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Ford is piloting a new heated sanitization software solution that can help neutralize the COVID-19 virus inside its Police Interceptor Utility vehicles, which helps decrease the potential spread of the virus.

Ford Develops Cleaning Way For Virus-Free Police Cars

Police vehicles are meant to be safe for passengers, and Ford believes that includes more than safe from accident – it includes being safe from disease.

So Ford has designed a new heated software enhancement to pilot with its Police Interceptor Utility – one that law enforcement agencies across the country can utilize to help reduce the footprint of the COVID-19 virus, said Ford spokeswoman Elizabeth Kraft.

The latest example of smart vehicle technology, this software solution is available immediately on all 2013-19 Police Interceptor Utility vehicles in the United States, Canada and other countries around the world, said Hau Thai-Tang, Ford chief Product Development and Purchasing officer.

“First responders are on the front lines protecting all of us.

They are exposed to the virus and are in dire need of protective measures,” said Thai-Tang. “We looked at what’s in our arsenal and how we could step up to help. In this case, we’ve turned the vehicle’s powertrain and heat control systems into a virus neutralizer.”

He said the solution is simple – Bake the vehicle’s interior until viruses inside are inactivated. Using Police Interceptor Utility’s own powertrain and climate control systems, this software solution enables vehicles to elevate passenger compartment temperatures beyond 133 degrees Fahrenheit, hotter than Death Valley on its hottest day, for 15 minutes – long enough to help disinfect vehicle touchpoints, Kraft said.

CONTINUED ON PAGE 2

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FCA Employees Volunteer Time to Help Community

Work means a lot of things. It can mean being employed by a company and it can mean serving one’s community.

And FCA has employees who do both. “By day, they work in our facilities performing a variety of jobs throughout the company,” said Edward Cardenas, Multimedia editor at FCA. “When their shifts end, they head to their second jobs as first responders in their communities.”

One of these employees is Kurt Wagenaar, a fire systems specialist who works to keep the fire protection systems at the Chrysler Technology Center (CTC) and other FCA engineering facilities in good working order, while also ensuring the buildings comply with fire codes and fire protection requirements, Cardenas said.

He is also a paid-on-call lieutenant/EMT with the Orion Township Fire Department who re-

sponds to fire and medical emergencies within the township.

“The jobs complement each other very well. At FCA, I have learned more about fire protection systems than most firefighters ever get to know,” said Wagenaar. “I can use that knowledge to help at the Fire Department when we encounter fire protection systems during fire emergencies. The skills I have learned at the Fire Department help me dur-

ing fire and medical emergencies that happen at CTC.”

With the COVID-19 pandemic, Wagenaar said he also has to keep up with the latest medical procedures and take the proper precautions when responding to calls.

“There is a lot of additional personal protective equipment that has to be worn on every call to protect both us as responders, as well as the people we are coming in contact with,” Wagenaar said.

While some FCA first responders are able to continue to work both jobs, pandemic safety guidelines have prevented others from public service.

Wesley Price, an FCA complex security manager at Sterling Heights Assembly and Stamping Plant, is also a police captain of reserve and cadet units with the Grosse Ile Township Police Department.

CONTINUED ON PAGE 2

2021 Chevrolet Police Tahoe Upgrade Adds Space, Power

The old police phrase, “calling all cars,” might be changed to “calling all SUVs” thanks to the 2021 Chevrolet Tahoe.

The police version of the 2021 Tahoe continues its tradition of providing law enforcement with capable and dependable vehicles, said GM spokesman Chris Bonelli.

The next-generation Tahoe is available in two law enforcement packages.

The Tahoe Police Pursuit Vehicle is designed for high speeds and dynamic capability with the added comfort needed from an everyday patrol vehicle, Bonelli said.

The Special Service Vehicle is more focused on off-road and towing needs where high-speed operations are not required.

“Tahoe is the most aspira-

tional vehicle in the law enforcement industry,” said Ed Peper, U.S. vice president of GM Fleet. “By listening to the needs of officers from around the country, we have built the best Tahoe ever.”

Both the PPV and SSV models are powered by the Tahoe’s 5.3L V8 engine paired with a 10-speed automatic transmission.

To meet the most demanding needs of law enforcement, the PPV engine borrows high-performance rocker covers from the Chevrolet Camaro ZL1 LT4 engine, Peper said. These rocker covers improve crankcase ventilation, allowing the 2021 Tahoe to handle high lateral conditions better than its predecessor.

Engine oil and transmission fluid are cooled by dedicated,

CONTINUED ON PAGE 2



2021 Chevrolet Tahoe Police Pursuit Vehicle

Chevrolet Upgrades Police Tahoe for 2021

CONTINUED FROM PAGE 1

heavy-duty cooling systems specific for law enforcement applications.

To handle the dynamic load of police pursuits, Chevrolet worked with Bridgestone to develop a pursuit-rated all-season tire, Peper said. The Firestone Firehawk Pursuit tires, mounted to 20-inch steel wheels, were tested by Chevrolet at multiple race tracks and play a large role in the PPV's improved stopping distance, which has been reduced by 11 feet from 62 to 0 mph on dry surfaces compared to the 2020 model.

Additional performance enhancements of the PPV include specific suspension tuning with unique monotube dampers, coil springs and stabilizer bars for less body roll and more driver confidence when executing police-type maneuvers.

Then there is lower ride height compared to civilian Tahoes for better high-speed aerodynamics and improved vehicle stability as well as heavy-duty braking system with large front Brembo six-piston aluminum monoblock calipers on 16-inch rotors.

The vehicle also uses heavy-duty, clutch-type limited slip rear differential and has a speedometer certified at 140 mph.

Both PPV and SSV packages benefit from the SUV's completely new design, which offers class-leading interior space, Peper said.

The new Tahoe police-specific front seats provide additional hip room, allowing officers' utility belts to fit more comfortably. 2021 Tahoe police vehicles offer 70.3 cubic feet of cargo volume behind the second-row seat, which is 18.3 cubic feet more than the next largest pursuit-rated SUV competitor, said Bonelli.

Rear door openings are now 13

percent (3.5 inches) wider than the previous generation to ease the loading of handcuffed passengers.

The new independent rear suspension and longer wheelbase dramatically improve handling and ride smoothness for both civilian and law enforcement applications, particularly on uneven pavement and unpaved surfaces. The exterior design is based on the new Tahoe Z71 trim, which features a rugged front grille, higher approach angle and front skid plate.

Speed and durability is important but technology is also more important than ever as officers can get work done while parked using an available 4G LTE Wi-Fi Hotspot, Bonelli said.

Standard HD Rear Vision Camera and Rear Park Assist can help officers prevent collisions when backing up, while standard Hitch Guidance helps officers attach a trailer.

Unlike pursuit-rated SUV competitors, Tahoe offers an available Rear Camera Mirror to provide a wide, less obstructed view behind the vehicle compared to a traditional rearview mirror, Peper said. It is especially helpful with police cabin obstructions like cargo partitions, passengers and K9 kennels common in police vehicles.

New to 2021 Tahoe police vehicles is standard keyless entry and push-to-start ignition, which allow police officers to leave their keys on their belts for simpler and quicker use, Peper said.

Officers are tasked with constantly scanning their surroundings and are often in high-stress situations behind the wheel, Bonelli said.

An available suite of active safety features is designed to help them stay in control and avoid collisions, including Forward Collision Alert, Lane Keep Assist with

Lane Departure Warning, Automatic Emergency Braking, Front Pedestrian Braking and Following Distance Indicator.

Tahoe's police vehicle electrical architecture has been greatly improved to reduce time and complexity of upfitting, Bonelli said.

A new standard blunt-cut wire harness has 31 wire circuits to the cockpit, 56 wire circuits to the cargo area and 25 shared circuits to connect aftermarket equipment without removing major panels or components.

Upfitters can repurpose the steering wheel-mounted buttons using the blunt-cut wires to perform tasks like initiating a Code 3 with lights and sirens or keying a department radio microphone.

The electrical system is powered by an upgraded dual battery system with emergency equipment isolation to meet the unique needs of police.

To avoid excessive engine idling, a 760-amp auxiliary battery will allow video systems, department radios, mobile data terminals, emergency lighting and more to operate without running the engine.

A new high-output alternator is 47 percent more powerful than the 2020 model to support the continuous running of electrical equipment.

The 5.3L V8 engine features Dynamic Fuel Management, Peper said. DFM enables the engine to operate in up to 18 different cylinder patterns – with as few as two cylinders – to optimize power delivery and efficiency. The DFM controller calculates 80 times per second how many cylinders are required to meet the driver's requested torque.

While the Tahoe PPV is offered in two-wheel-drive and four-wheel-drive configurations, the SSV is exclusively 4WD.

FCA Employees Serve Communities

CONTINUED FROM PAGE 1

His responsibilities include inspection and oversight of the reserve program, managing equipment and personnel, along with being the unit leader of the department Honor Guard.

Price said he sees similarities in both jobs as they require being dedicated to providing protection and safety to others.

"We help those in need and provide the dedicated service that is expected," said Price, who has been with the police department for 13 years. "That's what people want to be is safe and protected."

But since the COVID-19 stay-at-home order was first announced in Michigan, his reserve unit and cadets have not been active as a precaution to protect the full-time officers within the department.

Price said that the decision was made with the support of the department administration to protect reserve officers and their families.

"Not being able to go into the department at this time is hard. We look at the full-time officers and the whole township as our families in one," Price said. "We are all taught to protect each other and those around us. Do whatever is necessary to carry out your commitment. We live by

that. We are dedicated to what we do and the services we provide."

While Price said he and his colleagues on the reserve force have to stay safe as a precaution, they "will always be ready when the call comes for our return."

When that call comes, he said his officers "will be back out in full force providing the assistance of the department and township as we all get through these times, committed to working together to end this pandemic of the coronavirus."

Another employee who also serves his community is Joel Dobbelaer, a technology specialist for Corporate Security Operations and a firefighter with the Richmond Fire Department, Cardenas said.

The 11-year fire department veteran finds that each job complements each other.

"Back when I was working in the plant for security, my medical training helped when we would go on medical calls for employees," he said.

Similar to Wagenaar, Dobbelaer stated that the COVID-19 pandemic has also led his department to change how they respond to calls.

"We are minimizing the number of responders that have contact with the patients," Dobbelaer stated.

Ford's Cop Cars Virus Safe

CONTINUED FROM PAGE 1

Once activated, the vehicle's powertrain and climate control systems work together automatically to elevate passenger compartment temperatures. The software warms up the engine to an elevated level, and both heat and fan settings operate on high. The software automatically monitors interior temperatures until the entire passenger compartment hits the optimal level, then that temperature is maintained for 15 minutes.

Kraft said to research the effectiveness of this sanitization method, Ford worked closely with The Ohio State University to determine the temperature and time duration needed to help inactivate the COVID-19 virus.

"Our studies with Ford Motor Company indicate that exposing coronaviruses to temperatures of 56 degrees Celsius, or 132.8 degrees Fahrenheit, for 15 minutes reduces the viral concentration by greater than 99 percent on interior surfaces and materials used inside Police Interceptor Utility vehicles," said Jeff Jahnes and Jesse Kwiek, laboratory supervisors at The Ohio State University department of microbiology.

Law enforcement will have multiple ways to monitor progress, Kraft said. Hazard lights and tail lights will flash in a pre-set pattern to notify when the process has begun, then will change at the end to signal completion. The vehicle's instrument cluster also will indicate progress. A cool-down process brings the temperature down from its highest points.

This heated process can be used by law enforcement regularly to help sanitize vehicles when officers are not inside. When used in conjunction with sanitization guidelines approved by Centers for Disease Control and Prevention, flooding the passenger compartment with elevated air temperature can help reach areas that may be missed by manual disinfecting procedures. Heat has the ability to seep into crevices and hard-to-reach areas, helping reduce the impact of human error in applying chemical disinfectants.

Ford conducted software operational trials in vehicles owned by the New York City Police Department, Los Angeles Police Department, Michigan State Police, Mas-

sachusetts State Police, Boardman Township Police Department in Ohio and Seminole County Sheriff's Office in Florida, Kraft said.

The Ford engineering team initiated a project in late March to decontaminate vehicles using heat. Shortly after, a discussion with the New York City Police Department alerted Ford to its need for a more efficient disinfecting process during the pandemic.

"Law enforcement officers are being dispatched as emergency responders in some cases where ambulances may not be available," said Stephen Tyler, Ford Police Brand Marketing manager. "During one trip, officers may be transporting a coronavirus patient to a hospital, while another trip may involve an occupant who may be asymptomatic."

Used to supplement recommended cleaning methods, safely heating the passenger compartment can help ensure vehicles are properly disinfected before being deployed again.

"Officers can now use this self-cleaning mode as an extra layer of protection inside the vehicle in areas where manual cleaning is prone to be overlooked," said Tyler. "This virus is an invisible enemy and we are proud to provide a solution to help the law enforcement community fight it."

Large departments with their own service centers can install the software solution using their own diagnostic service tools, while other fleets can work with their local dealers to install the software for 2013-19 Police Interceptor Utility vehicles, Kraft said.

For 2016-19 police vehicles, the heated software process can be activated by a smart sequence of commands that involves pressing cruise control buttons in a predefined order. For 2013-15 vehicles, this mode can be activated and carried out through an external tool that connects to the onboard diagnostics port.

"Vehicles from the 2013 to 2019 model years make up the majority of Police Interceptor Utility vehicles currently in use by first responders," said Tyler. "Delivering this new capability to these vehicles first allows us to help as many officers as possible, as quickly as possible."

Ford will continue working on ways to bring this software capability to additional Ford police vehicles, Kraft said.



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GM Ultium Battery Design Provides Top Energy Density

Despite the global disruption of COVID-19, GM's commitment to an all-electric future has not skipped a beat, according to a company statement to the press and public.

Production for products such as the Cruise Origin, GMC HUMMER EV and Cadillac Lyriq, as well as site prep for GM's new battery-cell assembly plant in Lordstown, Ohio, all remain on track and are progressing at a rapid pace, said the statement.

This steadfast dedication to electric vehicle development, said Tim Grewe, director of Global Electrification and Battery Systems, remains important because we understand that EVs are paving the way for more than just a sustainable future. Offering cutting-edge performance technology and lower maintenance costs, she said, they're also exhilarating to drive and practical to own.

But not all EVs are created equal, Grewe said – it's what's on the inside that counts. That's why, she said, GM has meticulously designed the Ultium battery to power the company's all-electric future.

Sitting beneath the floor of GM's next-generation EVs, this battery module is made up of flat cell pouches that can be stacked to meet the unique needs of every driver – all while improving efficiency, power and range, Grewe said.

She said there are four things you need to know about GM's



By using a flat shape, GM's Ultium batteries can use modular design for optimum power energy density.

"revolutionary" battery technology.

Unlike traditional cylindrical battery cells, GM's high-energy pouch cells have a flat shape.

Does shape really matter? Yes, Grewe said. Ultium's flat cell pouches waste less space and can stack on top of each other like pancakes or vertically like slices of toast. This simple modular design makes it easy for engineers to optimize energy density and vehicle layout, she said, which translates to more miles on a single charge for less cost.

And GM's Ultium cells pack a punch, according to Grewe, who said it would take 20 small cylindrical can cells (the ones GM's competitors use, she pointed out) to produce the power of one Ultium large-format 100 amp-

hour cell. GM's Ultium cells are so robust that they can electrically and physically support EVs of every shape and size.

GM's battery options scale from 50 kilowatt hours to over 200 kWh, which will enable a GM-estimated range of 400 miles or more on a full charge, Grewe said.

Stacking battery pouch cells, she pointed out, enables flexible engineering and a more comfortable ride.

"We'll engineer some of America's most popular vehicles (think trucks, SUVs and crossovers)," Grewe said, "with vertically-stacked cells – like toast, whereas performance vehicles, which are deeply embedded in our DNA, may include horizontally-stacked cells – like pancakes.

Thanks to Ultium's flat pouch cell design, we will easily accommodate a wide range of EVs, no matter what size or capability."

To save even more space, the battery's electronic components will be embedded within the modules, eliminating 80 percent of the battery pack wiring compared to today's batteries.

And GM has reduced the height of the battery module underneath the second row, which will not only give second-row passengers a more comfortable ride, she said, but also adds 22 kWh of energy storage in this space.

"GM is committed to making economical and ethical investments in batteries to power EVs you love to drive," Grewe said.

Ultium packs are flexible enough to contain multiple combinations of modules to custom-tailor energy and range requirements, allowing the Detroit automaker to deliver EV models for Buick, Cadillac, Chevrolet and GMC products.

GM battery packs can house six, eight, 10, 12 or up to 24 modules, depending on what the vehicle type requires.

This ultimately allows for more freedom in the product design process, Grewe said. With fewer moving parts and no need to design around gas tanks, engines, radiators or exhaust pipes, GM's Ultium battery packs can be arranged to optimize height and length of the vehicle for aerodynamics, aesthetics, comfort, drive feel and storage.

Auto Thefts Rise Thanks to The COVID-19 Virus

LOS ANGELES (AP) – The coronavirus hasn't been kind to car owners.

With more people than ever staying home to lessen the spread of COVID-19, their sedans, pickup trucks and SUVs are parked unattended on the streets, making them easy targets for opportunistic thieves.

Despite silent streets and nearly nonexistent traffic, vehicle larcenies shot up 63 percent in New York and nearly 17 percent in Los Angeles from Jan. 1 through mid-May, compared with the same period last year.

And many other law enforcement agencies around the U.S. are reporting an increase in stolen cars and vehicle burglaries, even as violent crime has dropped dramatically nationwide in the coronavirus pandemic. It's a low-risk crime with a potentially high reward, police say, especially when many drivers leave their doors unlocked or their keys inside.

The virus has created a "perfect storm," said Austin police Sgt. Chris Vetrano.

Drivers are at home and not using or checking their cars regularly. Criminals are out of work and have more time on their hands or need fast money to support a drug habit.

"You can get on the internet nowadays and learn how to break into vehicles just searching YouTube," Vetrano said.

French Devise a Plan for Its Auto Industry

PARIS (AP) – French President Emmanuel Macron is set to unveil new measures May 26 to rescue the country's car industry, which has been hammered by the virus lockdown and the resulting recession.

Revving up electrical vehicle production is likely to be central to the plan. Macron tweeted that government investment in the national car industry, which includes brands like Peugeot-Citroen and Renault as well as parts suppliers, will increase "massively."

"This is a part of our economy, thousands of jobs," he said.

As carmakers around the world face record slumps in sales, Macron met with industry representatives and unions at the Elysee presidential palace on May 26, notably to discuss a 5 billion-euro (\$5.5 billion) loan guarantee for struggling Renault. He will then visit supplier Valeo, which makes equipment for electric cars, at its factory in northern France, from where he will detail the wider rescue plan.

The issue is politically sensitive, since France is proud of its auto industry, which employs 400,000 people in the country and is a big part of its manufacturing sector. The government wants carmakers to develop innovative products in France and keep jobs in the country.

Finance Minister Bruno Le Maire said Monday that carmakers must commit to bringing back manufacturing to France in exchange for the support, but unions are wary as the industry is in turmoil.

Aid is expected to include government subsidies for consumers to buy a battery-powered car as well as other incentives for people to scrap their old car and buy lower-emissions models. Auto sales in France fell by

about 90 percent in April compared with a year earlier as showrooms were shut and factories suspended production. The country started easing restrictions on May 11 after two months of strict lockdowns.

The plan to support the industry comes at a crucial time for carmaker Renault, which came into the virus crisis in particularly bad shape after the 2018 arrest of its longtime star CEO Carlos Ghosn.

Le Maire said May 25 its survival is at stake and that the government – which owns 15 percent of Renault – would not require Renault to keep all its French jobs and facilities in exchange for the rescue funds, in order to allow the company to adapt to the economic situation.

Renault and Nissan held a press conference on May 27 that addressed the future of their alliance.

The auto alliance of Nissan and Renault said May 27 it will be sharing more vehicle parts, technology and models to save costs as the industry struggles to survive the coronavirus pandemic.

Alliance Operating Board Chairman Jean-Dominique Senard said the group, which also includes smaller Japanese automaker Mitsubishi Motors Corp., will have each company focusing on geographic regions.

He stressed the alliance needs to adjust to the "unprecedented economic crisis," to pursue efficiency and competitiveness, not sheer sales volumes.

"Now is the time to rebuild," Senard said, making clear he believed the alliance remained strong.

Renault unions were summoned to a meeting May 28 on how the carmaker will cut 2 billion euros (\$2.2 billion) in costs, a move expected to lead to facto-

ry closures and job losses in France.

French carmakers won billions in bailout funds after the 2008 financial crisis and benefited from a government bonus plan that encouraged consumers to buy newer cars, though that didn't prevent thousands of job cuts.

PSA Group, which makes Peugeot and Citroen cars, came into the current crisis in better shape, after years of cost-cutting under CEO Carlos Tavares. PSA reported record profits last year, but has also seen sales plunge amid virus lockdowns.

It is in the process of merging with Fiat Chrysler Automobiles to create the world's fourth-largest auto maker. The French government owns a 12 percent stake in PSA through the state investment bank.

Carmakers in other countries are also struggling.

U.S. automakers haven't received direct government help yet but car dealers and auto suppliers can apply for low-interest loans. Some U.S. some politicians don't want to bail out carmakers again after they got huge bailouts after the 2008 financial crisis.

In Germany, automakers are pressing for car purchase incentives to support major employers and prevent layoffs. The idea is opposed by some legislators in Chancellor Angela Merkel's conservative party and by an expert council of economists, who advised tax breaks and lower energy costs for all companies instead of singling out one industry for help. A decision on the issue could soon.

Italian-American Fiat Chrysler, which has its corporate headquarters in the Netherlands and its financial base in Britain, confirmed this month a request for an Italian state-backed loan worth \$6.9 billion.



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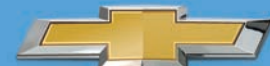
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