



## ‘Next Level of Police Vehicle’ Among Icom’s New Propane Offerings

Icom North America (New Hudson, Mich.) has manufactured the Icom propane liquid injection system for the law enforcement sector since 2011, starting with the Chevy Tahoe Police model. The company announced in July that it extended its propane autogas fleet offerings with 2013 through 2016 3.7-liter Ford police sport utility, police sedan, Explorer, Taurus, Edge, Flex, and Lincoln MKT, MKS, and MKX models. Those fleet platforms are focused on police, government, and livery vehicles. Founded in 2004, Icom manufactures, assembles, certifies, and distributes the Icom JTG liquid injection propane vehicle system and additional patented Icom propane products.

Albert Venezia, chairman of Icom North America, told *BPN* the recent additions to its lineup highlight Icom’s commitment to police vehicles.

“This is the next level of police vehicle,” he said. He stressed, however, that Icom still offers a certified propane system for the Chevrolet Tahoe police model, including the direct-injection version, and that its partner company, Imega (Stuart, Fla.), will soon offer a strong-performing system for Dodge Charger police cars. Venezia is seeing police fleets across the country moving to SUVs because they are more comfortable for the officers and hold more equipment.

Icom hopes to sell about 1000 of the Ford police vehicles, which are all bi-fuel, through the 2016 model year.

The move strengthens Icom’s presence in the law enforcement market, with the company offering General Motors, Ford, and Chrysler products. Police fleets, Venezia explained, tend to use one manufacturer, which previously limited Icom’s access to law enforcement agencies that used only GM products. Now, it can sell to police fleets that use any or all of the Big 3 auto manufacturers’ vehicles and can stress to them the benefits of propane liquid-injection systems.

According to Venezia, “With liquid injection we have excellent miles per gallon and much better performance than vapor injection. There is better acceleration, no cold-start issues, and most importantly, no engine valve recession issues that have plagued vapor injection.”

He is proud of the work Icom North America has done since its founding in 2004. Partner Ralph Perpetuini, who was general manager of Icom in Europe for 20 years, is CEO and runs the Icom U.S. plants. The two implement the strategic vision, while Venezia focuses on business development and sales. Icom now employs seven autogas fleet development specialists who cover the U.S., Canada, and Latin America. Venezia notes that Icom is the inventor of the patented Icom propane liquid injection system

and that numerous OEM propane liquid injection systems on the market today in the U.S. use Icom technology. He adds that Icom offers the most EPA-certified platforms in the propane industry, with about 700 certified bi-fuel vehicle platforms and about 100 dedicated propane vehicle platforms. Bi-fuel is available on all Icom certified vehicle platforms and available also in dedicated versions for all Ford 6.8-liter platforms, which are large work trucks and shuttle buses. Ford F-150 3.7-liter, Ford F250-350 6.2-liter engine, and Ford Transit 3.7-liter vehicles are available dedicated. Icom will soon roll out many GM 6.0-liter vehicle platforms and many additional certified direct-injection vehicle platforms.

### Autogas Network Focuses On Infrastructure, Training

Although the new platforms are a positive step for Icom, Venezio believes they are not as positive if propane marketers don't buy in to the autogas concept, use autogas in their own fleets, and sell propane as an engine fuel. To help more propane marketers sell autogas, Icom in May of this year formed the Propane Autogas Network to educate fleets and propane marketers and to provide one-stop shopping for fleets to have access to the vehicle systems, including installation and service, propane, and fueling infrastructure. The network will also allow propane companies to purchase infrastructure and systems similar to a buying group.

"We have an excellent core group of propane companies and vendors joining the network and will launch in October," notes Venezio.

Training is a main aspect of the Propane Autogas Network. Propane marketers often bid on a school bus contract, for example, but many of them need support in selling propane autogas. Autogas fleet development specialists for Icom or the network will train propane marketers as part of the program. Twelve propane companies will serve as founding members, and the group will include system manufacturers such as Icom and Imega and fueling infrastructure manufacturers, equipment distributors, and eventually OEMs.

"The goal is to make it easier for propane companies to sell autogas," Venezio explained, adding that it will help systems and infrastructure companies sell more equipment. He believes propane autogas "has only scratched the surface in the U.S." and that the propane autogas industry "was virtually dormant" when Icom came to the U.S. in 2004. Icom exhibited its first liquid-injection systems with CleanFUEL USA and dealers in 2006 at the National Propane Gas Association's Southeastern Convention in Atlanta, and this started what Venezio refers to as the "renaissance of autogas" in the U.S. "The Icom liquid injection technology was the game-changer and launched the renaissance," Venezio contends. "The system has come a long way since then, with the addition of many patented components and systems such as the



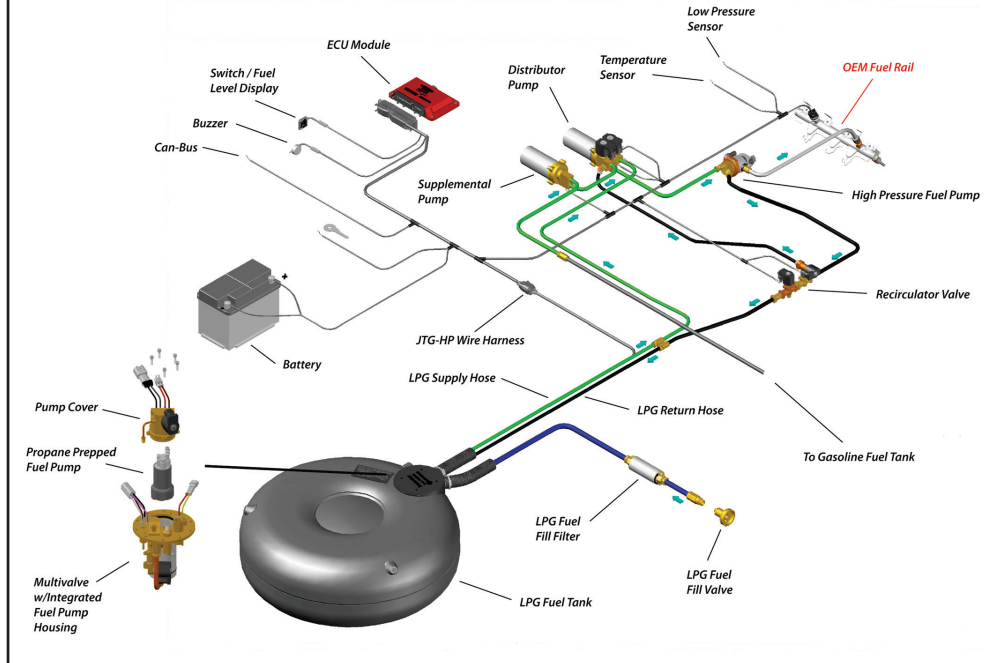
external fuel pump and JTGHp direct injection system.

"This year, a high proportion of the Atlanta convention [exhibitors] had something autogas in their booths. It's dramatically grown," Venezio said. "The goal of the Propane Autogas Network is to project the growth much further. Of the thousands of propane companies in America, only a few hundred or so utilize propane vehicles in their own fleet. A propane company salesperson cannot pull up in a gasoline vehicle to discuss autogas with a fleet and expect to succeed. It is important that propane companies have propane vehicles and utilize their own supply. We have most propane work truck models available in bi-fuel and many also in dedicated versions. This is key and we can make it easy for them to enjoy the benefits and [low] cost of autogas for their own fleets before they can sell autogas effectively to fleet customers. There is an education curve needed to support propane companies to attain autogas sales. It's not as mysterious or complicated to sell autogas as some may think. We do it every day with propane company partners across North America. Part of our job, with our partners, is making autogas development simple, seamless, and effective. Icom has hundreds of successful autogas fleets including UPS, DHL, FedEx contractors, state DOTs, counties, municipalities, and private fleets. Icom systems utilize many millions of gallons of propane autogas each year. Let's work together to grow it exponentially." Offering national fueling across the country is another goal the network hopes to achieve over the next couple of years.

"So you could use the same card reader or credit card to access all the different fueling infrastructure," Venezio explained. "Instead of paying \$3.29/gal. at U-Haul, you pay \$1.49/gal., with some regional variations depending on where your fleet is."



## ICOM JTGhp Direct Liquid Injection Bifuel Propane System



### Propane Autogas: Explaining the Technology

Related to the Propane Autogas Network, Icom plans to publish articles explaining how propane autogas systems work. That would help offset the No. 1 complaint Venezia has heard from people in the propane industry who are against the use of propane autogas: They had negative experiences with it in the 1980s and 1990s when carburetion kits were used. The articles will explain how the technology has improved since then and how it has matched the OEMs' engine fueling deliverables since the advent of liquid injection.

David Griffin, Icom southeast autogas fleet specialist, will be part of the team writing the articles. Griffin, who joined Icom in March of this year, previously served as shop manager for almost 20 years for Herring Gas (McCall Creek, Miss.). He told *BPN* the articles will discuss "how we got to where we are today on fuel systems."

Griffin said that one of the articles might discuss that when he started out in the propane industry in the mid-1990s, most of the propane vehicles were using the original technology that was used in the 1970s, which was almost the same as a gasoline carburetor in which propane enters the engine through the center of the intake manifold. Propane technology moved to a central injection system that injected propane into the air horn. The computer had some control over the air/fuel mixture, but propane still entered the engine through the center of the intake manifold, and when the entire intake is full of propane, anytime a backfire occurred, it created problems, Griffin said.

From there, companies in the late 1990s produced an injection system in which the speed of injection could be controlled. Vapor was still used, but it was injected in with fuel injectors.

"Vapor injection improved the control of the fuel and what comes out of the tailpipe without the bad side effects," Griffin stated. The problem with the early ver-

sions of vapor injection in the early 2000s, however, was that the software that makes the system work correctly was complicated.

He noticed the systems improved even more by around 2006, when his company, Herring Gas, bought its first GM trucks that came straight from the factory with liquid propane injection systems using Icom technology. The Herring fleet operated about 160 trucks, and about 100 ran on propane.

The Icom articles will explain different fuel system technologies and how each one brought the propane industry closer to what the government was looking for.

"The goal was a system that's reliable and EPA-compliant that can truly match the gasoline fuel system performance and reduce emissions," Griffin noted. "Nothing else but liquid can do that."

### Update on Propane Optimization Process

In 2013, Icom added the propane optimization process (POP) as an option on its systems. The POP option prevents drivers from switching from propane to gasoline unless the vehicle runs out of propane. Venezia explained that the option has been successful with fleets, and most of ICOM's fleet customers choose this option, which allows fleets to make sure their drivers use the maximum amount of propane in their bi-fuel vehicles.

As an example, Venezia mentioned airport shuttle drivers who might not care if the shuttle owner saves money on fuel. "We took it out of their hands," he explained. "That took fleet usage from about 80% propane in a drive cycle to about 95% to 96%. The system is about 90% of all our bi-fuel sales, because fleets want to enjoy the most use of propane and save the most money."

### Liquid-Injection Propane on Transit Gets EPA-Certified

Icom announced on Sept. 1 that it achieved EPA certification on model year 2015 Ford Transit 3.7-liter dedicated and bi-fuel platforms. The fleet platforms focus on delivery, shuttle, and work truck vehicles.

Venezio stressed that his company is the first to offer an EPA-certified dedicated propane version of the Transit, which replaced the Ford E-series van. He added that Icom expects to announce additional EPA certifications for dedicated propane systems in the coming months, including the Ford F-150 with a 5.0-L engine, as well as for GM 6.0-L 2500, 3500, and HD applications. "Icom is the first to achieve propane direct-injection certifications, and we have many more of those coming in the fall and winter."

—Daryl Lubinsky