

## GAS FUEL INJECTION & RELATED PARTS

# Highlights

- 1 Complete Fuel Injection Program with more than 1,000 New, not remanufactured 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?



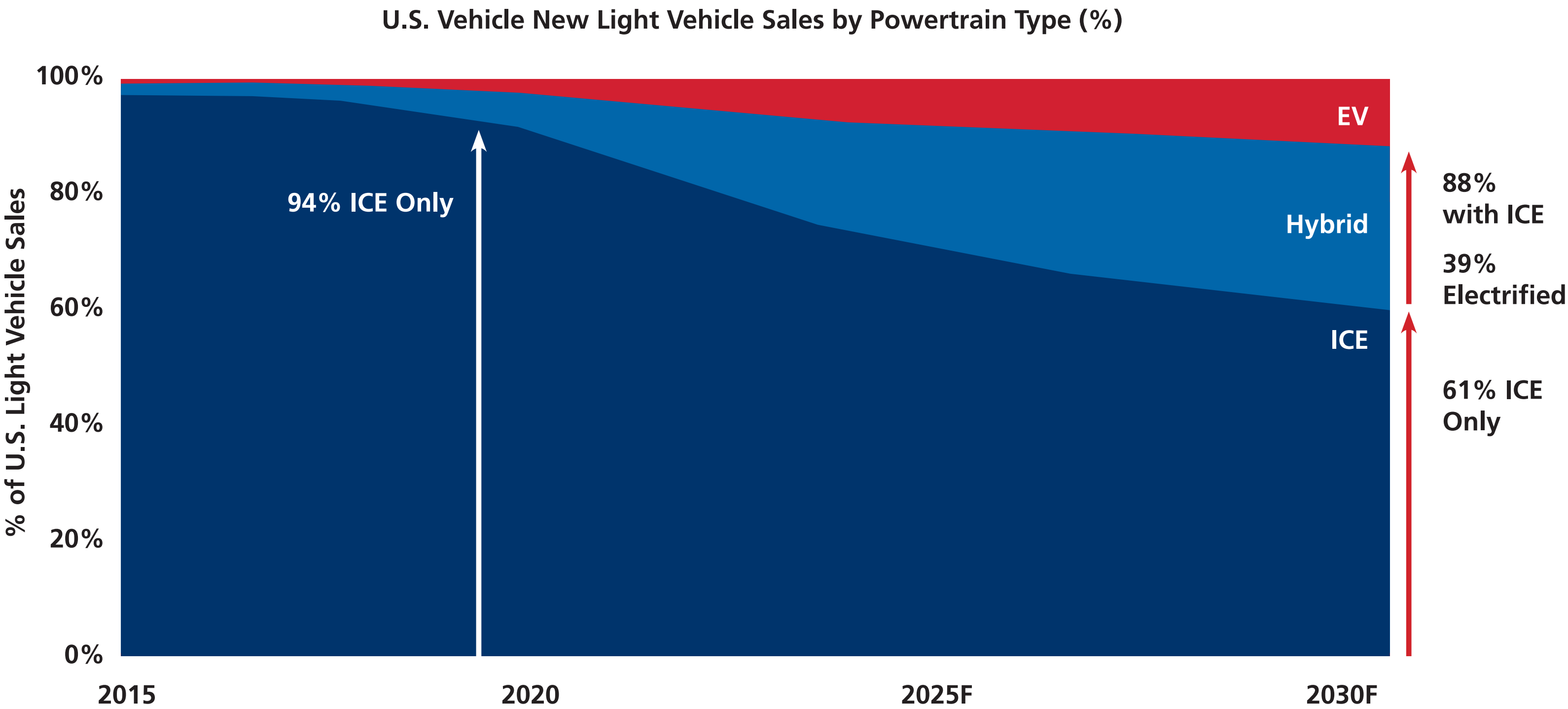
[StandardFuelInjection.com](http://StandardFuelInjection.com)

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, EVs may reach 8 of 10 new cars sold, but gasoline will still be the #1 fuel.

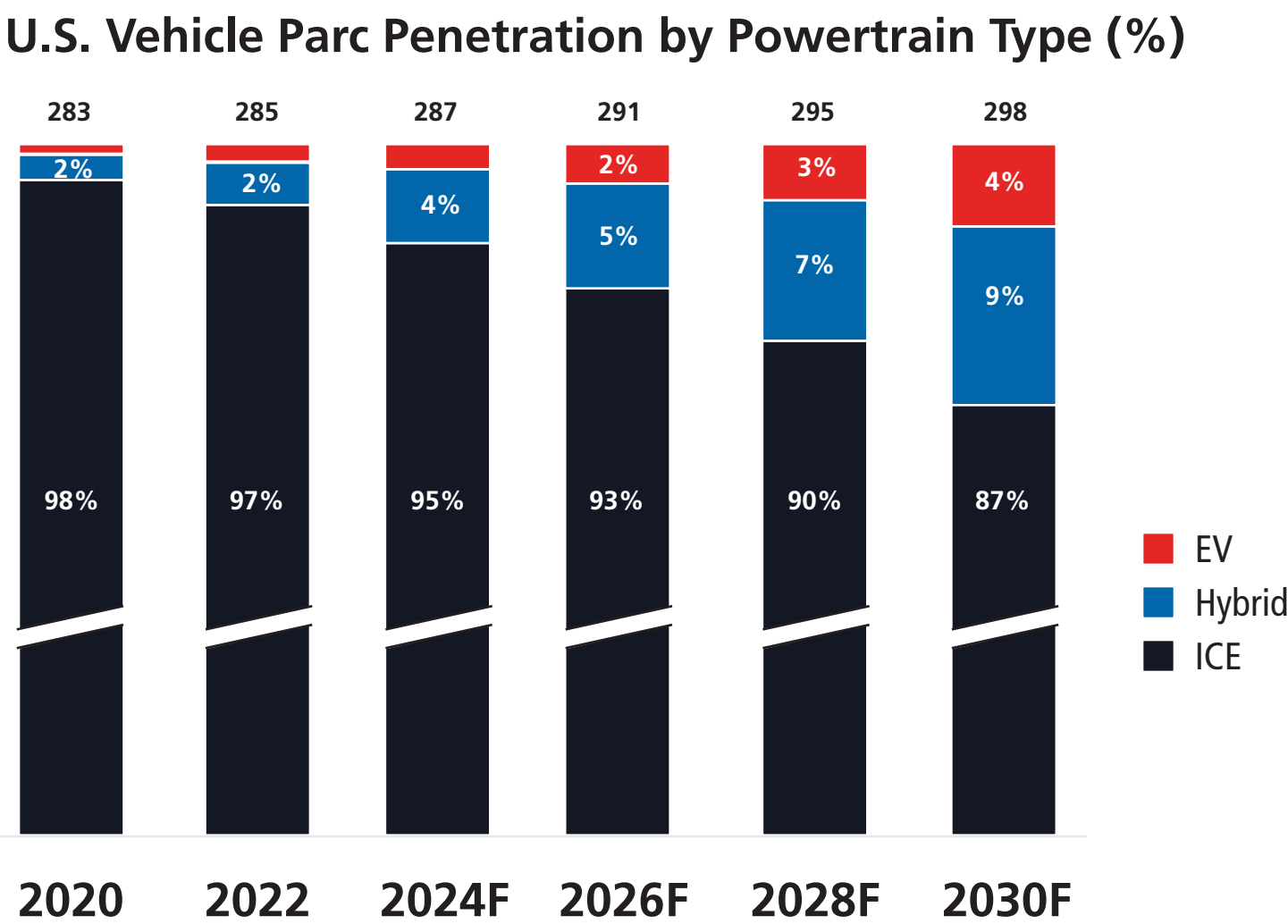


## Did You Know

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

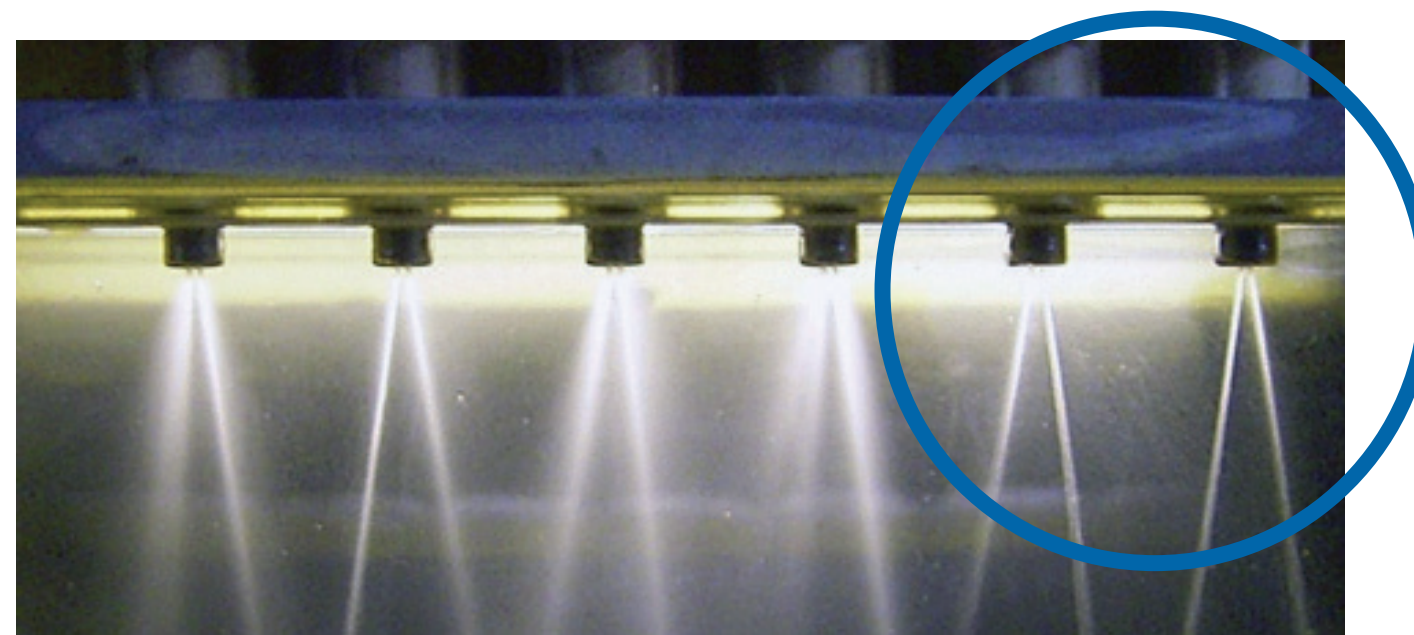
## Replace in Sets

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

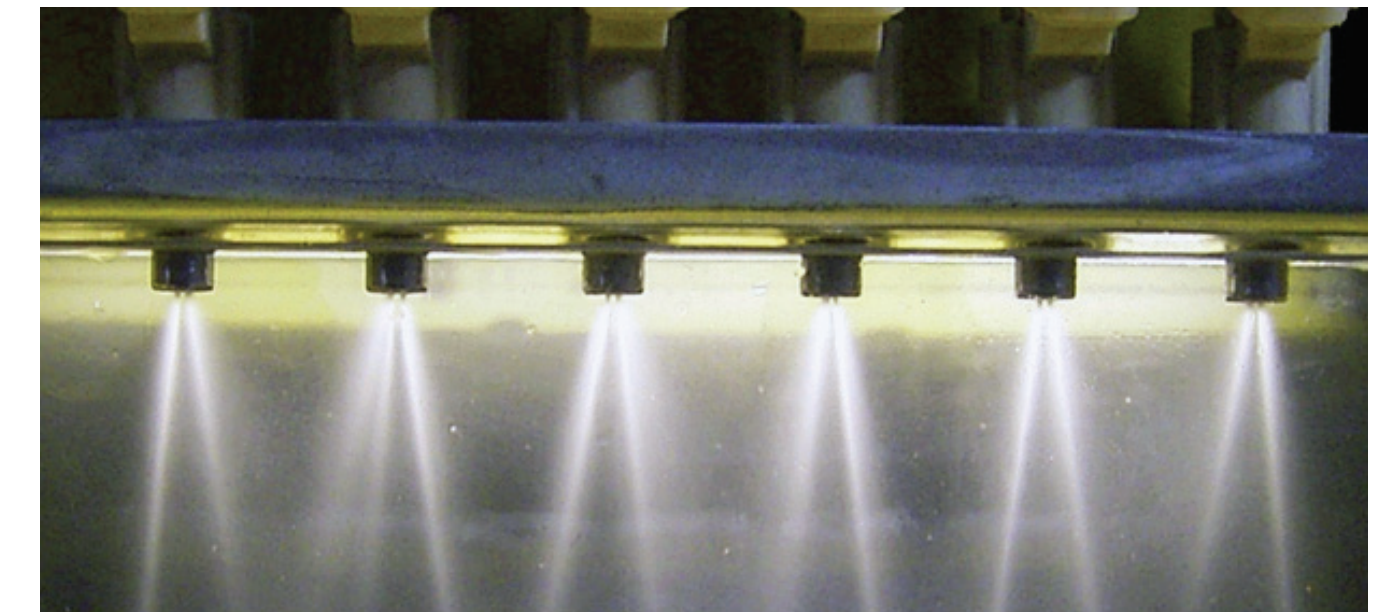
One worn or failed injector means the other injectors have been subjected to the same extreme wear and tear or fuel contamination.

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, as high-mileage injectors have unmatched spray patterns that increase fuel consumption. New Standard® injectors have evenly matched spray patterns that improve fuel economy.

## GAS FUEL INJECTION

# Program

First, Standard® gas fuel injectors are always 100% New, not remanufactured.

With unmatched coverage, Standard® 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

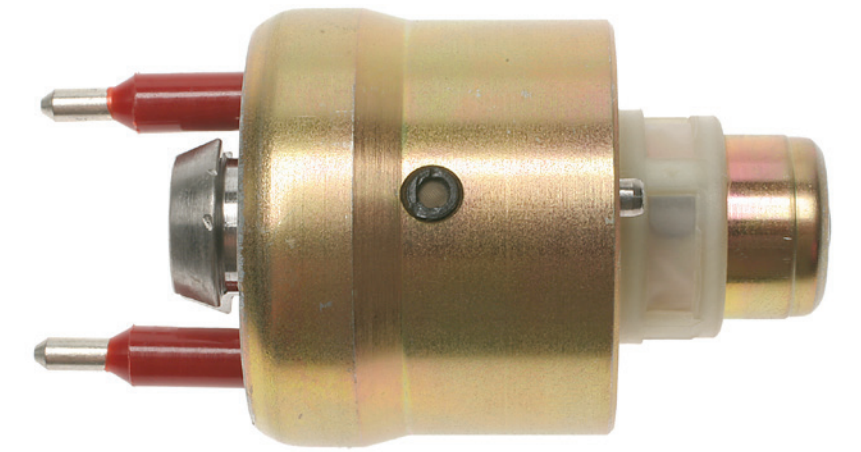
All Standard® MFI injectors are flow-matched to each specific application, with advanced laser-drilled metering holes that deliver precise flow and spray patterns for proper injector performance and improved fuel economy under all conditions



### Gasoline Direct Injectors (GDI)

170+ GDI Injectors (and growing)

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 Standard® TBI injector matches the original it's replacing for fit, form and function to deliver optimal performance and fuel economy

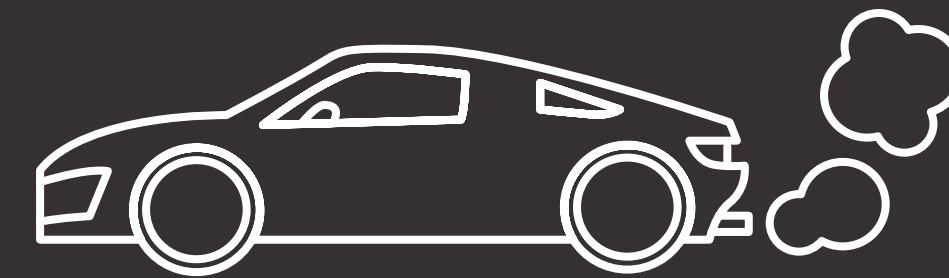


## **GAS FUEL INJECTION**

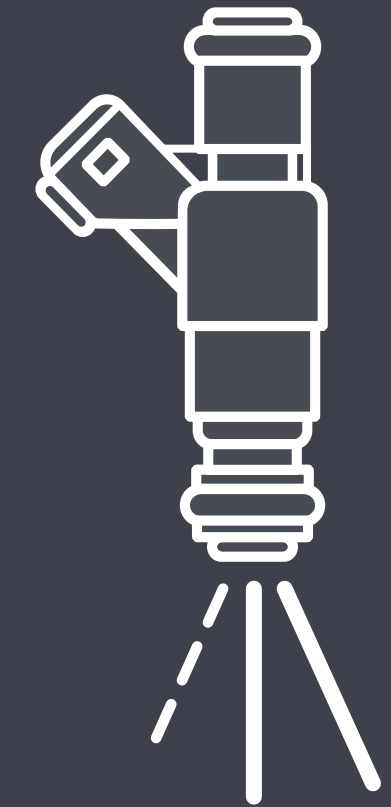
# **Impact on Engine Systems**



**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**

**STANDARD® GAS FUEL INJECTION**

# What's New

A complete program means regularly introducing new part numbers. Standard® is constantly researching, testing, and releasing MFI and GDI injectors for late-model vehicles.

For the most recent applications, check the online catalog at [StandardBrand.com](http://StandardBrand.com)



**FJ1514**  
Ford F-150  
(2020-18)  
VIO: 576K



**FJ1509**  
Dodge Durango  
(2017-16)  
VIO: 392K



**FJ1519**  
Ford Explorer  
(2020-18)  
VIO: 326K



**FJ1503**  
Audi A3  
(2017-15)  
VIO: 70K



STANDARD® GAS FUEL  
INJECTION RELATED PARTS

What's New

New applications are continually being added to our complete gas fuel injection program. It's how we continue to deliver the most complete fuel injection offering in the industry.

For the most recent applications, check the online catalog at [StandardBrand.com](http://StandardBrand.com)



Fuel Pressure Sensor

FPS131

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



Fuel Pressure Sensor

FPS121

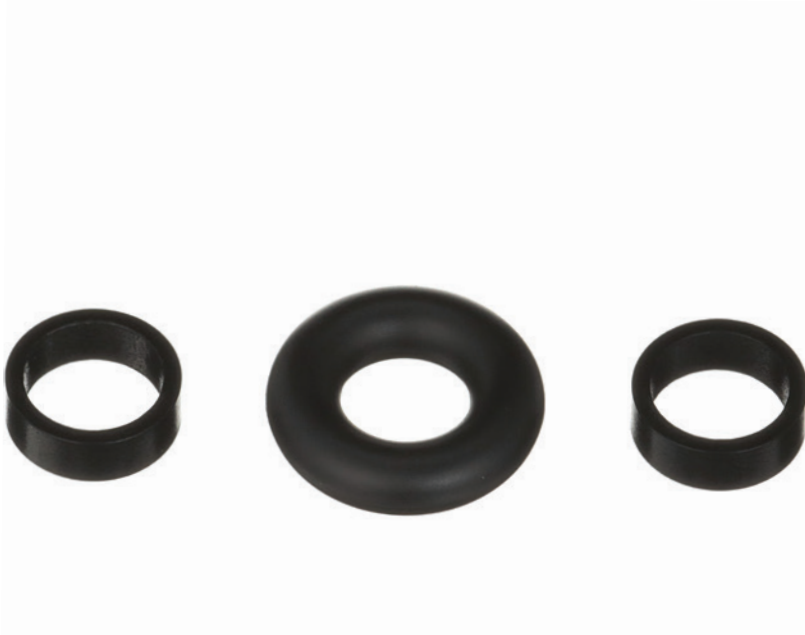
Chevy / GMC SUVs  
(2019-16)  
VIO: 1.15 Million



Fuel Pressure Sensor

FPS129

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



Fuel Injector Seal Kit

SK191

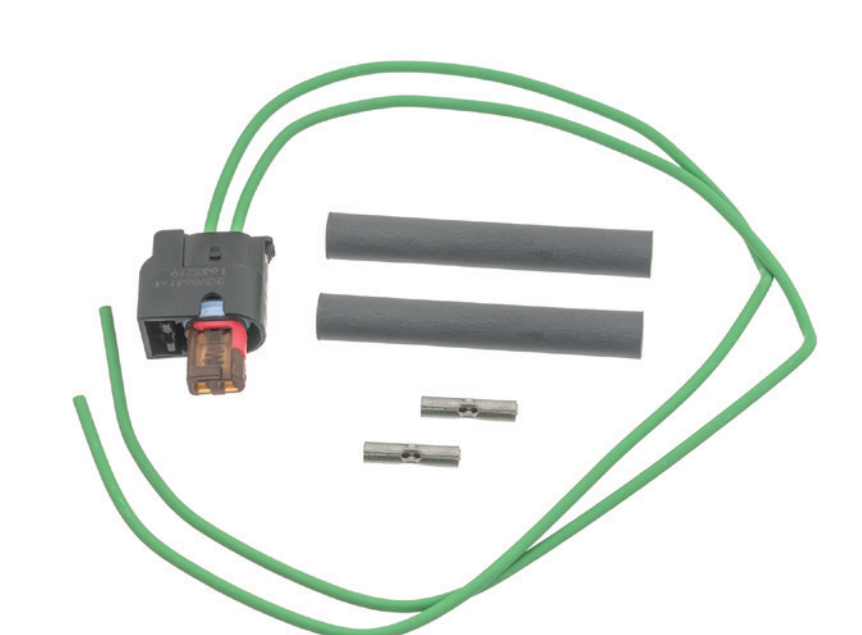
Chevy / GMC Cars & SUVs  
(2020-16)  
VIO: 2.2 Million



GDI High Pressure  
Fuel Pump

GDP401

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



Fuel Injector Connector

S2871

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



STANDARD® GAS FUEL INJECTION

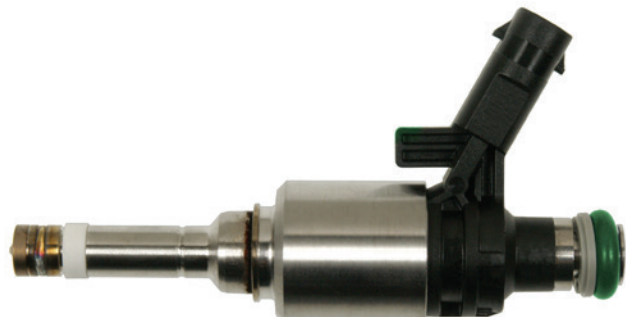
# Top Movers

## IMPORT APPLICATIONS



**FJ485**

Honda / Acura Cars & SUVs  
(2017-03)



**FJ1057**

Audi / VW Cars & SUVs  
(2017-08)



**FJ484**

Honda / Acura Cars  
(2011-03)



**FJ585**

Toyota SUVs  
(2004-99)



**FJ490**

Honda / Acura Cars & SUVs  
(2004-00)

## DOMESTIC APPLICATIONS



**FJ1000**

Ford Cars and SUVs  
(2015-07)



**FJ474**

Honda / Acura Cars  
(2012-04)



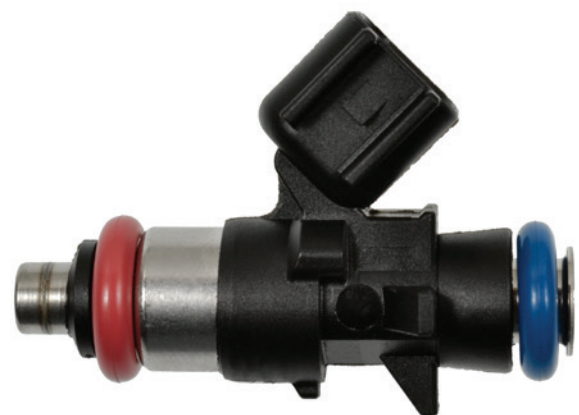
**FJ315**

Chevrolet/GMC SUVs & Trucks  
(2007-99)



**FJ612**

Dodge / Chrysler Cars  
(2011-05)



**FJ1147**

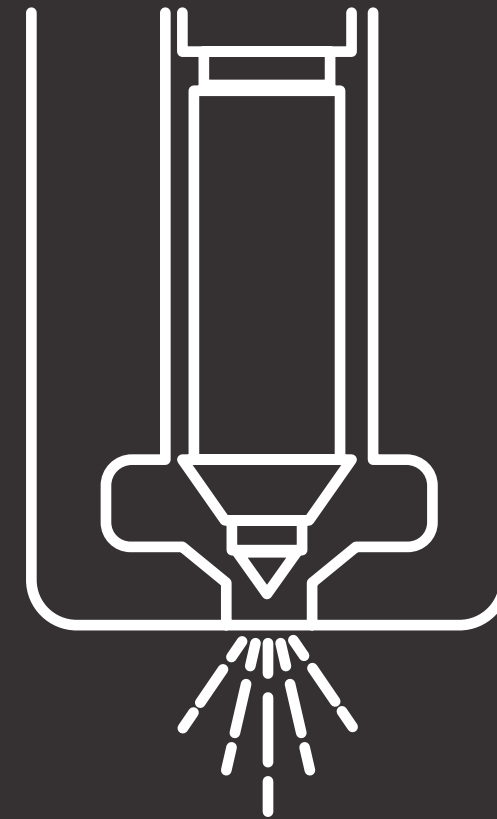
Dodge / Ram / Jeep Cars,  
Trucks, & SUVs  
(2019-11)



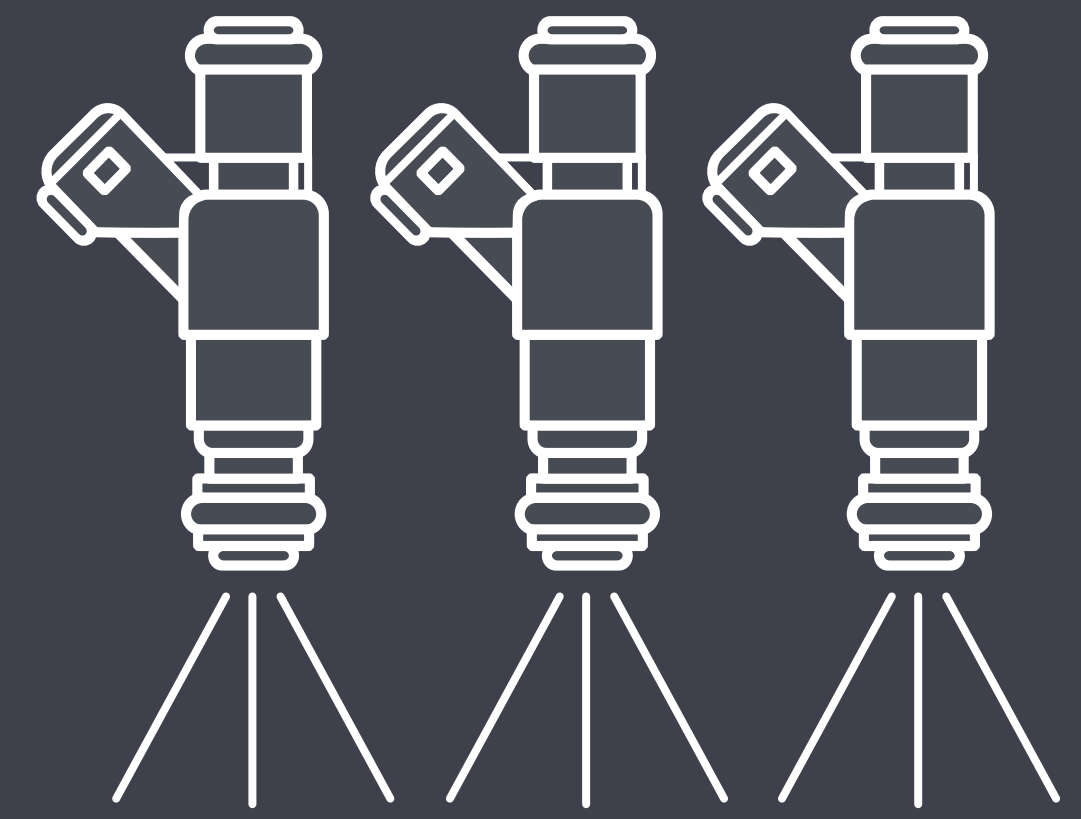
**STANDARD® GAS FUEL INJECTION**

# Engineering Improvements

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



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



**Standard® fuel injectors are advanced flow-matched to each specific application for balanced fuel delivery**

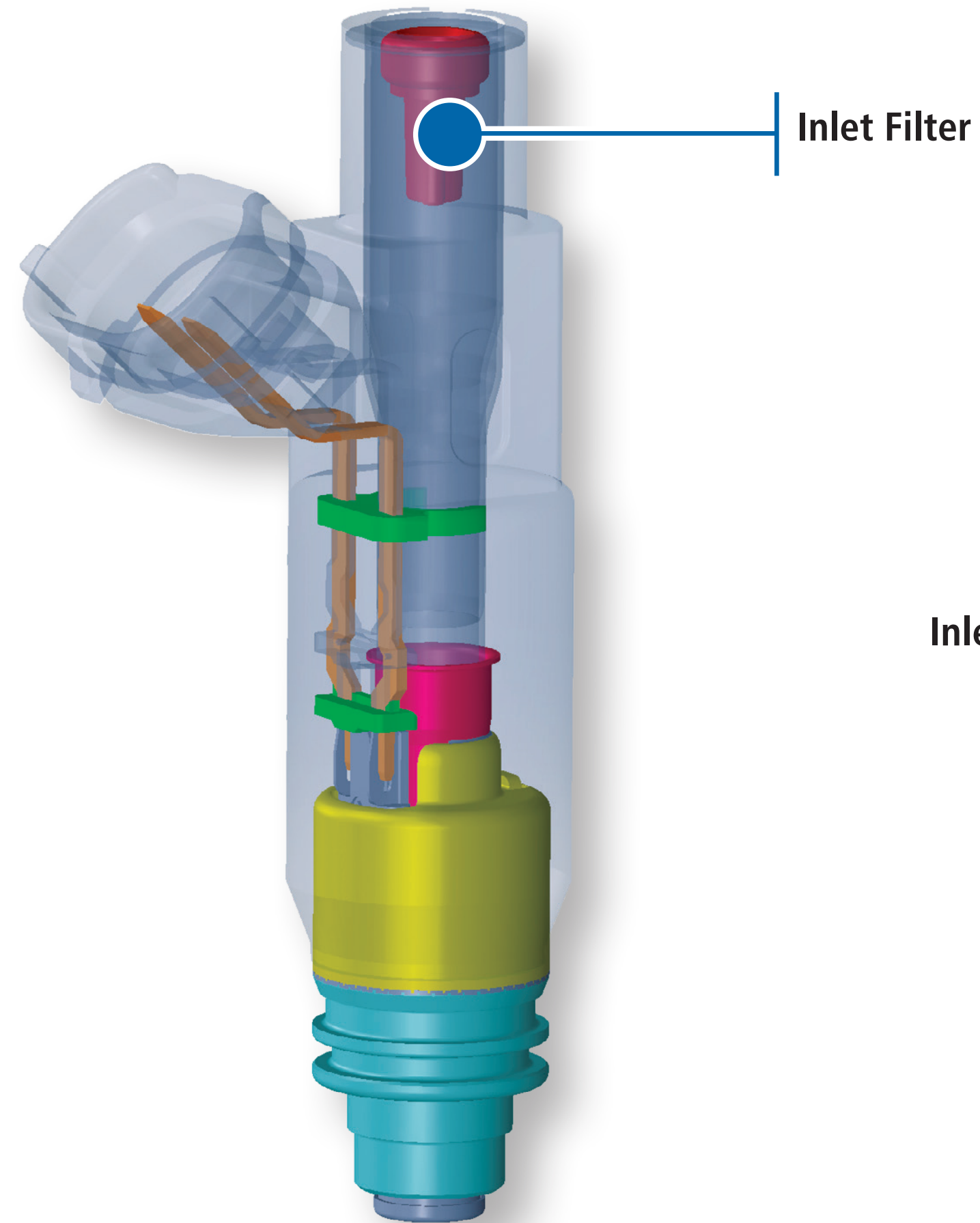
**STANDARD® GAS FUEL INJECTION**

# Standard® Engineering

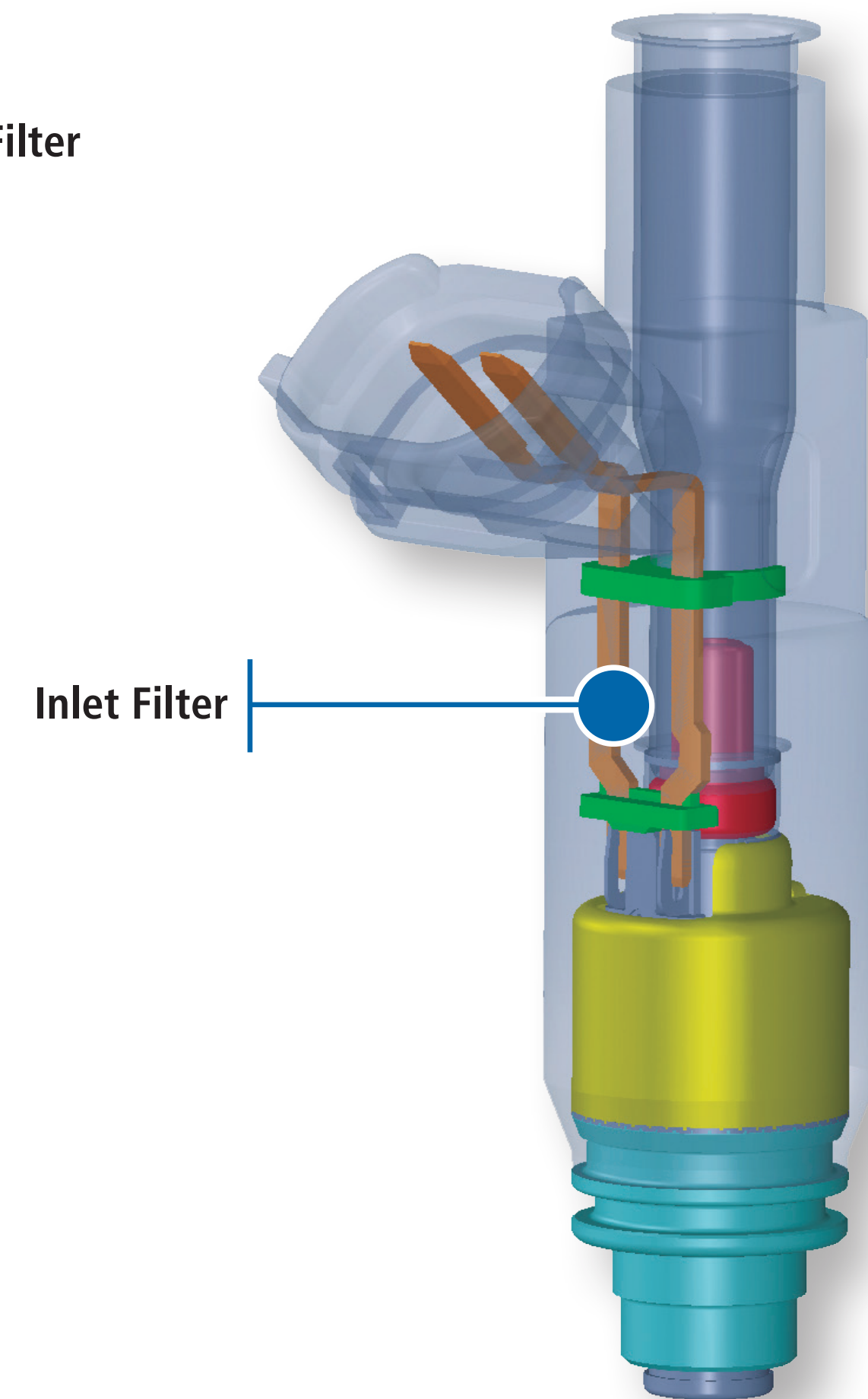
Standard® engineers identified a weakness in the OE design of these multi-port injectors. The OE inlet filter is installed at the end of the fuel inlet tube, increasing the risk of contaminants being introduced.

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

**OE Design**



**Standard® Design**



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



STANDARD® GAS FUEL INJECTION

# Standard® Engineering

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

Standard® engineers eliminated the OE failure point by moving the injector to the end of the tube.

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

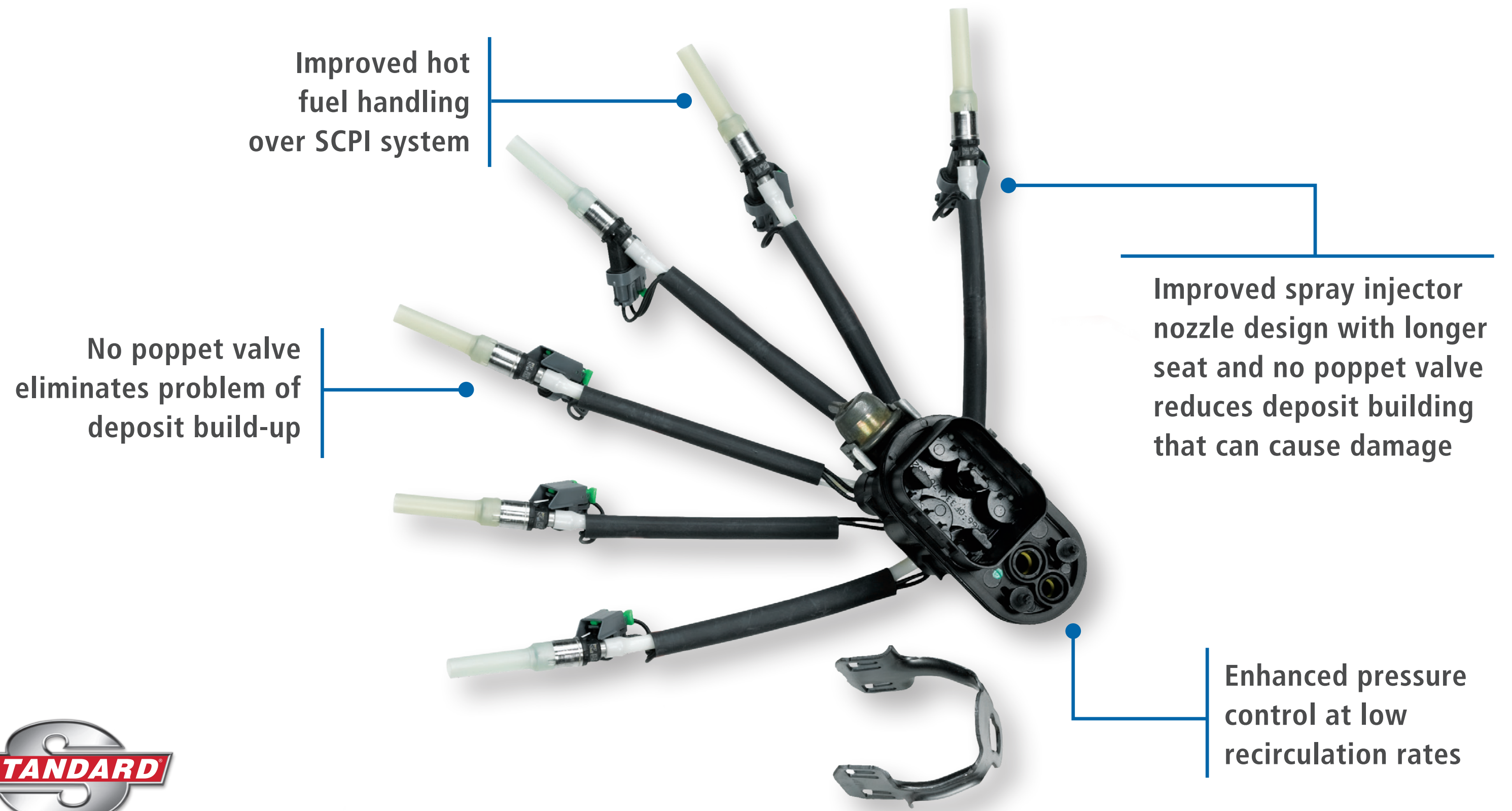


## FJ503

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

## Did You Know

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



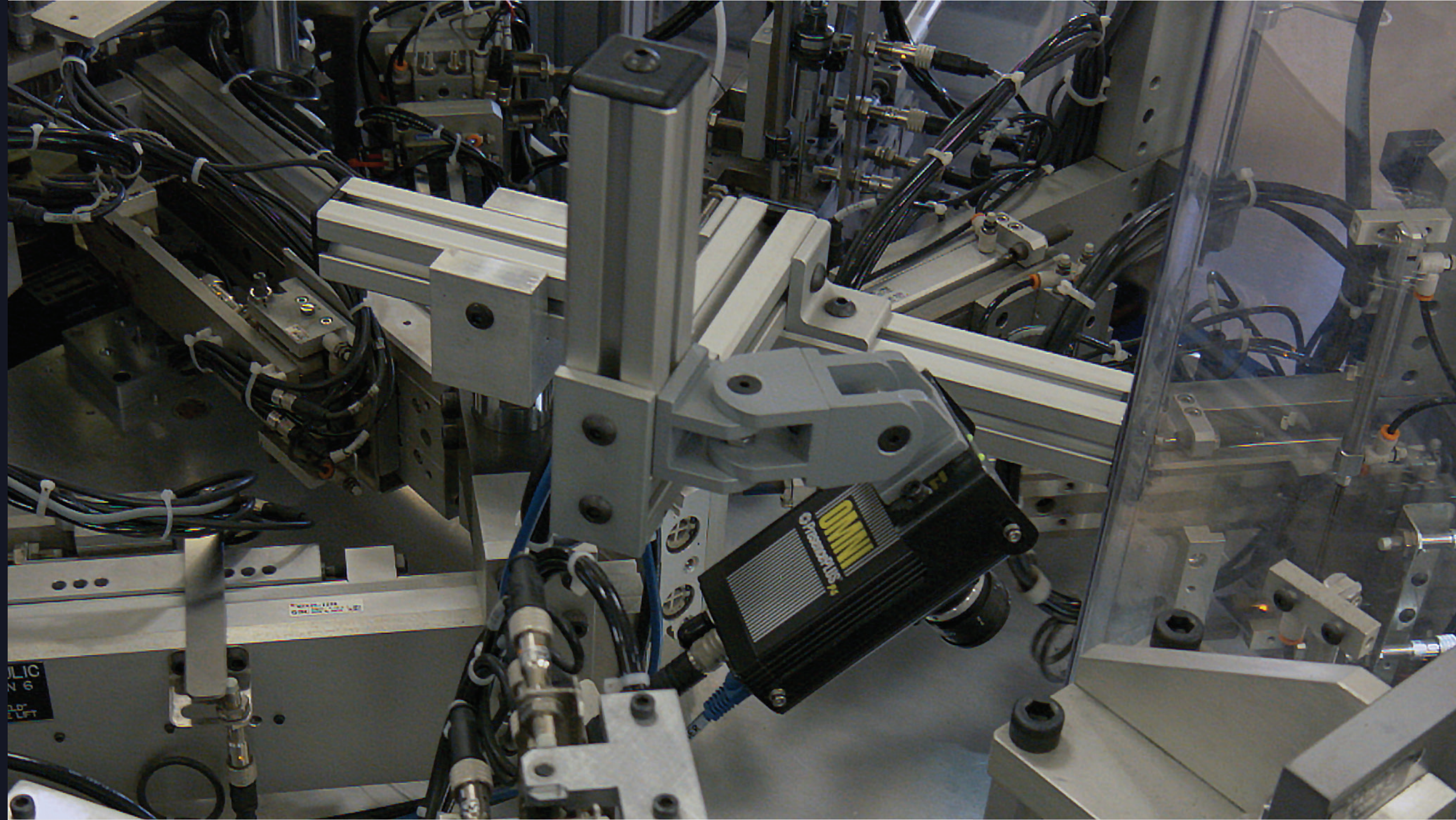


**STANDARD® GAS FUEL INJECTION**

# Expert Manufacturing

**Designed and Built in the USA**

Standard® 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**

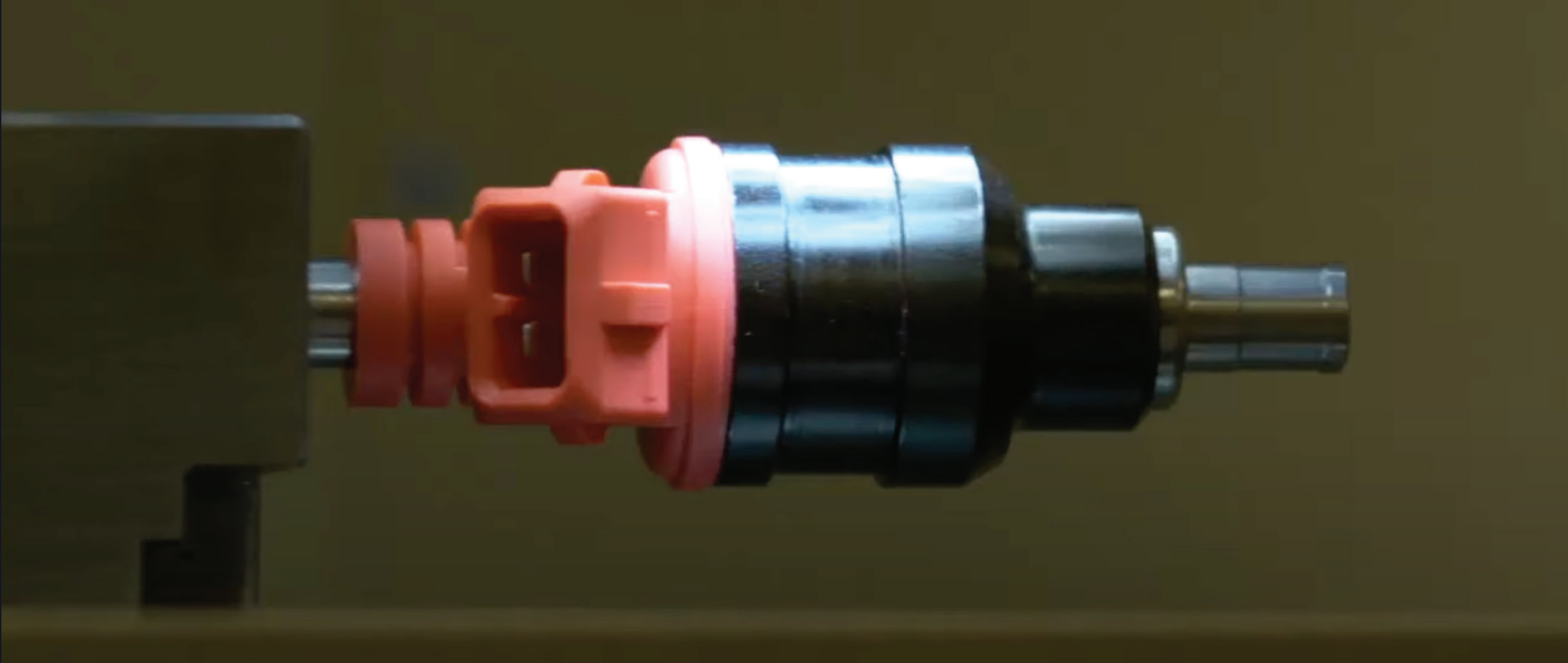
**100% NEW  
(Not Remanufactured)  
Gasoline Injectors**



STANDARD® GAS FUEL INJECTION

# Testing and Validation

To make sure every fuel injector meets our strict standards for precision quality, enhanced performance, and extra durability, Standard® 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.



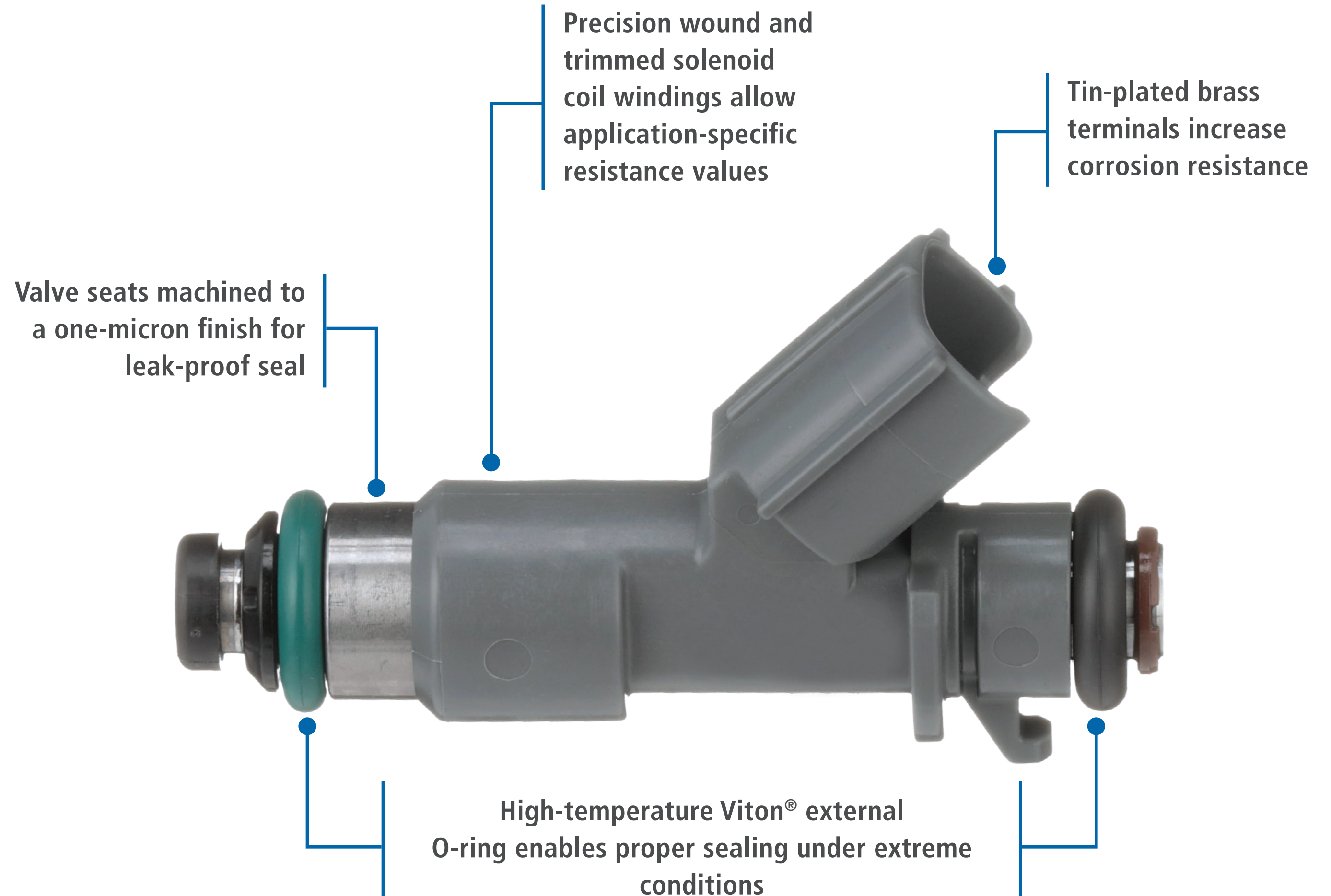
**Here are just a few of the elements and components that we test and inspect:**

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!

STANDARD® GAS FUEL INJECTION

# Quality Designed

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



**FJ982**

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.

Standard'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

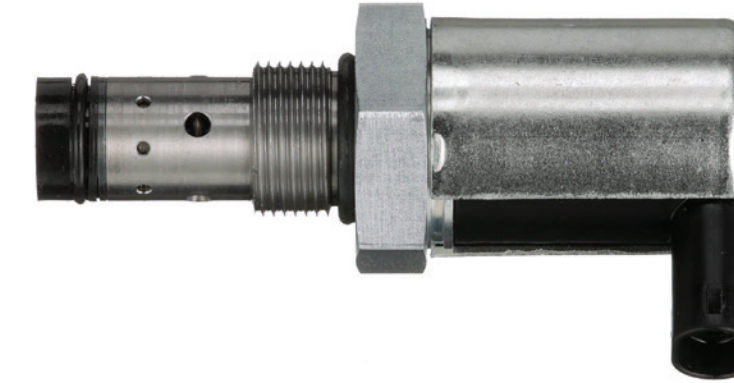
200+ SKUs with coverage through 2022



## Fuel Pressure Dampers

Standard® 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

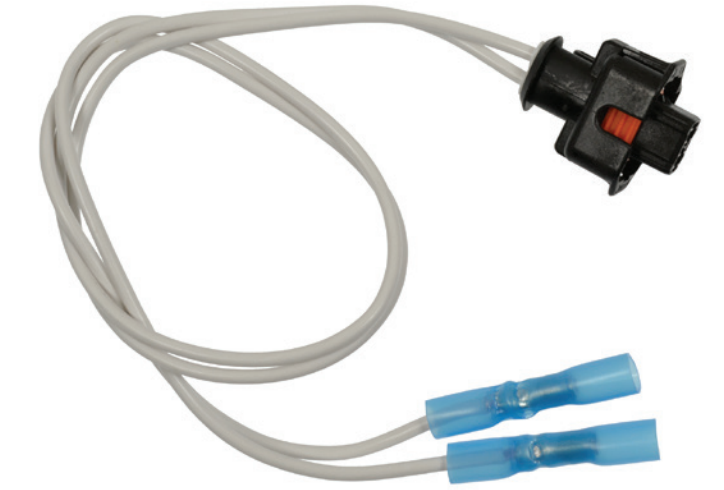
550+ SKUs through 2021



## 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

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

Import and domestic coverage through 2022



## GDI Components

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

**STANDARD® GAS FUEL INJECTION**

# **Standard® Pro Training Tech Tip**

Standard® Pro 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**



**STANDARD® GAS FUEL INJECTION**

# Standard® Professional Training

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

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

An extension of Standard® training, our extensive ADA-compliant YouTube professional installation video library has over 40 million views and 50,000+ channel subscribers.



For information on replacing Gas Fuel Injection components, search "Injector" on the StandardBrand YouTube channel



### Available Classes

- E85 & Flex Fuel Vehicles
- Lean Engine Diagnostics
- Rich Engine Diagnostics
- Diagnose Electronic Fuel Pump Controls
- Fuel Trim Diagnostics
- Gasoline Fuel Injection Fundamentals

## IN-PERSON TRAINING



### Available Classes

- Honda/Acura Diagnostics
- Nissan/Infiniti Diagnostics
- Ford EcoBoost
- VW/Audi Diagnostics
- GM Engine Controls
- Toyota/Lexus Diagnostics

**Visit [StandardBrandTraining.com](https://StandardBrandTraining.com)**