

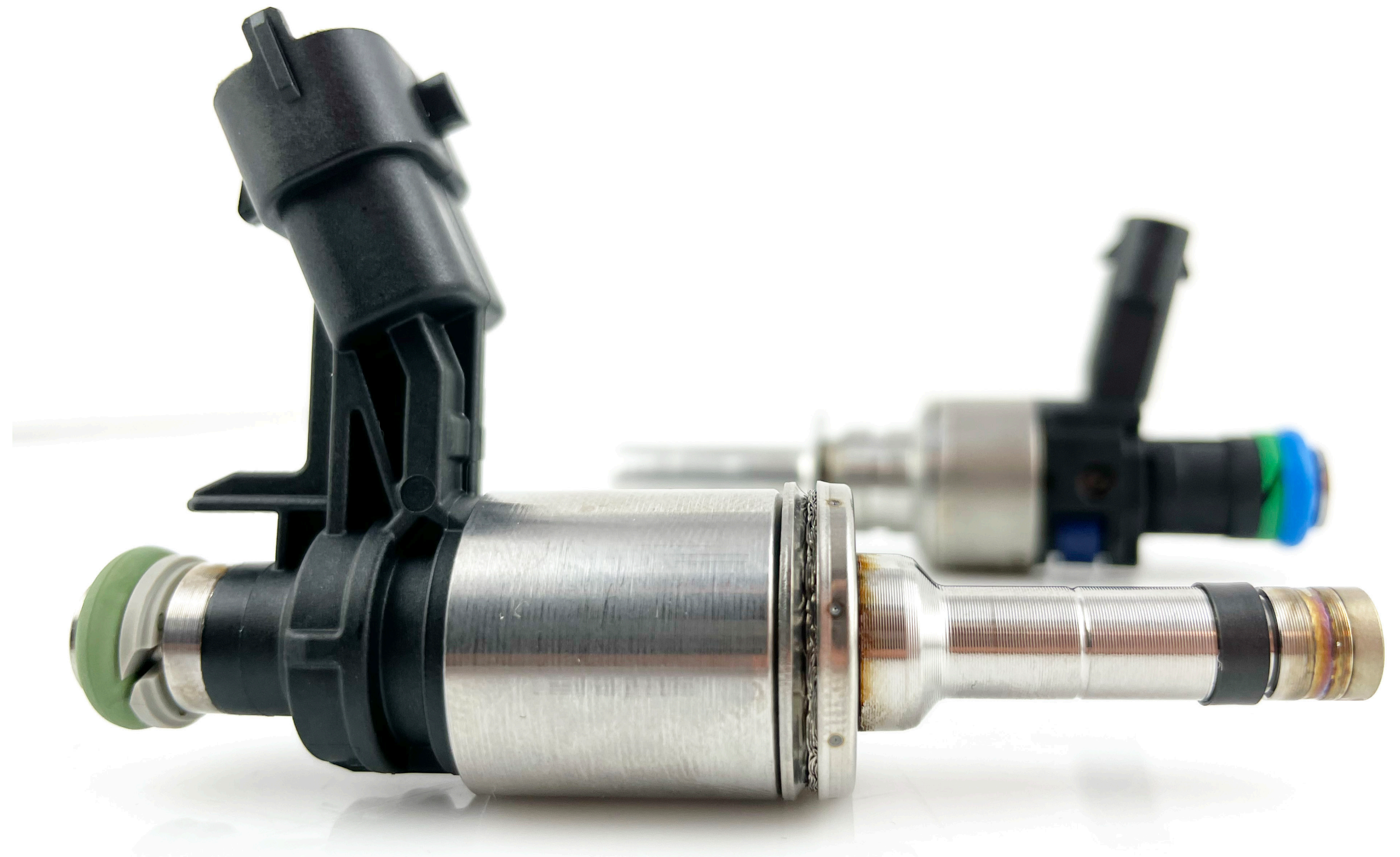
GAS FUEL INJECTION & RELATED PARTS

Highlights

- 1 Complete Fuel Injection Program with more than 1,000 New GDI, Multi-Port, TBI Injectors and related components
- 2 Engineered and manufactured in our IATF 16949-certified facility in Greenville, SC
- 3 Application-specific flow and spray patterns to match OE specs and increase fuel economy



What's in your box?



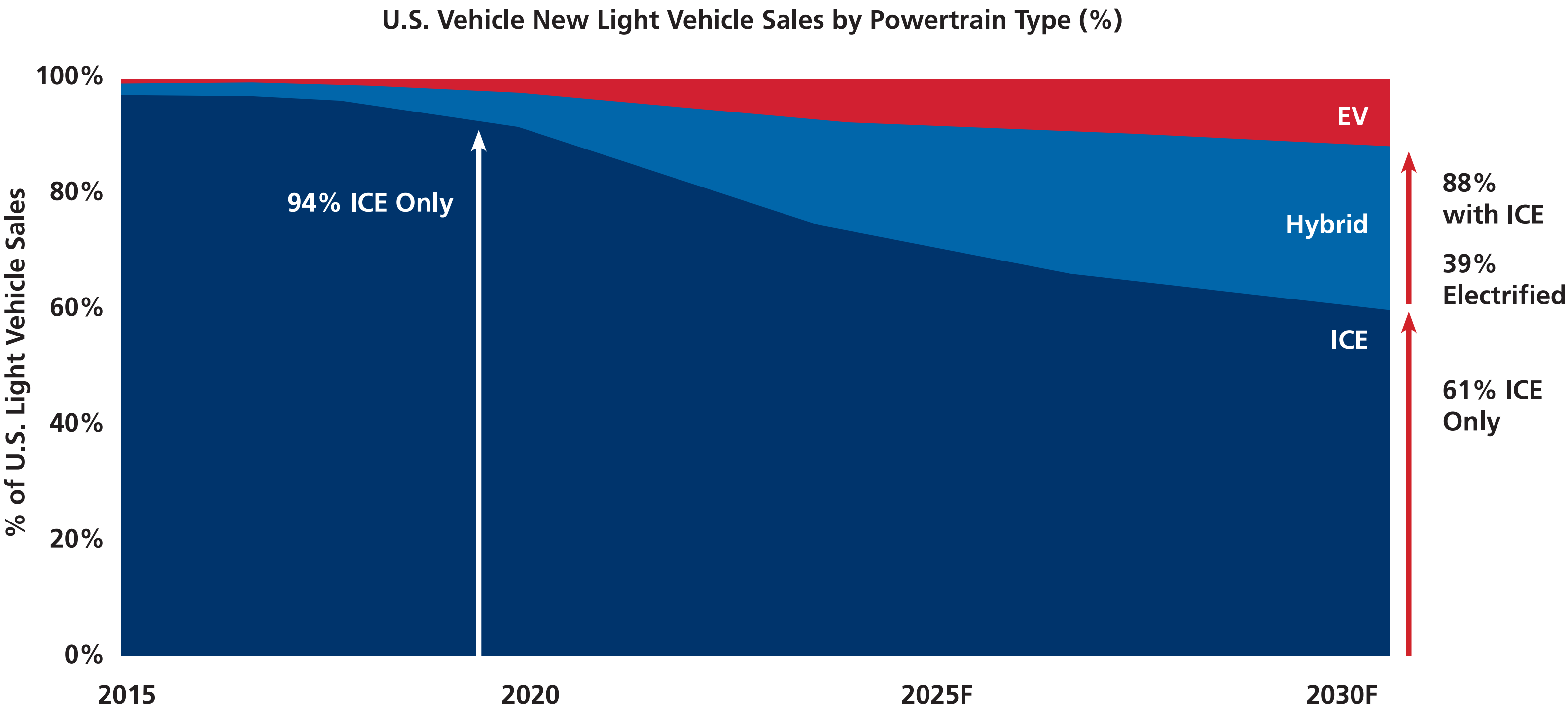
NAPAEchlinFuelInjection.com

GAS FUEL INJECTION

Growing Market

Fuel injection has been on almost every new car sold for over 30 years, and despite all of the momentum around electric vehicles, 97% of new vehicles sold in 2021 had a fuel-injected engine.

The number of fuel-injected vehicles on the road will continue to grow for the foreseeable future. In fact, by 2050, Electric Vehicles (EVs) may reach 8 of 10 new cars sold, but the majority of the vehicles on the road will still contain an Internal Combustion Engine (ICE) with gasoline being the #1 fuel.

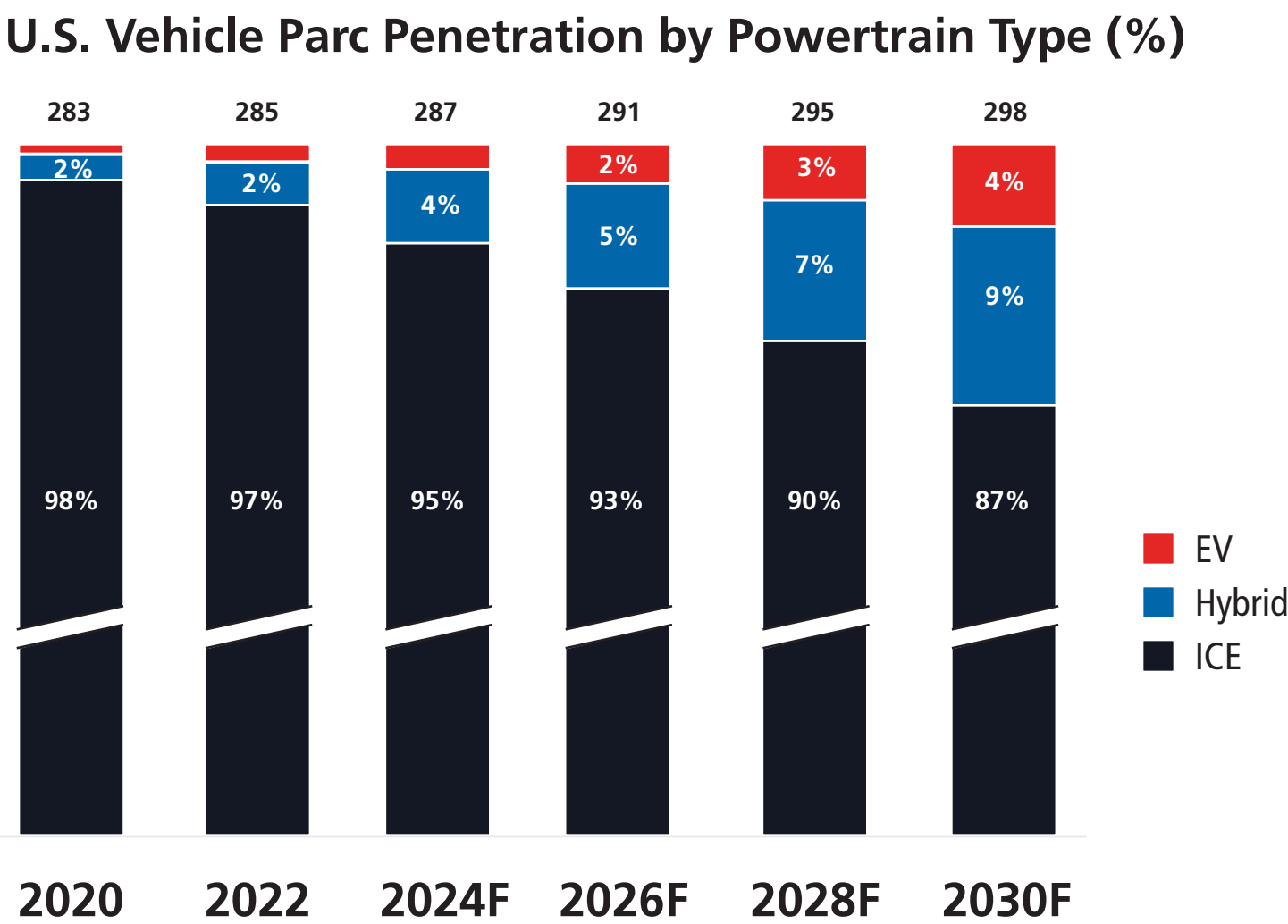


Did You Know

By 2031, 88% of new vehicles will still have an ICE engine

In 2030, 96% of the U.S. parc will remain gas-powered using ICE or Hybrid engines

Source: IHS Markit 2021



GAS FUEL INJECTION

Sales Opportunities

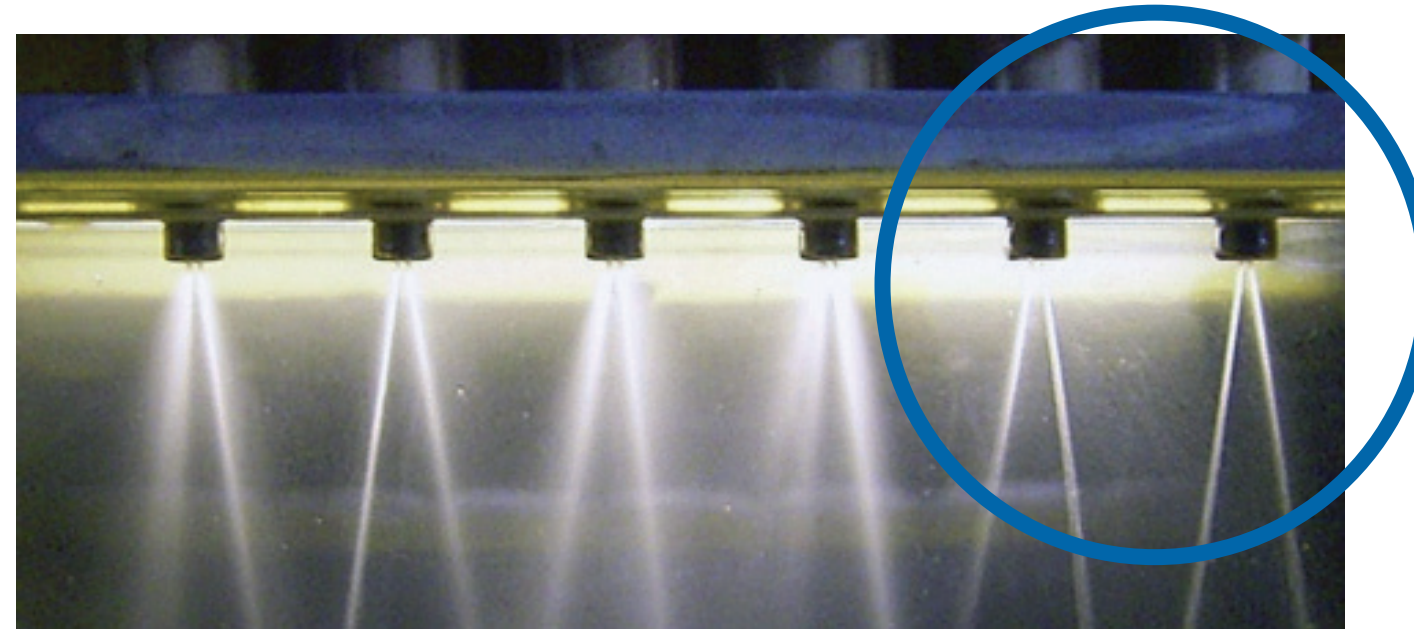
Replace in Sets

When one fuel injector fails, replace all of the injectors with a full new set, especially on high-mileage vehicles.

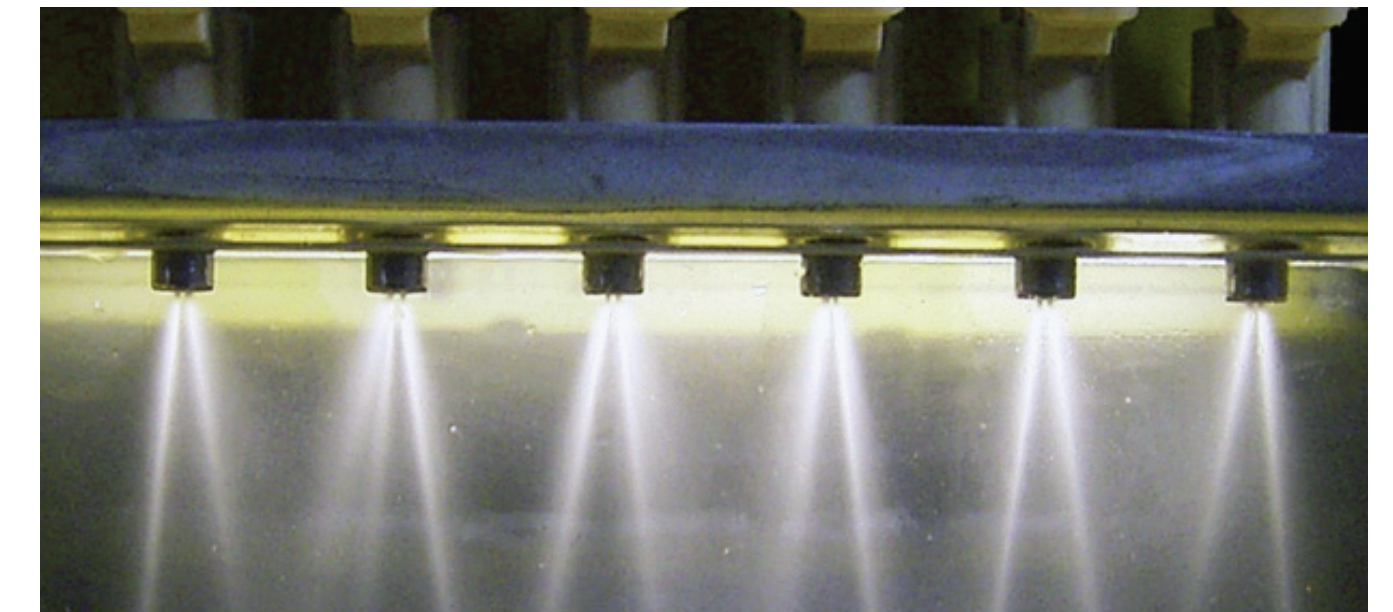
One worn or failed injector means the other injectors have been subjected to the same fuel contamination or extreme wear and tear.

In the long run, the most cost-effective repair is to replace the full set of new injectors.

Replace Fuel Injectors in Sets



High-Mileage Injectors



New Injectors

Did You Know

Replacing only the worn or failed out injector may create a fuel imbalance, because high-mileage injectors have unmatched spray patterns that increase fuel consumption. New NAPA® Echlin® injectors have evenly matched spray patterns that improve fuel economy.

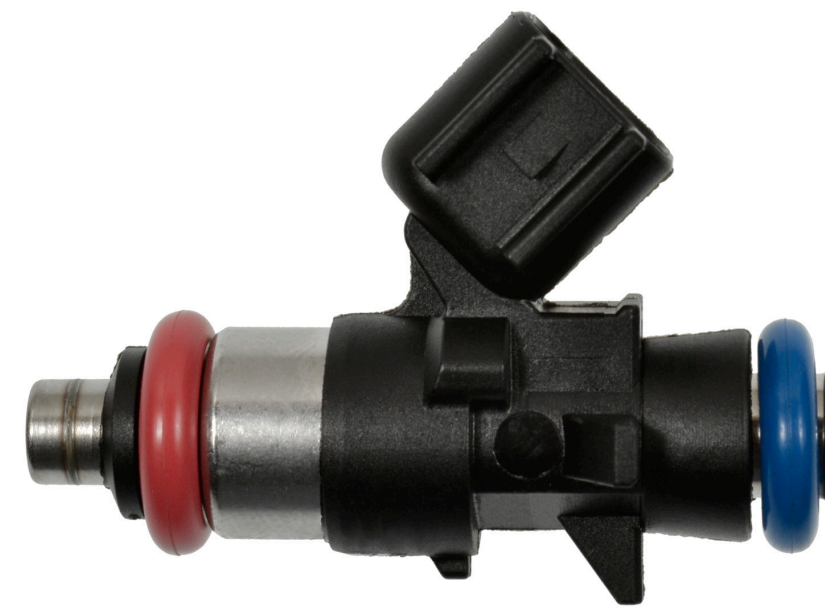
GAS FUEL INJECTION

Program

First, NAPA® Echlin® gas fuel injectors are always 100% New.

With unmatched coverage, NAPA® Echlin® injectors are meticulously designed, manufactured, and tested to meet the rigorous specifications of the failed original they are replacing.

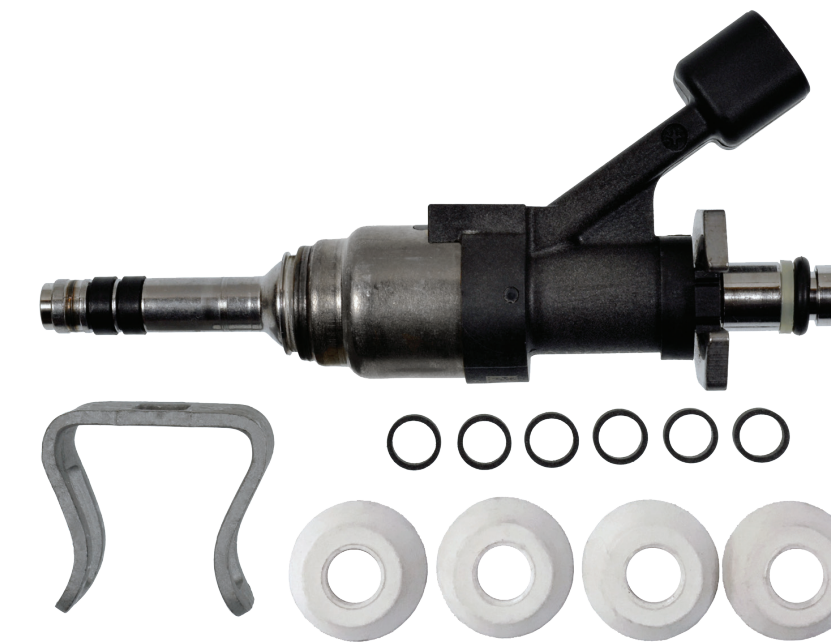
We have a full offering of fuel injection components including fuel pressure sensors, regulators, damper assemblies, fuel/water separator sensors, O-ring kits, and more.



Multi Port Fuel Injectors (MFI)

More than 900+ MFI Injectors

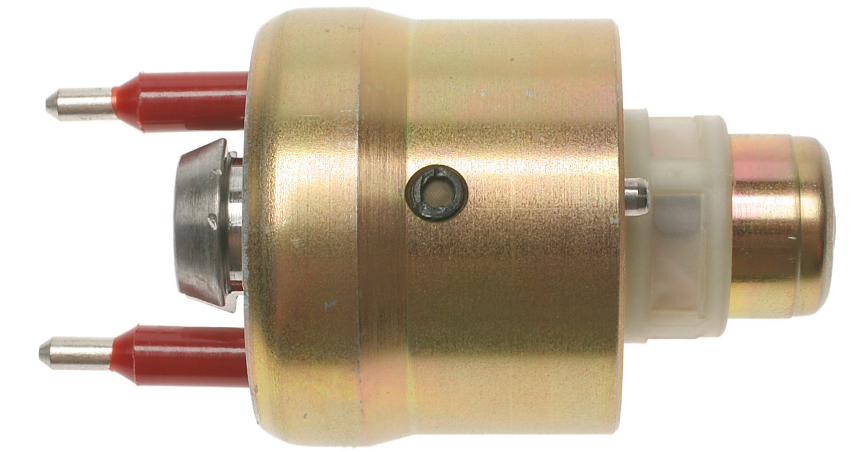
All NAPA® Echlin® MFI injectors are flow-matched to each specific application, with advanced laser-drilled metering holes that deliver precise flow and spray patterns for proper injector performance and improved fuel economy under all conditions



Gasoline Direct Injectors (GDI)

170+ GDI Injectors

Built to deliver maximum performance and fuel economy, each GDI injector is precision-engineered to match the failed OE injector they are replacing



Throttle Body Injectors (TBI)

50+ TBI Injectors

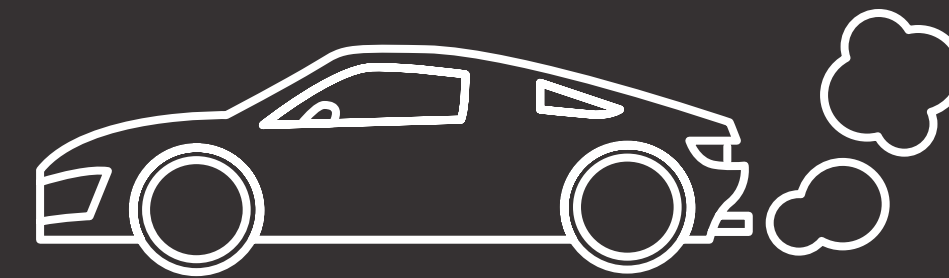
Meticulous engineering and precision machining ensures every NAPA® Echlin® TBI injector matches the original it's replacing for fit, form and function to deliver optimal performance and fuel economy

GAS FUEL INJECTION

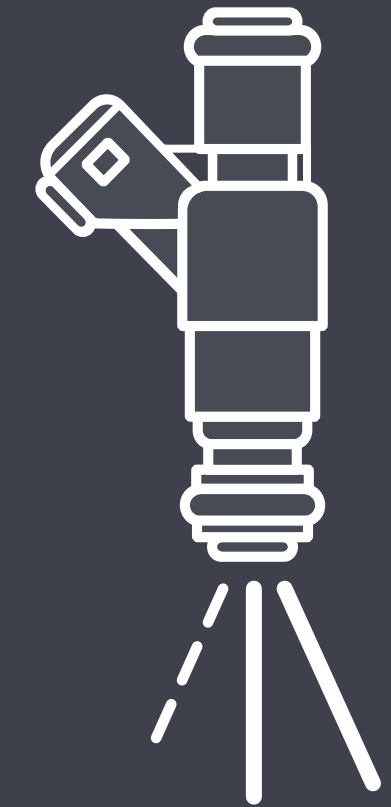
Impact on Engine Systems



Poor acceleration, reduced fuel economy, stuttering when driving, vibration during deceleration, a rough idle, and other drivability issues are all signs of a worn or failed fuel injector



Continuing to drive with failed fuel injectors can cause damage to the emissions system and internal engine components, including the pistons



Low quality or contaminated gasoline is the biggest reason fuel injectors fail – age of injectors or high mileage is another common reason

NAPA® ECHLIN®
GAS FUEL INJECTION

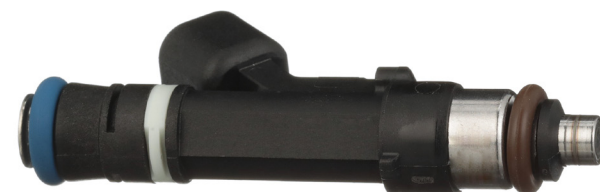
What's New

A complete program means regularly introducing new part numbers. NAPA® Echlin® is constantly researching, testing, and releasing MFI and GDI injectors for a wide-range of late-model import and domestic vehicles.

For the most recent applications, check the online catalog at NAPAEchlin.com



2-39521
Ford F-150
(2020-18)
VIO: 576K



2-34488
Dodge Durango
(2017-16)
VIO: 392K



2-34491
Ford Explorer
(2020-18)
VIO: 326K



2-39514
Audi A3
(2017-15)
VIO: 70K

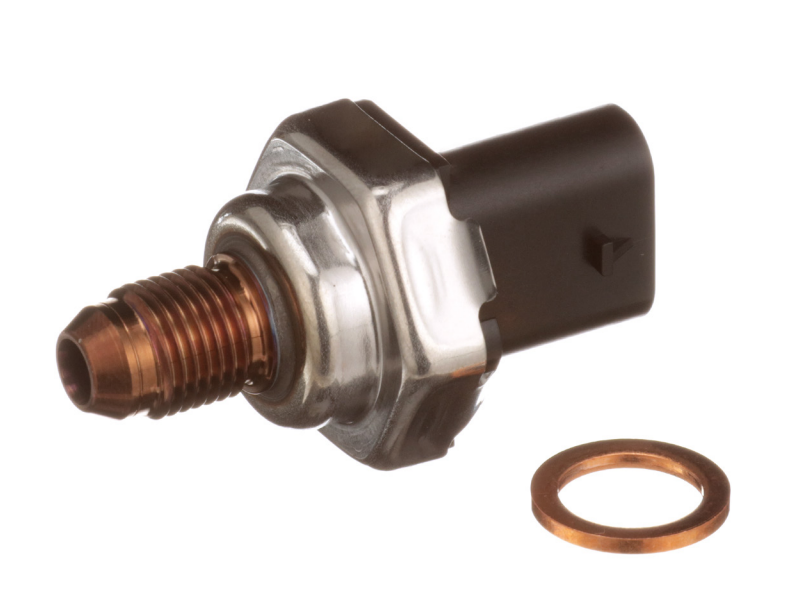


**NAPA® ECHLIN® GAS FUEL
INJECTION RELATED PARTS**

What's New

We continually research, develop and manufacture new applications to expand our premium gas fuel injection offering. It's how we have delivered the most complete fuel injection offering in the industry.

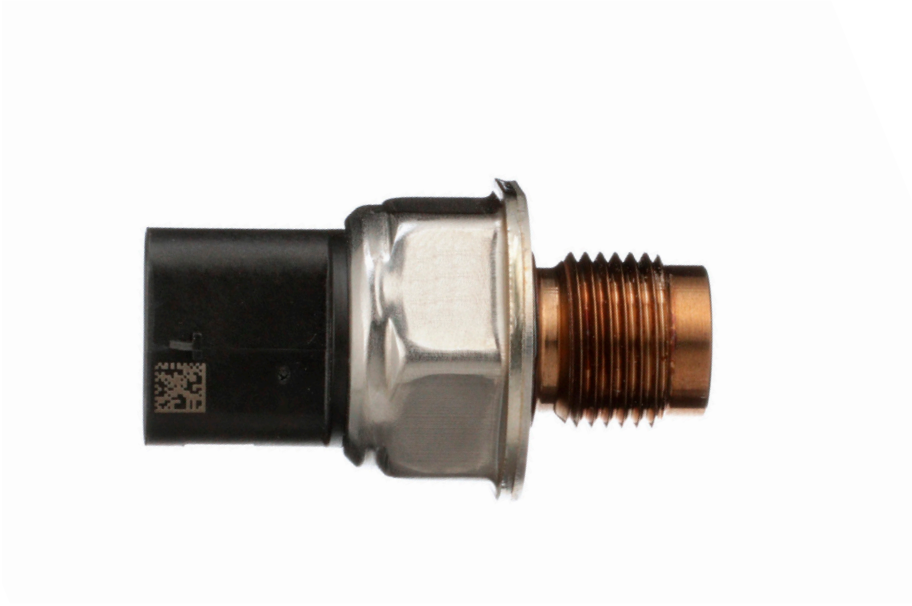
For the most recent applications, check the online catalog at NAPAEchlin.com



Fuel Pressure Sensor

2-34498

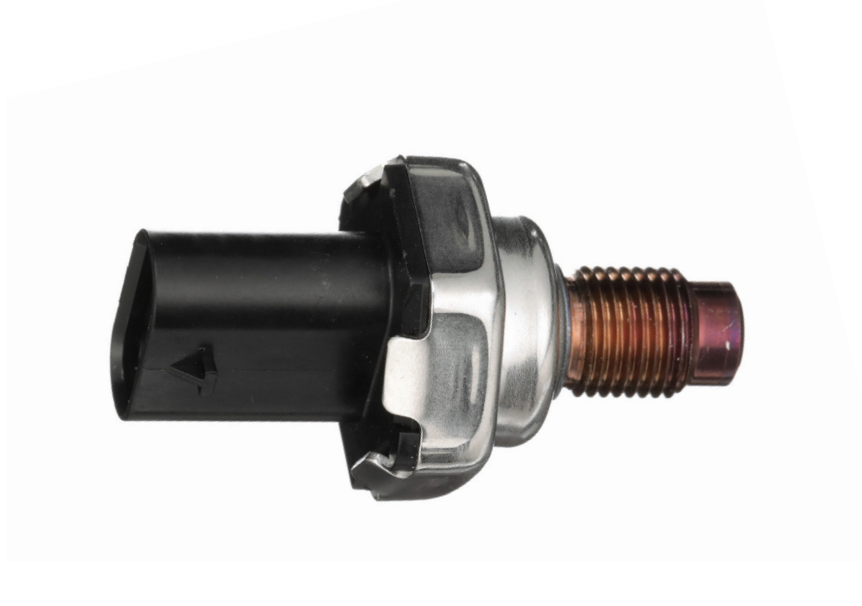
GM Cars, Trucks & SUVs
(2020-17)
VIO: 3.5 Million



Fuel Pressure Sensor

IPS104

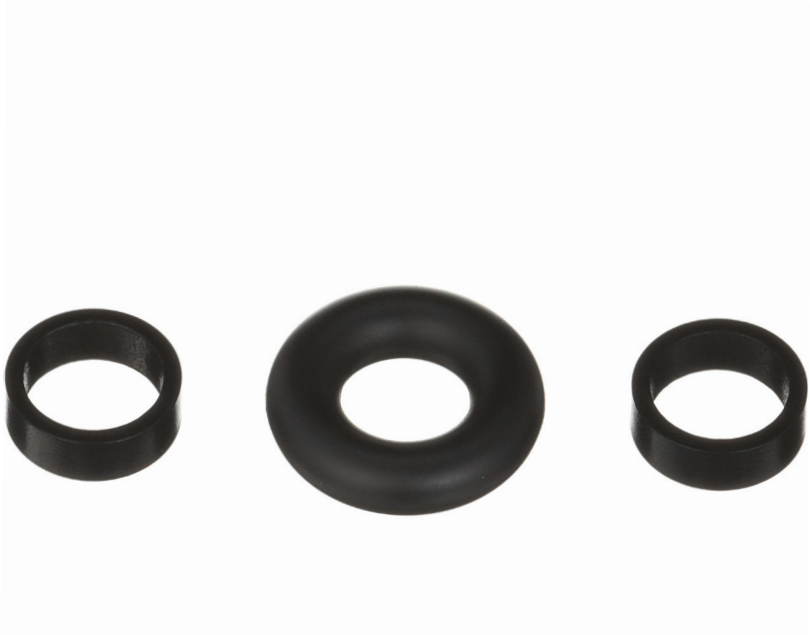
Chevy / GMC SUVs
(2019-16)
VIO: 1.15 Million



Fuel Pressure Sensor

2-34495

Ford Cars & Trucks
(2020-18)
VIO:1.14 Million



Fuel Injector Seal Kit

2-12429

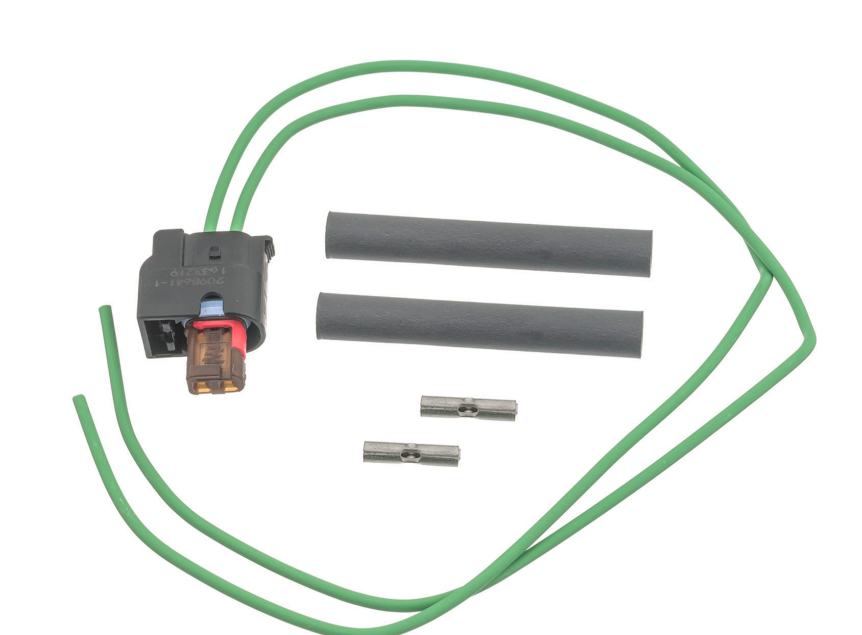
Chevy / GMC Cars & SUVs
(2020-16)
VIO: 2.2 Million



**GDI High Pressure
Fuel Pump**

2-34117

Hyundai / Kia Cars & SUVs
(2016-10)
VIO: 2.1M



Fuel Injector Connector

EC2771

Ford / GM Cars & SUVs
(2021-14)
VIO: 3.3M

NAPA® ECHLIN® GAS FUEL INJECTION

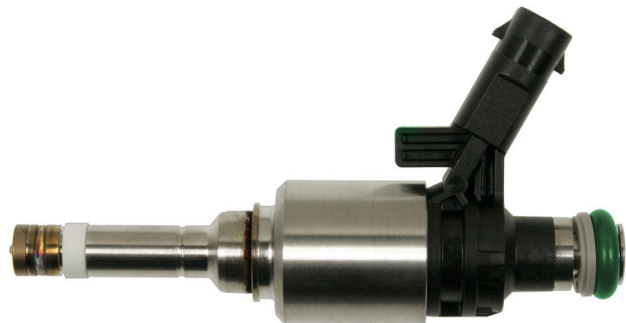
Top Movers

IMPORT
APPLICATIONS



2-38868

Honda / Acura Cars & SUVs
(2017-03)



2-39124

Audi / VW Cars & SUVs
(2017-08)



2-38867

Honda / Acura Cars
(2011-03)



2-38723

Toyota SUVs
(2004-99)



2-38873

Honda / Acura Cars & SUVs
(2004-00)

DOMESTIC
APPLICATIONS



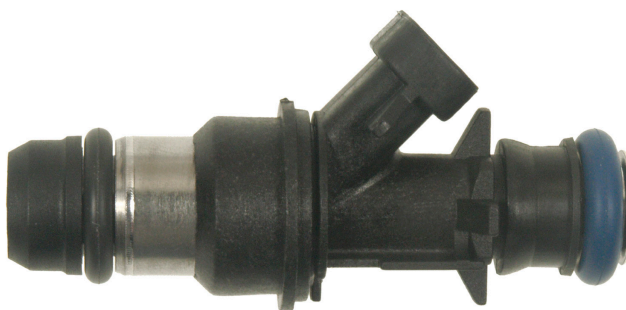
2-39067

Ford Cars and SUVs
(2015-07)



2-38857

Honda / Acura Cars
(2012-04)



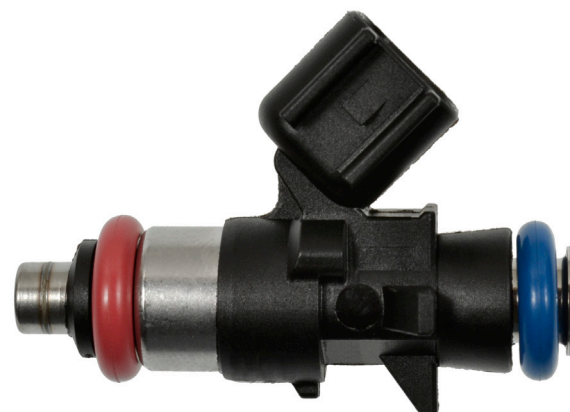
2-38763

Chevrolet/GMC SUVs & Trucks
(2007-99)



2-38916

Dodge / Chrysler Cars
(2011-05)



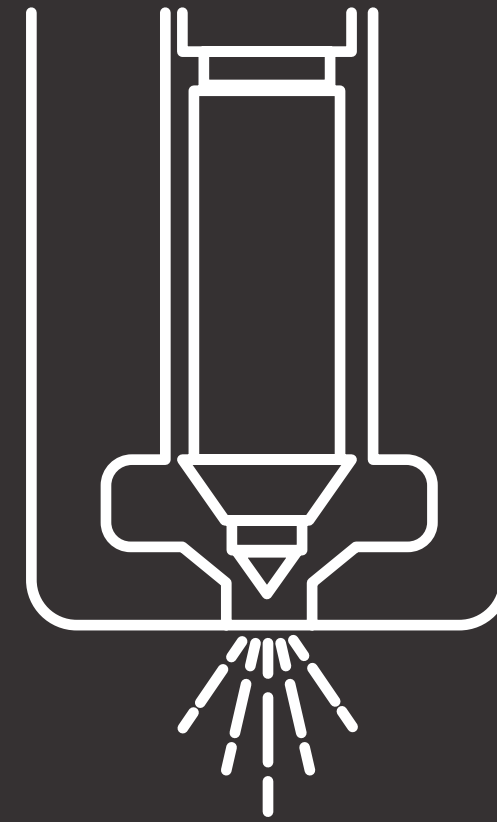
2-39214

Dodge / Ram / Jeep Cars,
Trucks, & SUVs
(2019-11)

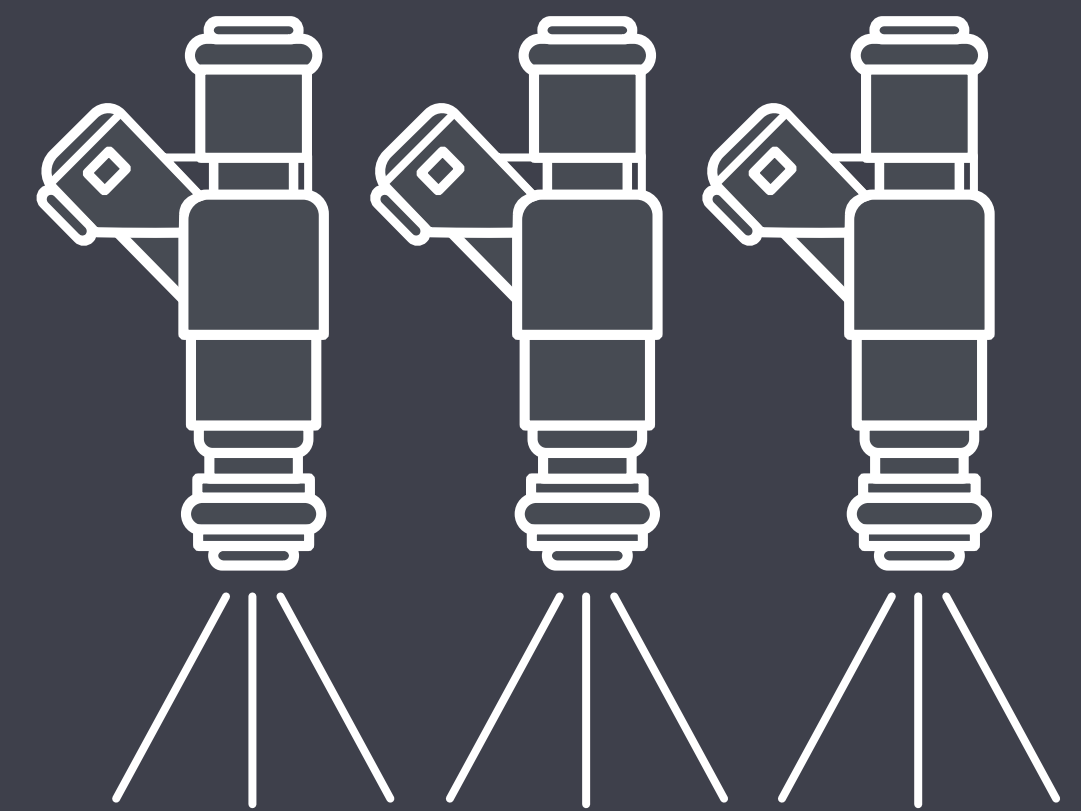
NAPA® ECHLIN®
GAS FUEL INJECTION

Engineering Improvements

Precision engineering means a commitment to flow and spray pattern matching, and strict requirements for flow rates to deliver the best fuel economy, emissions and performance.



NAPA® Echlin® fuel injectors use multiple tip shapes and inserts to match OE-style spray patterns, ensuring positive control of fuel delivery and proper fuel atomization for maximum performance and service life



NAPA® Echlin® fuel injectors are advanced flow-matched to each specific application for balanced fuel delivery

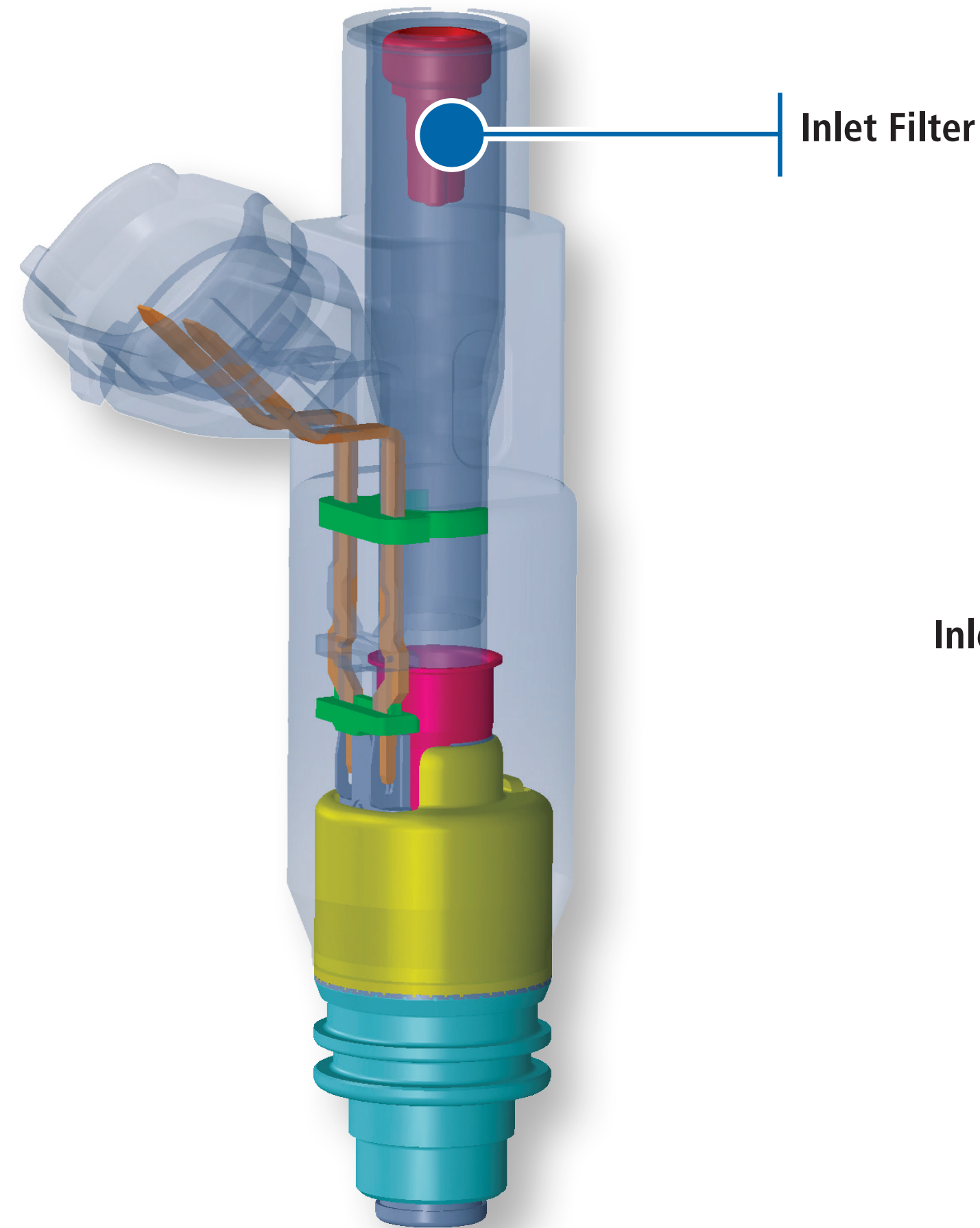
NAPA® ECHLIN®
GAS FUEL INJECTION

NAPA® Echlin® Engineering

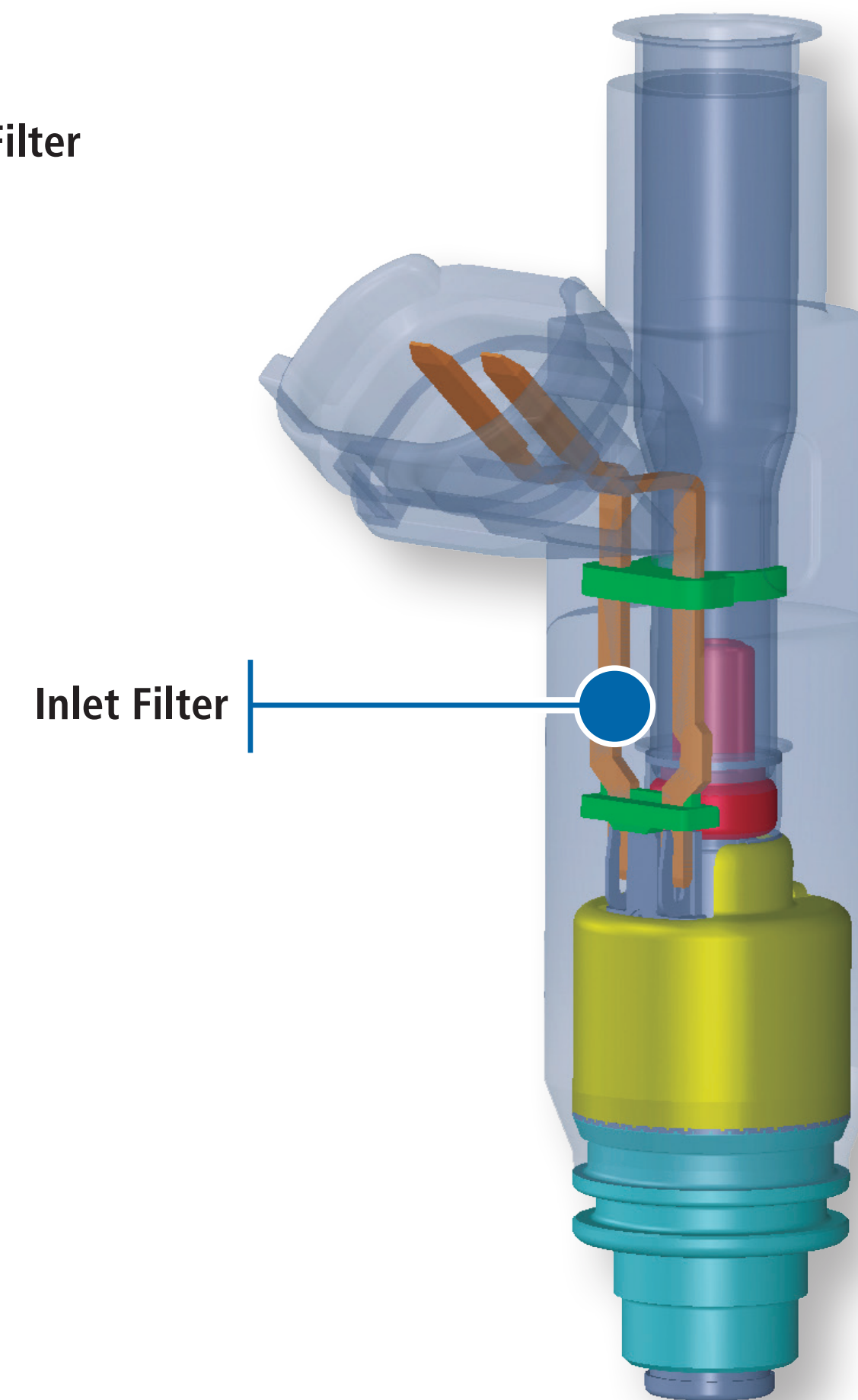
NAPA® Echlin® engineers identified a weakness in the OE design of these multi-port injectors. The OE inlet filter is installed at the end of the fuel inlet tube, increasing the risk of contaminants being introduced.

To eliminate this potential for contamination, we moved the filter location, adding it during the middle of the assembly process. Reducing the likelihood of contamination during the manufacturing process. Problem solved.

OE Design



NAPA® Echlin® Design



Our engineers improved on the OE design by relocating the inlet filter to protect against contamination

NAPA® ECHLIN®
GAS FUEL INJECTION

NAPA® Echlin® Engineering

GM's Vortec engines are equipped with a Sequential Port Injection System (SCPI) featuring a poppet valve that is prone to sticking.

NAPA® Echlin® engineers eliminated the OE failure point by removing the poppet valve and moving the injector to the end of the tube.

NAPA® Echlin's improved system has many advantages including improved sealing, better response, faster temperature stabilization and reduced emissions.

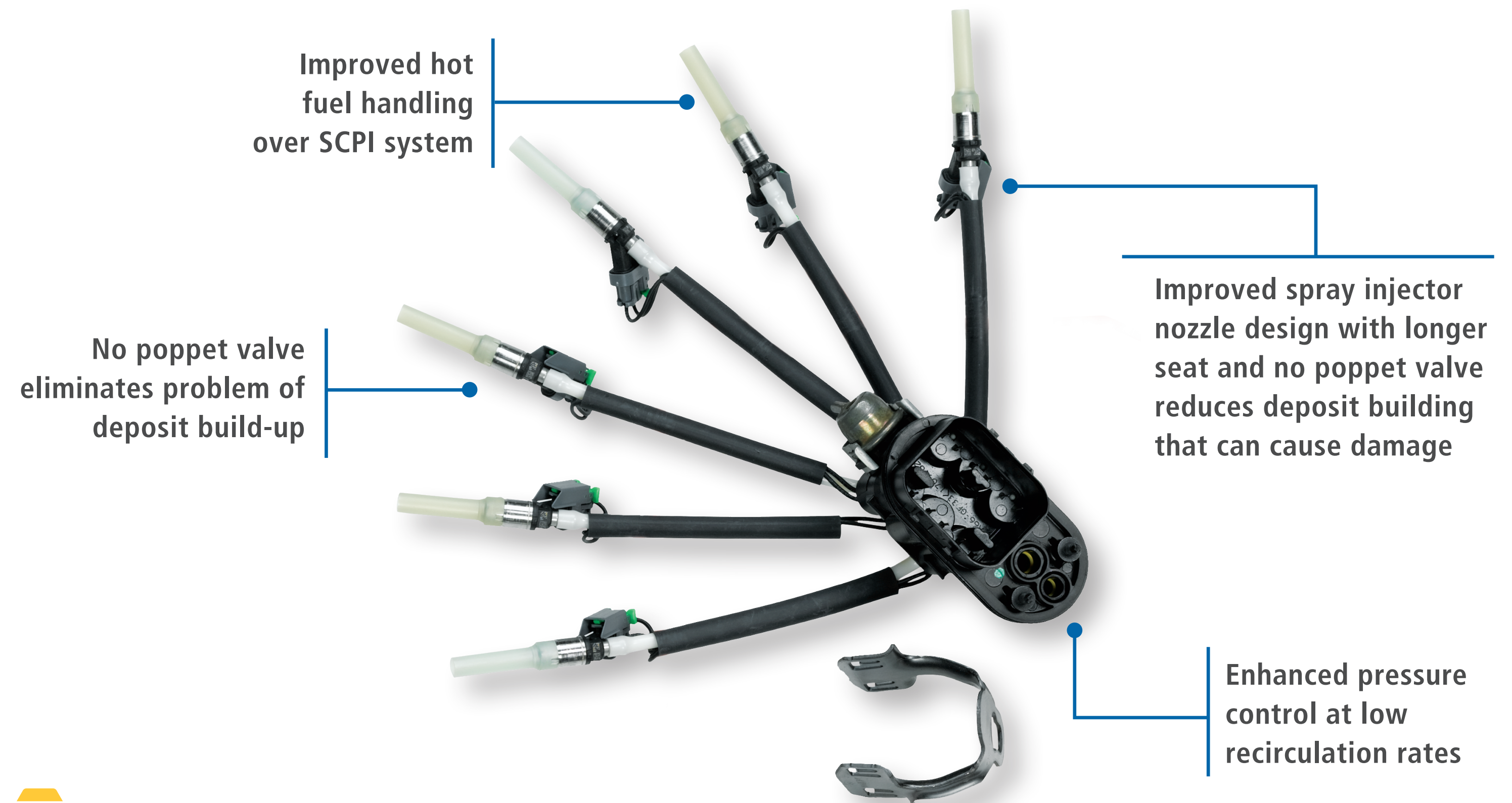


2-38886

Multi-Port Fuel Injection (MFI) System
GM V6 4.3L (2013-96)

Did You Know

NAPA® Echlin's improved design retrofits to cover the older mechanical "poppet" style applications as well as the current electronic valve design in this engine family

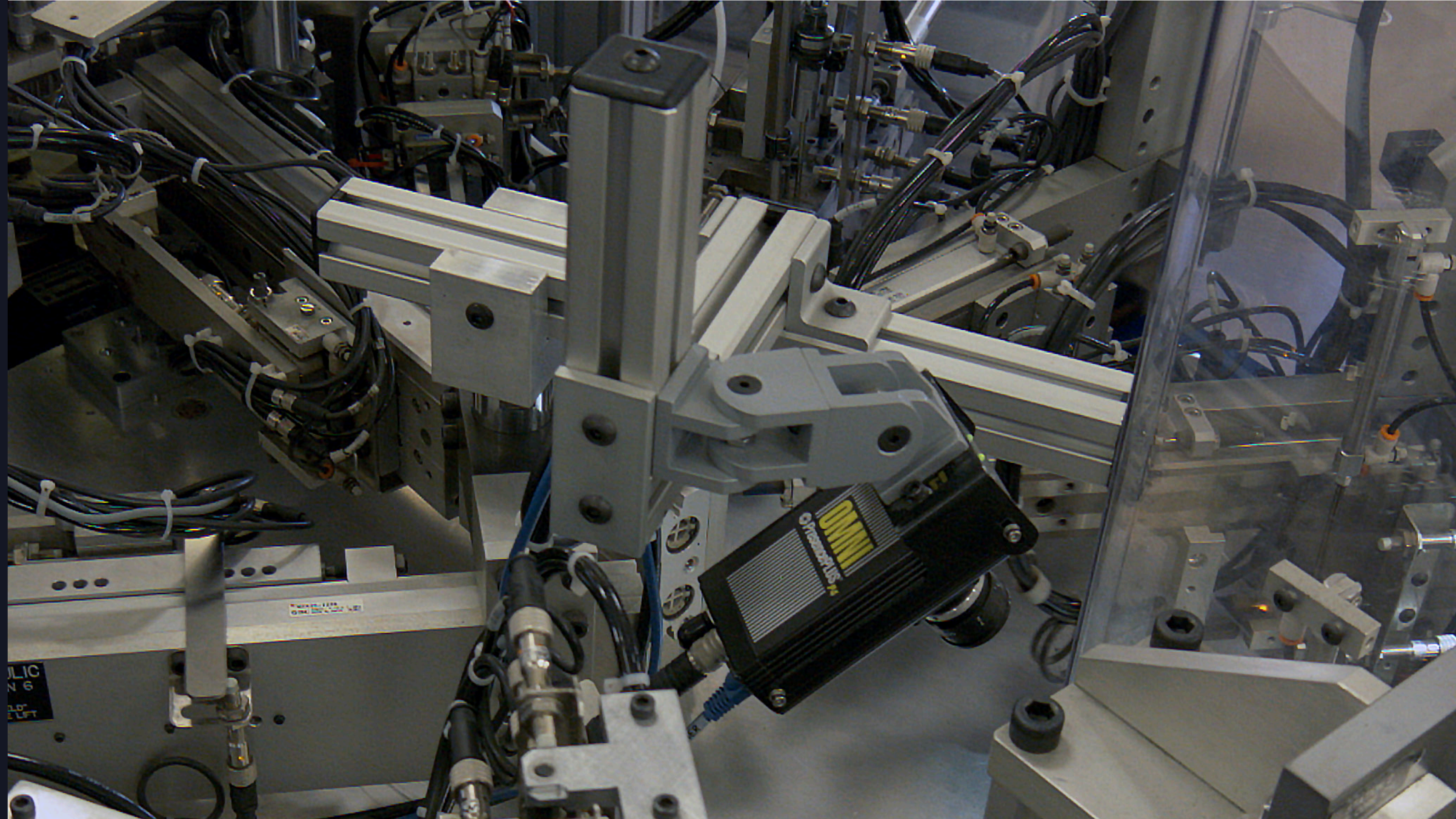


NAPA® ECHLIN®
GAS FUEL INJECTION

Expert Manufacturing

Designed and Built in the USA

NAPA® Echlin® fuel injectors are expertly manufactured at our vertically integrated facility in Greenville, SC. From raw material to finished product, every injector is subjected to extensive end-of-line and life-cycle testing, ensuring they meet our strict quality control standards.



**Engineered and
manufactured in our IATF
16949-certified facility in
Greenville, SC**

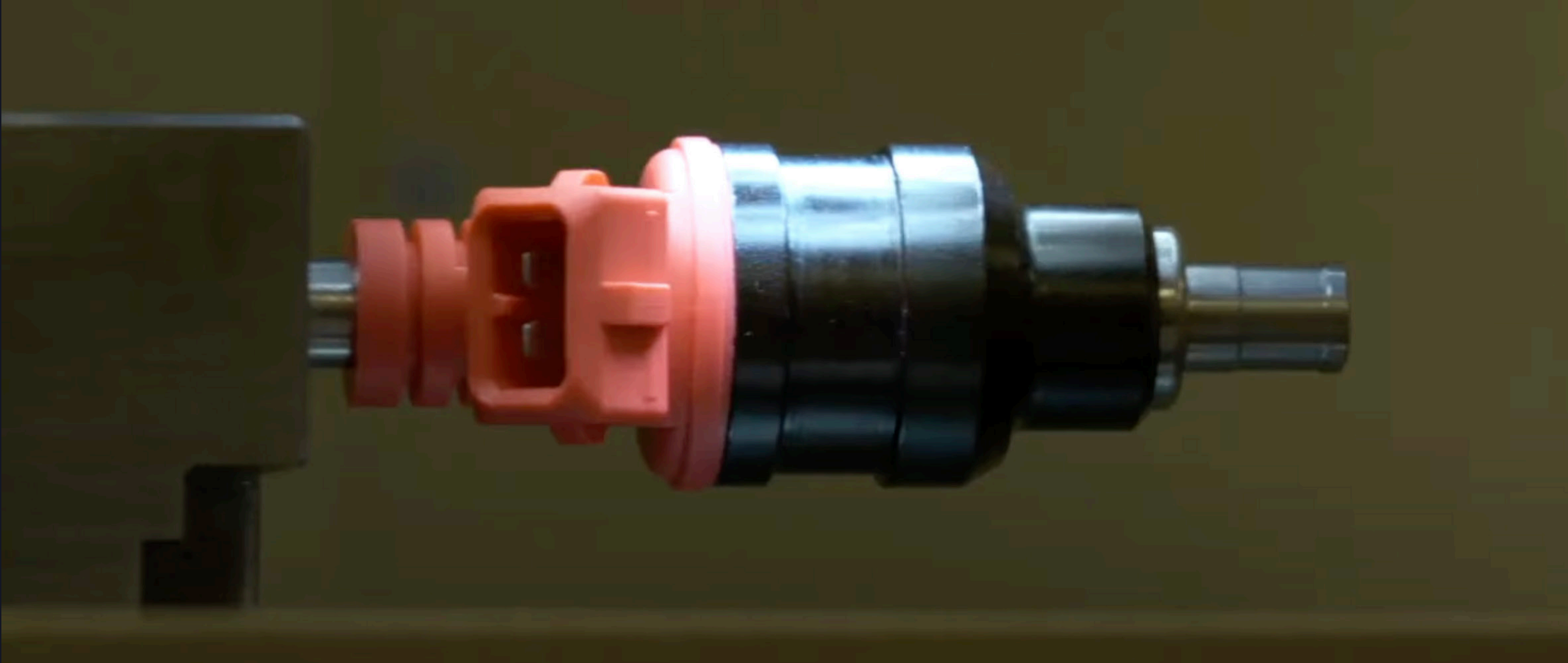
**Precision quality,
application-specific
performance, durability,
and consistent product
reliability**

**100% NEW
Gasoline Injectors**

NAPA® ECHLIN®
GAS FUEL INJECTION

Testing and Validation

To make sure every fuel injector meets our strict standards for precision quality, enhanced performance, and extra durability, NAPA® Echlin® performs initial life-cycle validation and 100% end-of-line testing. What’s more, we subject our fuel injectors to more than 35 different tests and inspections.



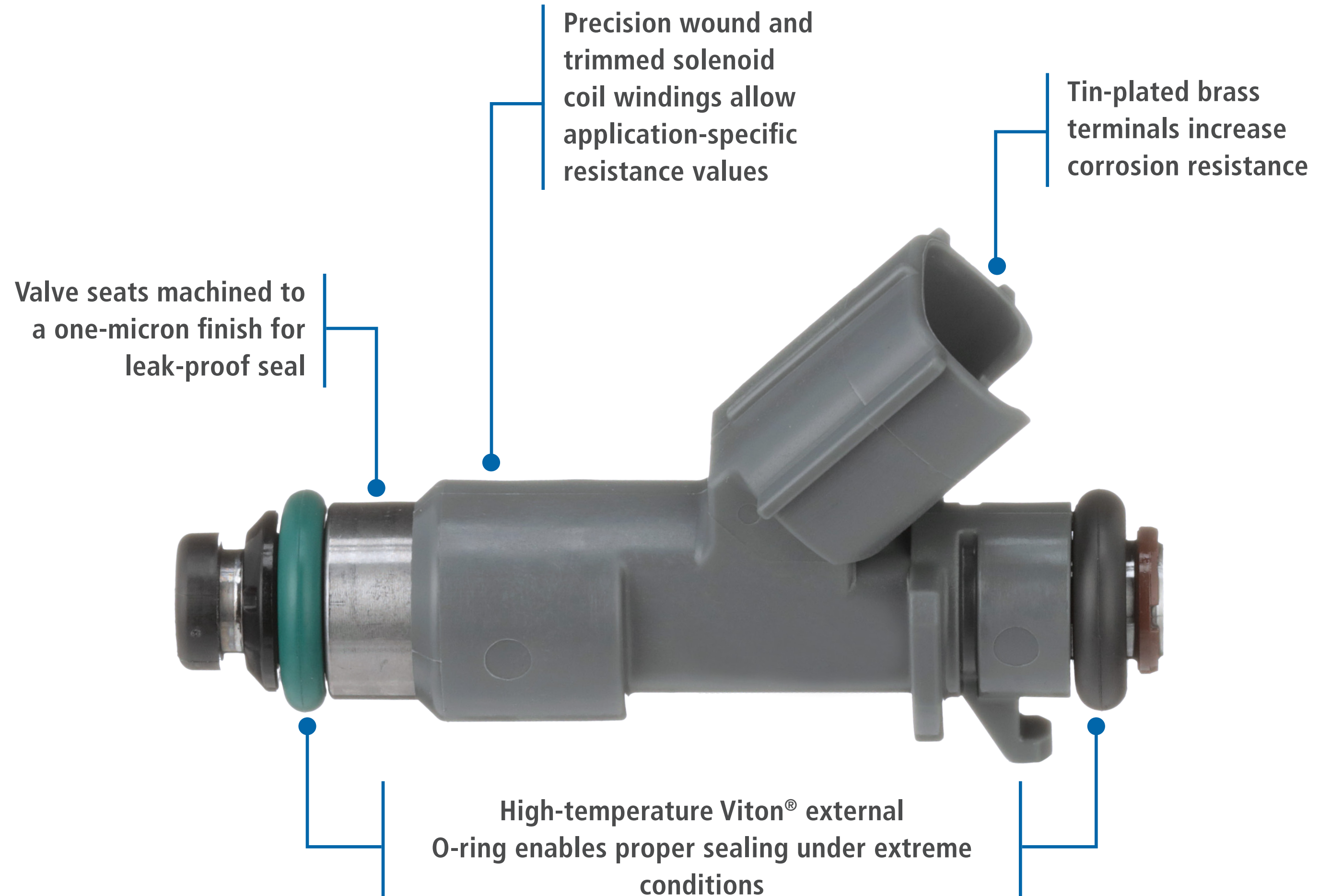
Here are just a few of the elements and components that we test and inspect:

Body Color	Endurance	Spray Pattern
Body Style	Flow Linearity	Static Flow Rate
Coil Resistance	Flow Matching	Thermal Cycle Testing
Connector Shape	Humidity Storage	3 Axis Vibration
Dynamic Flow Rate	Shock Load	and more!

NAPA® ECHLIN®
GAS FUEL INJECTION

Quality Designed

NAPA® Echlin® gasoline fuel injectors are always new, never remanufactured. Precision engineered to match injector flow, spray pattern, and flow rate, NAPA® Echlin® injectors deliver better fuel economy and emissions.



2-39044

Honda / Acura Cars & SUVs
(2018-08)

Related Parts

The best new fuel Injector can't perform as designed with worn O-Rings, failing related components, or low fuel pressure.

NAPA® Echlin's complete Fuel Injection Program provides technicians everything they need for a complete, fuel system service.

For our complete GDI program, refer to the GDI Product Module.



Fuel Pressure Sensors

Monitors flow to deliver designed fuel injection performance

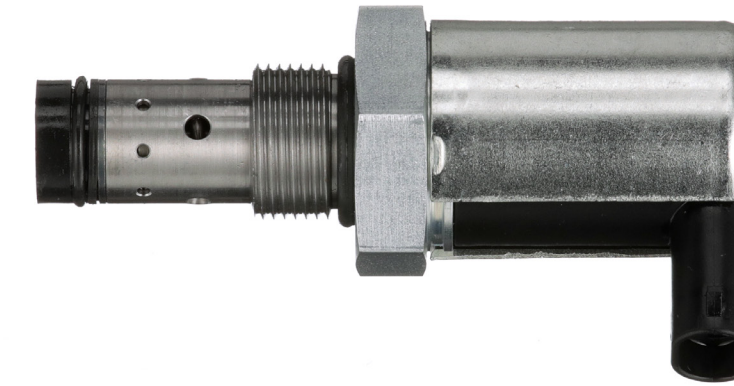
200+ SKUs with coverage through 2022



Fuel Pressure Dampers

NAPA® Echlin® reinforced washers help prevent dangerous fuel leaks and premature failure

70+ dampers for import and domestic applications



Fuel Pressure Regulators

Engineered for vehicle-specific fuel delivery, robust housing to reduce the chance of leakage

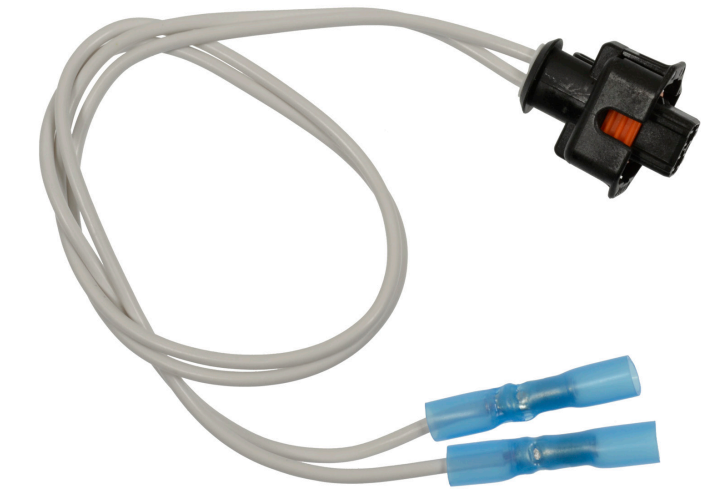
550+ SKUs through 2021



O-Ring Kits

New O-rings and seals will help ensure a proper install. Our O-rings are made from high-quality materials to ensure performance and longevity

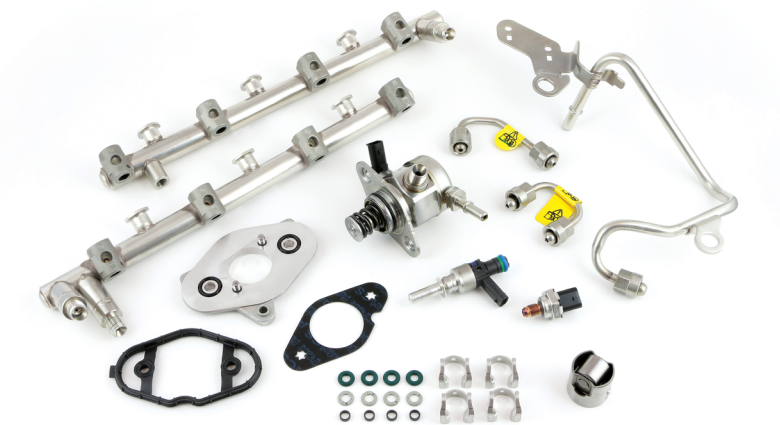
65+ O-ring and seal kits specifically designed for fuel injection systems



Fuel Injector Connectors

NAPA® Echlin® offers the right, quality connectors for fuel injectors and related fuel system components

Import and domestic coverage through 2022



GDI Components

NAPA® Echlin® offers hundreds of GDI system replacement parts – High-Pressure Fuel Pumps, Pressure Sensors, Fuel Feed Lines, O-Rings, Gaskets, Service Kits and more

NAPA® ECHLIN®
GAS FUEL INJECTION

NAPA® Echlin®

Training Tech

Tip

NAPA® Echlin® Trainers have installed hundreds of Fuel Injectors and trained thousands of technicians. Here's what they say to look out for during a fuel injector install.



When using Fuel Trims to diagnose fuel injector faults it is important to keep in mind that one injector that is out of spec will affect the entire bank – One over-fueling injector will offset 3 under-fueling injectors, that's why replacing in sets is advised



For successful installation, lubricate injector tips and O-ring seals with transmission assembly gel, petroleum jelly, or even clean engine oil – do not use silicone

NAPA® ECHLIN®
GAS FUEL INJECTION

NAPA® Echlin® Professional Training

**Award-Winning In-Person, Live
Virtual, and Online Learning**

NAPA® Echlin® Training delivers accredited classes that educate technicians in the latest automotive repair technologies, and techs can earn CEU credits.

An extension of NAPA® Echlin® training, our extensive ADA-compliant YouTube professional video library features more than 500 installation and product videos.



**PRO
TRAINING**
ON-DEMAND

NAPA® Echlin® offers an annual subscription to Pro Training On-Demand. This subscription grants access to more than 200 English, and over 50 Spanish 1-hour courses – and the NAPA® Echlin® on-demand library continues to grow. Topics range from fundamentals to advanced concepts, and include HVAC, diesel, hybrid, ignition, injection, electrical and communication diagnosis.



**PRO
TRAINING**
ON-SITE

Whether in-person at your location or virtually via computer, all NAPA® Echlin® Training classes feature a live instructor and are fully interactive as students work through real-life scenarios. Virtual class “workbooks” include on-demand links to video content and student configurable scan data.

Visit NAPAEchlinTraining.com