside experts had advised him that the financial reporting was proper.

The chairman must be selected from among the board members. Three outside board members - race-car driver Keiko Ihara, Masakazu Toyoda, an academic, and Jean-Baptiste Duzan, formerly of Renault - are making that decision.

The special committee for governance includes the three outside board members and four other outsiders, including former judge Seiichiro Nishioka.

One candidate for chairman is Saikawa, who was hand-picked falsify income reports and abuse company money and assets.

Renault has kept Ghosn as chief executive and chairman. saying its investigation has not found wrongdoing in the awarding of Ghosn's compensation.

Nissan Motor Co.'s allegations also include million-dollar homes in several nations, including France, Japan, Brazil, Lebanon and the Netherlands, purchased by Nissan or a subsidiary and used by Ghosn.

Lebanese ancestry and holds French citizenship. He was sent in by Renault in 1999 to turn around Nissan from the brink of bankruptcy.

It's unclear when Ghosn and

Wrangling over a home in Rio de Janeiro has developed into a

court battle in Brazil, with Nissan seeking to block Ghosn's family from retrieving items. Ghosn was born in Brazil of

ers have signed new transfer ar-

The objectives of the newest

fer from Macomb to OU.

CONTINUED FROM PAGE 1 that's music to an enthusiast's ears.

"On paper, the Bullitt engine picks up a mere 20 hp over the GT, but on the road the Bullitt demonstrates how small changes and careful attention to tuning can bring new life to mature technology and create a whole new level of firepower."

Wards editors also had nice things to say about the F-150's 3.0L Power Stroke diesel V6, which was first made available for the 2019 F-150.

They wrote that diesel engines are "ideally suited for big, rugged pickup trucks, and the smooth, quiet 3.0L Power Stroke diesel V6 available in the 2018 Ford F-150 is exactly what the market needs - a light-duty engine capable of remarkable fuel economy while towing heavy loads for work or pleasure.

"Known as the 'Lion' engine within Ford Powertrain, this V6 launched in Ford Australia in 2005 and most recently has been used by Jaguar Land Rover models. But it's been updated for its latest duty under the hood of the F-150.

"The new Power Stroke can tow 11,400 lbs. and haul 2,020 lbs. of payload with its compacted graphite iron block, highpressure cooled EGR and 2,000bar (29,000-psi) direct-injection fueling system.

judges is the 26 mpg (9.0 L/100 km) we observed while logging about 800 miles (1,287 km) in an F-150 SuperCrew 4x2.

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Detroit Auto Scene

DECEMBER 24, 2018





2019 Ram 1500 pickup truck

2018 GMC Sierra pickup truck

Only Detroit Trucks Make NACTOY Finals List

It's a cinch that one of the Detroit automakers will win the North American Car, Utility and Truck of the Year (NACTOY) Award for best pickup truck because they were the only ones that had vehicles named as finalists

The Truck of the Year finalists are the Chevrolet Silverado 1500, the GMC Sierra and the Ram 1500. The North American Car, Utility and Truck of the Year (NACTOY) awards honor excellence in innovation, design, safety, performance, technology, driver satisfaction and value, said NACTOY spokesman Brent Snavely.

Founded in 1994 by Christopher Jensen, who also formed the first committee, the NACTOY awards are judged by approximately 60 professional automotive journalists from the United States and Canada who work for independent magazines, television, radio, newspapers and industry websites. They are administered by an organizing committee and are funded with dues paid by the jurors. There are no paid positions.

The North American Car, Utility and Truck of the Year awards are the longest-running awards not associated with a single, specific publication, website, radio or television station – a structure that produces a diverse base of jurors, Snavely said.

The award for Utility Vehicle of the Year was added in 2017 in tance.

recognition of the growing popularity of SUV-style vehicles. Passenger-oriented minivans are also eligible for Utility of the Year. Vehicles eligible for Truck of the Year include pickups of all sizes and light- and medium-duty commercial vans.

The North American Car, Utility and Truck of the Year awards are announced each year at the North American International Auto Show in Detroit.

Votes from nearly 54 jurors for the car, utility and truck finalists were audited by Deloitte LLP, NACTOY'S accounting firm of record, and results were kept confidential until they were revealed on stage recently at the LA Auto Show by NACTOY's officers.

"This year brought us some impressive sedan options. Car sales remain an important part of the available choices to consumers even as sales in the segment continue to fall," said NACTOY President Lauren Fix. "We are always looking for a game-changer, something that stands out in a crowd, and strikes a positive chord with buyers. The finalists will all be impressive options to consider."

No juror voting was necessary in the truck category because only three candidates are on the eligibility list for the 2019 North American Truck of The Year. But that lack of candidates doesn't diminish the category's impor-

"Full-size trucks are the financial engines that power the auto industry, and this year, we're fortunate to have three great new ones to consider," said NACTOY Vice President Chris Paukert.

"We crafted the all-new Ram 1500 to lead in durability, technology and efficiency," said FCA spokesman Nick Cappa, "but the pickup truck realm is a bareknuckle battle and awards season is a nail biter until all the votes are counted.'

"Distinguished by bold design and leading innovations like the world's first 6-way functioning tailgate, MultiPro, the all-new 2018 GMC Sierra is a game-changer for the segment," said GM spokesman Fred Ligouri.

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NEALTH MANAGEMENT

Toyota SUVs Get Federal Recall For Brakes

DETROIT (AP) - Toyota is recalling nearly 143,000 SUVs and pickups worldwide to fix air bag and brake problems.

The first recall covers about 96,000 Toyota Land Cruisers and Lexus LX570 SUVs from 2008 through 2019. Toyota says a seat belt tension sensor can malfunction and deactivate the passenger's front, knee and side air bags.

That would increase the injury risk in a crash. The company is developing a fix and will notify owners by mid-February.

The other recall affects about 47,000 Tacoma pickups from 2018 and 2019. A brake master cylinder seal can become damaged and leak brake fluid, reducing front brake performance and increasing stopping distances. Dealers will replace the master cylinder.

Owners will be notified in late January.

Toyota wouldn't say if either problem has caused any crashes or injuries.

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Ford, MSU to Collaborate

Ford Motor Company and large or vertically integrated -Michigan State University have has the internal resources to renewed and expanded their col- lead in all important technical arlaborative research alliance to eas," said Ed Krause, Ford global

enable further cooperation in a number of different fields - allowing the university to showcase its expertise and create new features for Ford customers.

By strengthening the four-year research and development partnership, this expanded collaborative alliance is designed to develop a wide array of innovations with a focus on sensors, lightweight materials, autonomous technology and mobility, said Ford spokesman Alan Hall.

Ford chose to grow its partnership with Michigan State based on the number of successful projects the company and university have worked on together, including collaborations in advanced engines, composite materials and information technology. Academic and industrial research and development partnerships have a proven internal process to evolve, refine and implement successful collaborative results, Hall said.

"No company – no matter how

manager, External Alliances. "Partnering with leading research universities like Michigan State is an important part of Ford's strategy to access worldclass external talent."

Since 2014, Ford has invested funds for research on more than 50 projects at Michigan State, including in areas such as powertrain, materials and electrification. Now, with a broader range of collaboration and research proposals, the expanded project portfolio will involve existing and new Michigan State faculty and students, as well as Ford researchers.

"This is a leading example of collaboration between industry and academia that demonstrates how MSU partnerships can both advance research and help develop innovative global solutions," said Charles Hasemann, Michigan State University assistant vice president for innovation and economic development, MSU Innovation Center.

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Pacifica, Ram 1500 Are 'Best Buys'

and minivans has proven effective, at least according to the editors at Consumer Guide Automotive, who have awarded both the Chrysler Pacifica and Ram 1500 with 2019 Best Buy distinctions in their respective categories.

For the third year in a row, the Chrysler Pacifica captured both Family Vehicle and Minivan Best Buy Awards, winning each award since its introduction to the marketplace, said FCA spokesman Nick Cappa.

The new 2019 Ram 1500 captured the Best Buy Award for Large Pickup Truck. The Ram 1500 has won its segment for the 11th straight year since 2008.

"As the winner of the Best Buy crown for the third year in a row, the Pacifica offers class-leading horsepower and fuel economy, excellent road manners and ride quality, and an unmatched array of family-friendly features ... all wrapped up in a stylish package," said Tom Appel, publisher of Consumer Guide Automotive.

"With an excellent redesign for 2019, the Ram 1500 builds on the previous model's considerable strength and offers an unbeatable ride/handling combination along with a high level of refinement, classy interiors and unique features.'

Consumer Guide Automotive editors analyze, compare and evaluate numerous vehicles by extensively testing all major models available in the United States.

According to Consumer Guide Automotive, a vehicle does not become a Best Buy based solely on objective ratings; Best Buys also distinguish themselves as good values compared to other vehicles in their class.

The Chrysler Pacifica and Paci-

FCA's support of pickup trucks fica Hybrid have reinvented the minivan segment with an unprecedented level of functionality, versatility, technology and bold styling, Cappa said.

Re-engineered from the ground up on an all-new platform, the Pacifica delivers class-leading gasoline and hybrid powertrains to the minivan segment.

The Pacifica Hybrid takes this revolutionary vehicle a step further with its innovative, advanced hybrid powertrain.

It's the first electrified vehicle in the minivan segment, said Cappa, and achieves more than 80 miles per gallon equivalent (MPGe) in electric-only mode, an all-electric range of more than 30 miles and a total range of more than 500 miles.

The new 2019 Ram 1500 was designed to be a no-compromise truck, leading in luxury, efficiency, capability and innovation, Cappa said.

Ram leads the full-size truck segment, he said, with significant gains in fuel efficiency through an all-new eTorque mild hybrid system in both V6 and V8 configurations. Overall weight for the Ram 1500 has been reduced by 225 pounds.

The frame uses advanced materials and engineering to eliminate 100 pounds while increasing stiffness and durability for 12,750 pounds of towing capability and 2,300 pounds of payload.

The new Uconnect 4C with a massive 12-inch touchscreen leads the pickup world, said Cappa, with technology, featuring split-screen capability, 360degree camera views and exclusive content from SiriusXM with 360L

Active safety and security systems join the technology onslaught with adaptive cruise control, automatic emergency braking and Blind-spot Monitoring.

Since 1967, Consumer Guide has published authoritative, objective reviews of new and used cars and trucks, Appel said. Its staff of full-time automotive editors boasts more than 100 years of combined automotive experience. Consumer Guide's singular focus is to make car shopping easier for consumers.



2019 Ram 1500





2018 Lincoln Navigator

Three Ford Vehicles Earn High Consumer Ratings

up trucks may have gained some traction as Consumer Guide Automotive editors awarded "Best Buy" rankings to the Lincoln Navigator, the Ford Mustang and the Ford Expedition.

Consumer Guide Automotive editors analyze, compare and evaluate numerous vehicles by extensively testing all major models available in the United States, said magazine publisher Tom Appel. According to Consumer Guide Automotive, a vehicle does not become a Best Buy based solely on objective ratings; Best Buys also distinguish themselves as good values compared to other vehicles in their class

Editors wrote of the 2019 Expedition that it "offers a cavernous cabin, a strong powertrain, a long list of high-tech available comfort and safety features, and excellent road manners for a fullsize SUV.

They went on to say, "full-size SUVs offer outstanding capacities for people, cargo, and towing, but those heavy hauling capabilities come at a significant cost - both in initial purchase prices and at the gas pump. These plus-size behemoths are also no picnic to park.

The Ford Expedition is our Best Buy pick in this class because it delivers class-leading levels of tractability and technology features without compromising on capability."

The 2019 Navigator was one of three SUVs to earn "Best Buy" rankings, along with the Cadillac Q7 and the Cadillac Escalade, in the large premium SUV category.

Editors liked the Navigator for "cavernous, lavishly finished interior; a muscular turbocharged

Ford's move to SUVs and pick- engine; a long list of coddling available features; and wonderfully polished road manners for a full-size luxury SUV."

> They went on to say, "in many ways, the Premium Large SUV class is the most decadent of all the categories we cover.

> "These vehicles are extraspacious, extra-powerful, extraluxurious, and extra-capable, but also extra-hard-to-park and extra-thirsty at the fuel pump.

> Lincoln "The Navigator doesn't fully transcend the inherent downsides of an extra-large luxury SUV, but it nonetheless offers outstanding opulence, passenger and cargo room, power, and driving dynamics for its class.

> The 2019 Ford Mustang earned a "Best Buy" ranking in the sporty/performance car category.

Editors liked it because it "boasts a sophisticated platform, a surprisingly robust turbo 4cylinder engine, a fairly upscale interior, and excellent driving manners, all while retaining the nameplate's characteristic heritage and charm."

They concluded by writing, "the Ford Mustang has an enviable history as one of America's bestloved vehicles, and the current model does its legendary forebears proud - and not just in terms of good looks and nostalgia.

"Thanks to its up-to-date design and plethora of cutting-edge technologies, the Mustang makes a strong case for itself against a broad range of sporty/performance-car competitors.

... a broad model lineup and lengthy list of options mean that there's a Mustang to suit a wide variety of purses and preferences.'

FCA, UAW Guiding Students

CONTINUED FROM PAGE 1

the concepts they learned about ty in the workplace. into action. Through the project, they gained a practical application of building an item by hand as well as the value of patience. For many students, it was the first time they had used a measuring tape. "We take the use of hand tools for granted," said Benedetto. "When I grew up, I had a grandfather who had a garage. We would go out and cut wood and make things. I was always using hand tools as a kid growing up. "For a lot of these kids, their hand tools have been a cell phone and a computer or an X Box. A lot of things that we used to take for granted we have to realize that this new generation is not experiencing these same things.' In addition to practical skills, students are taught good citizenship. They learn about the responsibilities of voting and being involved in their community through service, said Stacie Steward of the National Training Center, who has worked with the School to Work program.

taught the importance of diversi-

This variety in the curriculum

on writing resumes and are

Students receive instruction

helps keeps students engaged in learning, said Benedetto. Students may start the afternoon by writing in a journal, then transition into listening to a lecture, being a part of a role-playing activity, taking a test, participating in a hands-on lesson or going on a field trip.

Steward said she has a renewed respect for the younger generation. While high turnover rates have impacted the industry in recent years, she said she now has a better understanding of what new hires are going through so their struggles can be addressed.

"This is one of the best things I have ever been involved in," Steward said.

"We challenge them and they challenge us. Three kids originally weren't even supposed to graduate when they entered the program, but they turned their lives around and it's been great watching them all thrive and succeed."



The newest version of the Jeep Wrangler is being built in the historic home of the brand on an assembly line equipped with the latest technology.

With the launch of the new 2018 Jeep Wrangler, Toledo carries on the tradition started in 1941 of building the original 4×4 , said FCA Multimedia Editor Edward Cardenas.

Preparations to produce the next-generation Jeep Wrangler began in 2016 when FCA US announced that it would invest \$700 million in the Toledo North Assembly Plant and create 700 new jobs.

Production of the new Wrangler began in 2017, and has increased to the point where the plant is now running six, sometimes seven, days a week.

With the plant humming at this pace, team members have built more than 200,000 of the new Wranglers so far this year and have shipped them around the world, Cardenas said.

It takes nearly 24 hours for the Wrangler to be built from start to finish. The assembly line includes a number of new ergonomic, cutting-edge features, like the Chassis Automated Guided Vehicle System. These battery-free self-guided carts, which can carry up to 3,500 lbs., transport the Wrangler's all-important chassis down the line to be built up, Cardenas said.

Along the route traversed by these carts is a stop at the Robotic Frame VIN Etch, where a robot etches the specific make and model of each vehicle into the chassis. This matters as the Wrangler has 12 frame variations and is shipped to 105 markets.

unique requirements for VIN marking, this system was developed to accommodate all market requirements and to ensure quality, Cardenas said.

Another of the innovations along the assembly line is the Rotisserie Skillet. As the Wrangler moves down the line, the body rotates 90 degrees to allow workers easier and more ergonomic access to install parts on the roof and underbody.

A short distance down the assembly line, it rotates 180 degrees to allow workers at the following stations to add additional parts.

"We increase productivity by eliminating wasted movement," said Kevin Monahan, workplace pillar lead. "How do we do that? We treat the operator like a surgeon by having the parts right where the operator needs them at the point of install."

German Company Pleads Guilty



In Diesel Scandal

DETROIT (AP) - U.S. authorities say a German engineering company has agreed to plead guilty and pay \$35 million for its role in the Volkswagen vehicle emissions scandal.

The Justice Department said Dec. 18 that IAV has agreed to plead guilty to conspiracy in Detroit federal court on Jan. 18. The government says IAV misled regulators about whether certain VW and Audi vehicles met pollution standards.

The diesel vehicles were programmed to trigger certain pollution results only during testing, not during regular road use. The scheme affected nearly 600,000 vehicles.

In a court filing, the government says IAV engineers traveled to a California test facility in 2006 and 2007 to evaluate whether the cheating software was working.

GM Offering Consumers Some 'Best Buys'

GM's 2019 portfolio impressed the judges at Consumer Guide Automotive, who awarded several GM vehicles as "Best Buy" in their respective categories.

Consumer Guide Automotive editors analyze, compare and evaluate numerous vehicles by extensively testing all major models available in the United States.

The Cadillac CT6 earned one last accolade. The vehicle was named Consumer Guide Automotive's Best Buy in the category of Premium Large Class automobiles.

Editors picked the CT6, saying, "whether you're looking for a large luxury sedan that's a relatively economical fuel sipper or a muscular high-performance machine – or something in between - the CT6 lineup has you covered, at prices that undercut most class rivals."

They noted that while the ride was very good, it wasn't quite up to the standards of European vehicles. But went on to write that "the Cadillac CT6 earns its spot on our Best Buy list by offering an excellent selection of powertrains and available high-tech features, along with dramatic styling and highly competitive prices.

"The breadth of its model lineup means there's a fine CT6 for a variety of tastes and premium budgets. Super Cruise is pricey, but it's one of the best driving-assist systems currently available."

Cadillac also did well in the large premium SUV category, with the 2019 Escalade being one of three SUVs to earn "Best Buy" along with the Lincoln Navigator and the Audi O7.

Editors liked the Escalade, writing, "the unique parameters of its specialized category, the Cadillac Escalade shines. Its traditional truck-type construction means that the Escalade's handling is not as polished as some competitors, but it can also outtow those rivals.

"Simply put, the Escalade offers the luxury, technology gadgets, comfort, space - and blingy attitude - that many buyers in this segment desire.

The 2019 Corvette was the only vehicle in the premium sporty category to earn "Best Buy."

Editors liked that its "level of overall performance usually costs thousands - if not tens of thousands - more.'

They also praised it, saying "although there are a number of high-end exotics that are quicker than a base Corvette, most cost multiples as much. As such, the Corvette makes its mark as a performance bargain.

"But it's really much more than that. When properly equipped, it's also a comfortable touring car with a luxurious interior, decent cargo space, and a good selection of infotainment gizmos."

In the compact pickup category, the 2019 Chevy Col-orado/2019 GMC Canyon earned "Best Buy" ranking.

Editors wrote the "Chevrolet Colorado (along with its upmarket cousin, the GMC Canyon) offers up-to-date technology features and excellent all-around refinement, along with some options that its competitors can't match."

They added that "the Chevrolet Colorado and GMC Canyon face strong competition, but they continue to achieve Best Buy status because of their broad model lineup, the available diesel engine, and the availability of a fulltime 4WD system on the ZR2 and GMC Canyon."

GM also did well in the large pickup category with the 2019 Chevy Silverado/2019 GMC Sierra earning "Best Buy" rankings along with the Ram 1500.

Editors wrote of the trucks "Since full-size pickups are among the most popular and lucrative categories in the U.S. automotive marketplace, the competition in this segment is fierce... and the battle is centered around delivering maximum power and capability while offering respectable fuel economy.'



2019 Cadillac CT6

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Popularity of Pickup Trucks Expected To Increase Over Next Few Years

(AP) - What's America's favorite family vehicle? The SUV? The minivan? These days, it could very well be the pickup truck.

Edmunds.com analyst Dan Edmunds states that while heavyduty pickup trucks are still common tools of the trade for contractors and people who move equipment about for a living, socalled half-ton light-duty trucks have been making a steady move toward family vehicle status for years. Recent market changes and product developments have only bolstered that trend.

It started some time ago when automakers introduced the big four-door crew-cab configurations to this volume-selling segment. Before long, crew-cab truck sales outpaced those of extended-cab trucks, which had themselves overtaken regularcab trucks before that. In 2013, crew cabs accounted for close to 57 percent of truck sales. In 2018, that figure is nearly 70 percent. Changes in SUV-buying habits have accelerated this trend, Edmunds said. When they first hit it big and displaced minivans as the default family vehicle, most SUVs were large, truck-based fully framed vehicles that were little more than a pickup with a permanent cap and a full interior.

Trucks are enablers for outdoor adventures. You can haul dirt bikes without the need for a trailer. And they have no trouble towing any number of family-fun implements, from fishing boats to snowmobiles to good-size double-axle camping trailers. Beyond that, certain four-wheeldrive versions are solid off-road vehicles in their own right. Pickups have retained the low-range gearing and high ground clearance that SUVs have shed.

None of this would matter if pickups didn't also meet the must-have criteria of a wellequipped family car, Edmunds said. The latest crop of pickups scores well here. They have comfortable seats and overall spaciousness, especially in the backseat, that puts many cars to shame on an extended road trip. Newer crew cabs are roomier than ever: Manufacturers have been lengthening their cabs and improving the size of the rear door openings for easier entry and exit. From accommodating teenagers to infants in car seats, crew-cab truck cabins can be a good fit for a family, Edmunds said. Pickups also offer up an abundance of convenience features and the latest infotainment technology. You don't have to shop the highest end of the price range, said Edmunds, to find smart entry with push-button start, heated and ventilated leather bucket seats, dual-zone automatic climate control, and touchscreen navigation paired with premium audio sound and Apple CarPlay and Android Auto smartphone support. Of late, trucks are becoming an increasingly safe choice. Size and mass always worked in their favor.

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But SUV tastes have steadily drifted toward more comfortable, easy-driving and fuel-efficient crossover SUV offerings with car-based underpinnings.

These car-based crossovers fulfill the people-moving role of SUVs quite handily, but they're not as capable in terms of raw utility as their truck-based forebears. This shift in SUV preference has increased the appeal of having a pickup truck sit alongside that crossover in the driveway of many active households.

DETROIT AUTO SCENE



