# **SENSOR PROGRAM**

Standard<sup>®</sup> offers more than 9,000 different Sensors in nearly 90 categories



Standard<sup>®</sup> provides industry-leading coverage with 2,500 ABS Speed Sensors



Standard<sup>®</sup> Sensors use the latest technology to optimize accuracy, speed and durability.

# What's in your box?<sup>™</sup> Here's what's in ours.





# Growing Market

The number of sensors on modern vehicles continues to grow. The addition of electronic safety systems and advancements in internal combustion engines to improve performance while reducing emissions have created multiple new sensor categories.

With more than 9,000 Sensors already available, Standard<sup>®</sup> is committed to continually developing the latest sensor technology to meet the demands of professional technicians.

### **2000 Chevrolet** Silverado 1500

### **2018 Chevrolet** Silverado 1500

Source: StandardBrand.com eCatalog



### **Standard® Chevrolet Silverado 1500 Sensor Coverage**



## 40 Sensors

We offer 2X as many sensors for a 2018 Silverado compared to a 2000 model





# Impact on Vehicle Systems



Many sensors operate in a harsh environment (heat, dirt, fluids, etc.). When a new sensor is installed, also replace the related connector





**Control modules are** continually monitoring and processing the data received from a vehicle's onboard sensors. In some cases, a trouble code may be set for one system, but it may be an unrelated sensor that is at fault

Every diagnosis should begin with a complete vehicle scan. Sensor failures in companion systems may put other systems in a default mode



# Accuracy, Speed, and Durability

Modern vehicles are equipped with more sensors than ever before. Standard's stateof-the-art Sensors are designed with multiple features to optimize accuracy, speed, and durability, and provide today's vehicle systems with the information they require to operate properly.



### Accuracy

Consistency and accurate performance is driven by advanced circuitry, OE-matched connectors, and meticulous assembly processes

Standard<sup>®</sup> Sensors are protected against electromagnetic interference for accurate, long-term performance in all conditions





## Speed

Deliver the data that vehicles need in real-time to keep every system operating as designed no delays

Undergo rigorous testing for operational temperature, extreme conditions, humidity, contamination, and mechanical service to ensure peak speed and performance



## Durability

Integrated waterproof connectors keep moisture out

High-strength material and sealed cases prevent intrusion of dirt and debris

Protective sleeve prevents wires from chafing and creating short circuits\*

#### StandardBrand.com

#### \*(where applicable)

# A Complete Sensor Program

Standard<sup>®</sup> offers nearly 90 different types of Sensors across multiple categories. The Standard<sup>®</sup> Sensors Program includes Chassis and Drivetrain Sensors, Fluid Level Sensors, Fuel Sensors, Position Sensors, Temperature Sensors, Pressure Sensors, ADAS Sensors and more.

Standard<sup>®</sup> Sensors are engineered and tested for precision and will integrate correctly with the complex systems on today's vehicles.

# Standard<sup>®</sup> Sensor Program

**Chassis & Drivetra** 

ABS Speed Sensors Brake Pad Wear Senso Brake Pedal Position Se Ride Height Sensors Transmission Input and Turbocharger Speed Se

#### **Position Sensors**

Accelerator Pedal Positi Camshaft Position Sen Crankshaft Position Ser EGR Valve Position Ser Fuel Vapor / Vent Press Throttle Position Senso



ain Sensors	Fluid Level Sensors	<b>Temperature Sensors</b>
	Brake Fluid Level Sensors	Ambient Air Temperature Sensors
sors	Coolant Level Sensors	Cabin Air Temperature Sensors
Sensors	Engine Oil Level Sensors	Coolant Temperature Sensors
	Fuel Level Sensors	Cylinder Head Temperature Sensors
nd Output Sensors	Windshield Washer Level Sensors	Exhaust Gas Temperature Sensors
Sensors		Intake Air Temperature Sensors
rs	ADAS Sensors	
	Blind Spot Detection Sensors	Pressure Sensors
	Cruise Control Distance Sensors	Diesel Particulate Filter Pressure Sens
sition Sensors	Park Assist Sensors	EGR Valve Pressure Feedback Sensors
ensors	Steering Angle Sensors	Exhaust Back Pressure Sensors
Sensors		Fuel Pressure Sensors
ensors	Fuel Sensors	MAP Sensors
essure Sensors	Diesel Injection Control Pressure Sensors	TPMS Sensors
isors	Diesel Nitrogen Oxide (NOx) Sensors	
	Flex Fuel Sensors	and more
	Fuel / Water Separator Sensors	
	Knock Sensors	
	Mass Air Flow Sensors	

ensors ors

# What's New

## **ABS Speed Sensors**

Complex safety systems featured in new vehicles depend on real-time data from ABS sensors. Standard<sup>®</sup> is regularly delivering new numbers to make sure technicians have the coverage needed to get their customers back on the road.

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











# What's New

## **Cam and Crank Sensors**

Standard<sup>®</sup> offers more than 1,100 Cam and Crank Sensors, representing 698 million repair opportunities. New Sensors are introduced regularly to make sure technicians have the late-model coverage they need.

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





**Cam and Crank Sensors** 



**PC1203 Crankshaft Sensor** Genesis / Kia Cars (2023-18) VIO: 44K





**PC1216** Crankshaft Sensor Nissan Cars & SUVs (2024-19) VIO 1M









# What's New

### **MAP Sensors**

Standard<sup>®</sup> offers more than 300 Manifold Absolute Pressure (MAP) Sensors, covering 226 million vehicles on the road. Standard® is committed to regularly introducing new MAP Sensors to cover late-model import and domestic vehicles.

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

Dodg (2	
Su (20	





**AS706** ge / Jeep / Fiat SUVs 2025-19) VIO: 80K





**AS744** Ford Cars, Trucks & SUVs (2024-19) VIO: 1.8M





**AS739** ubaru Cars & SUVs 2023-19) VIO: 481K





**AS732** Hyundai / Kia Cars & SUVs (2025-19) VIO: 1M









# **Top Movers: ABS Speed Sensors**

## **MPORT** APPLICATIONS



**ALS685** Left Front / Left Rear Toyota / Lexus Trucks & SUVs (2024-03)



ALS1442 Front Nissan Cars (2014-07)

## DOMESTIC APPLICATIONS



ALS1932

Rear Dodge / Jeep SUVs (2018-07)



ALS1918 Front Jeep Wrangler (2018-07)



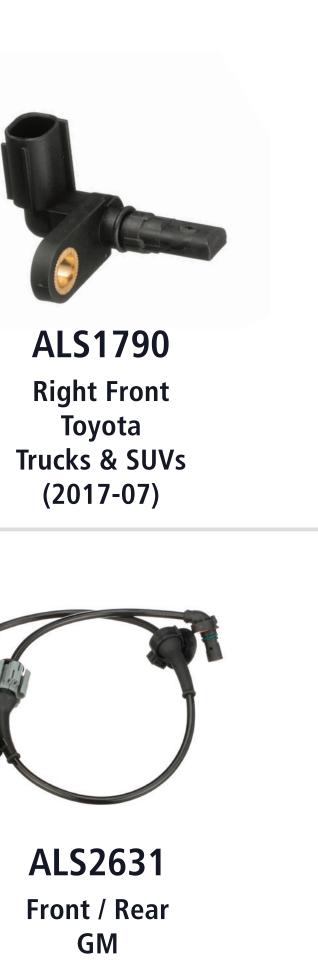
**ABS Speed Sensors** 



**ALS684 Right Rear** Toyota / Lexus Trucks & SUVs (2024-03)



ALS1791 Left Front Toyota Trucks & SUVs (2017-07)

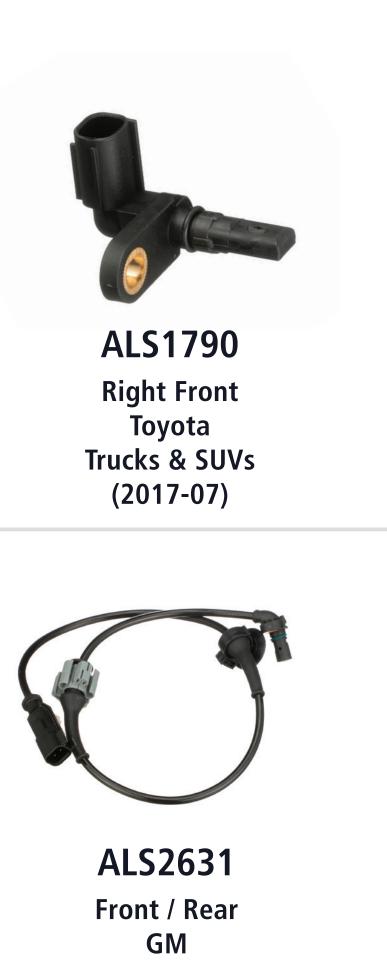




ALS1465 Front GM **Trucks & SUVs** (2014-07)



**ALS2249** Front Ford / Lincoln / Volvo Cars, SUVs & Vans (2020-04)

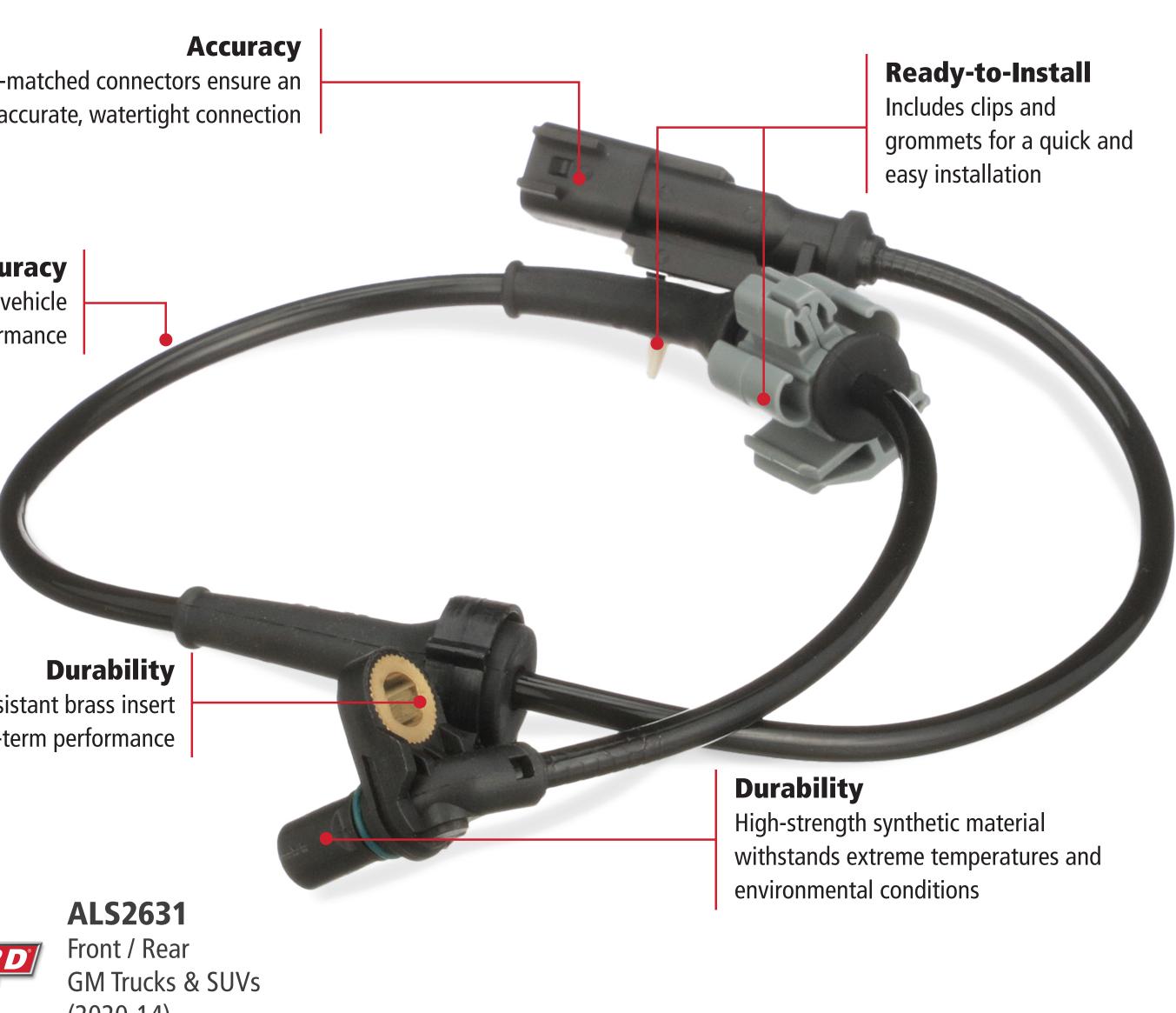


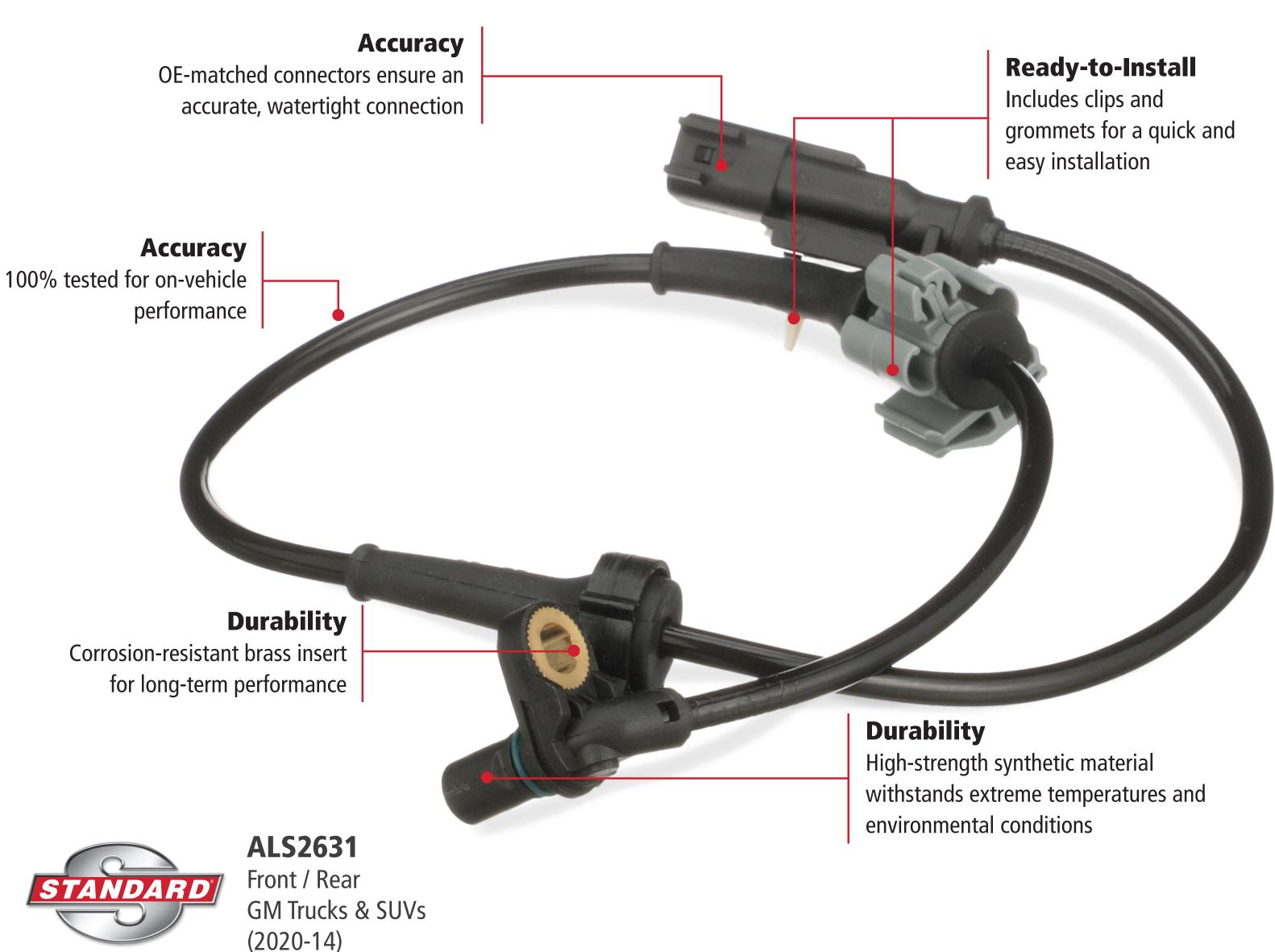
Trucks and SUVs (2020-14)

# Engineering & Performance

Standard<sup>®</sup> ABS Speed Sensors are designed to provide consistent performance, matching the OE for precise function. Features such as superior magnetic circuit materials are engineered into our Sensors to deliver higher voltage output and prevent ABS system failure.

Superior design is one reason Standard's ABS Sensors perform like the original.







**ABS Speed Sensors** 

# Engineering & Performance

The ABS speed sensors on some newer vehicles measure more than just the speed of each wheel. They also monitor the direction in which the wheel is rotating. A wheel that is rotating backwards will send a unique signal to the ECU that lets the vehicle know the speed and direction of that wheel. This data is used by the electronic safety systems to help keep everyone in the vehicle safe.

In recent years, ABS speed sensors have taken on additional responsibilities in safety systems. Electronic stability control, hill hold assist, and automated braking all depend on ABS sensors to function properly.



Uses one simple sensor to measure wheel speed

reverse

Doesn't give the ECU enough information, especially in emergency situations



Generates the same signal for forward and



wheel speed and wheel rotation

and reverse

Provide the ECU with accurate and complete information to keep crash avoidance systems operating as designed

# **Top Movers: Cam and Crank Sensors**

### $\mathbf{P}(\mathbf{I})$ APPLICATIONS



**PC461** Camshaft / Crankshaft Sensor Nissan / Infiniti Cars, Trucks, SUVs & Vans (2021-02)



# DOMESTIC **APPLICATIONS**



### **PC950**

**Camshaft Sensor** Chrysler / Dodge / Jeep / RAM Cars, Trucks & SUVs (2024-11)





# Camshaft Sensors

The performance of variable valve timing on modern engines is dependent on realtime data from the camshaft position sensors. This is why every Standard<sup>®</sup> Camshaft Sensor is designed for accurate performance, fast processing and longterm durability. We put each unit through end-of-line timing, pulse width, and signal amplitude testing.

Standard<sup>®</sup> Camshaft Position Sensors include multiple design features for accuracy, speed and durability.

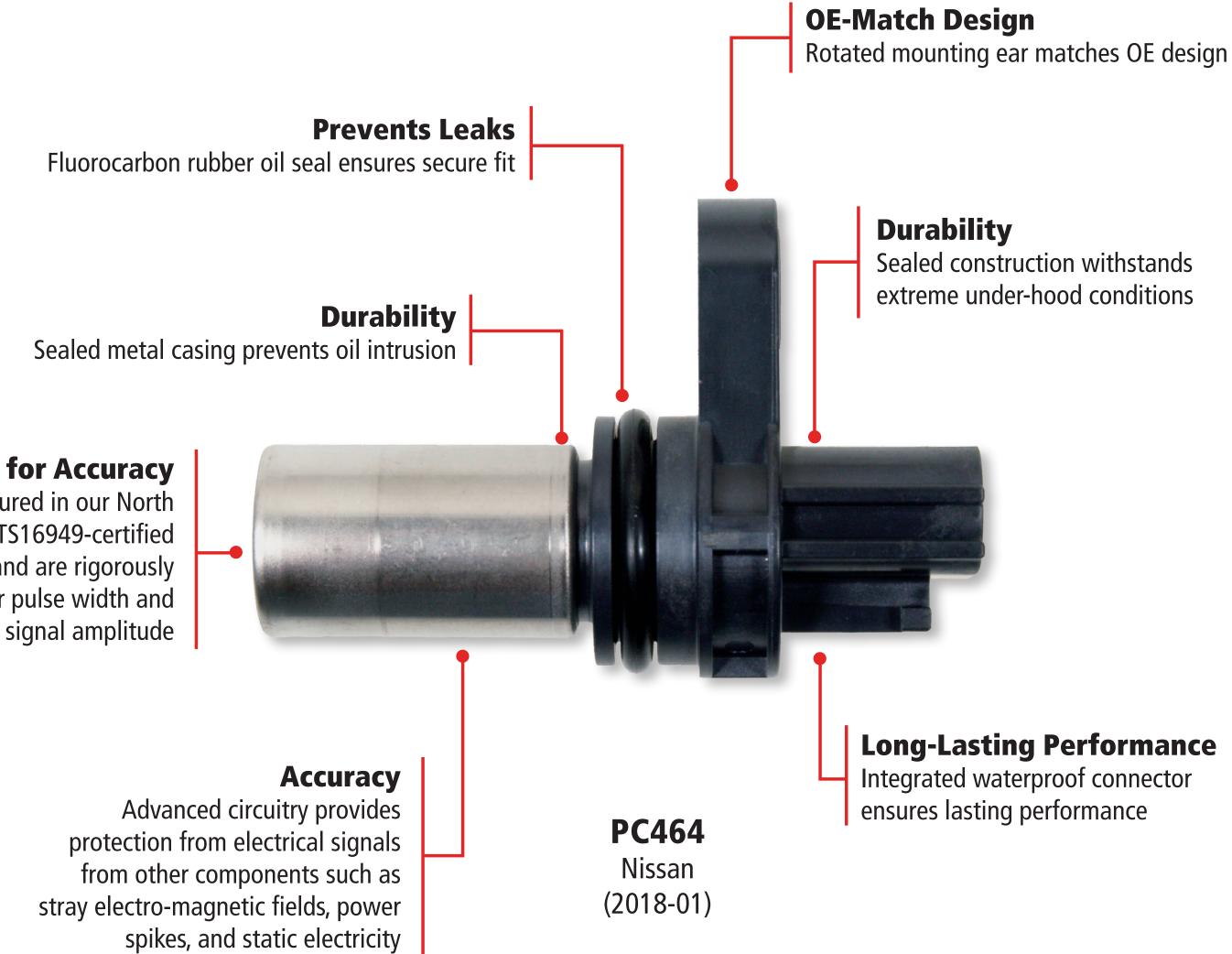
#### **Tested for Accuracy**

Manufactured in our North American TS16949-certified facility and are rigorously tested for pulse width and



**Cam and Crank Sensors** 

### **Standard® Camshaft Position Sensors**



# Product Quality

Blue Streak<sup>®</sup> high-quality Camshaft Sensor Kits provide technicians with all of the parts needed to do the complete job right, every time.

Our enhanced Kits include two Blue Streak<sup>®</sup> Camshaft Sensors along with the high-quality connectors to replace the melted or damaged original parts.

We offer more than 20 Camshaft Sensor Kits, with more kits on the way.



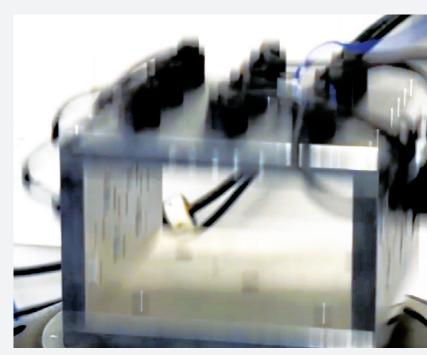
### **Testing and Validation**

Our Camshaft Sensors undergo 48-to 68-hour vibration tests to ensure performance under the harshest conditions. Each sensor is subjected to end-of-line timing, pulse width, and signal amplitude testing.



**Camshaft Sensor Kits** 

### Blue Streak<sup>®</sup> Camshaft Sensor Kits







# Crankshaft Sensors

Correct ignition timing depends on quick and accurate data from the crankshaft position sensors. All Standard<sup>®</sup> Crankshaft Position Sensors are precision engineered and manufactured for accuracy, speed and durability. To ensure operation under extreme conditions, our Crankshaft Position Sensors are subjected to extensive testing including a 48- to 64-hour-long vibration test across three different planes.



**PC1021** Hyundai / Kia (2022-13)



**Cam and Crank Sensors** 

### **Standard® Crankshaft Position Sensors**



#### **Peak Conductivity**

Matching connectors and tin-plated brass terminals ensure accurate, watertight connection to harness





# Product Quality

Blue Streak<sup>®</sup> developed high-quality Crankshaft Sensor Kits to provide technicians with what they need to do the complete job.

Blue Streak<sup>®</sup> Kits contain premium Crankshaft Sensors along with a highquality electrical connector to replace the melted or damaged original parts.

We offer more than 20 Crankshaft Sensor Kits, with more kits on the way.



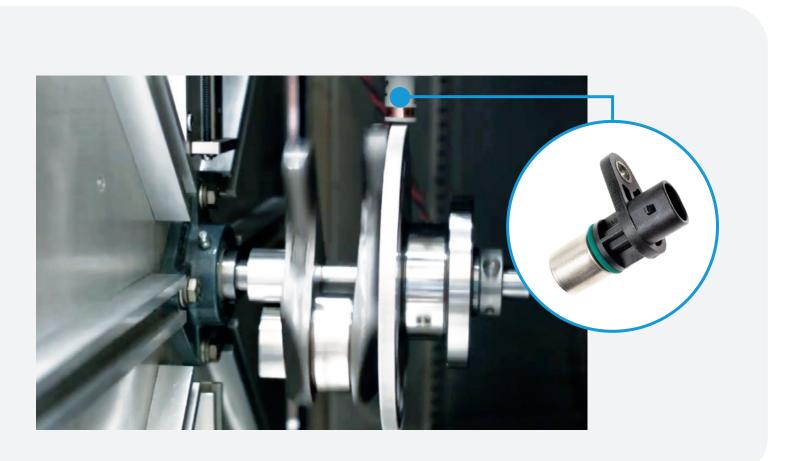
### **Testing and Validation**

Our Crankshaft Sensors undergo chamber testing that cycles from -40 degrees to 257 degrees Fahrenheit. This testing is performed to ensure our Crank Sensors maintain accuracy during extreme temperature conditions.



**Crankshaft Sensor Kits** 

### Blue Streak<sup>®</sup> Crankshaft Sensor Kits







# A Closer Look

Manifold Absolute Pressure (MAP) sensors convert vacuum/manifold pressure to an electric signal. The real-time information is used for both fuel delivery and ignition.

### **Did You Know**

Many modern turbocharged engines utilize both MAP and Mass Air Flow (MAF) sensors to provide the vehicle's computer with precise information

Accuracy 100% tested to ensure variations in pressure generate the correct output to match OE performance in all conditions

**AS417** Hyundai / Kia (2024-08)



**MAP Sensors** 

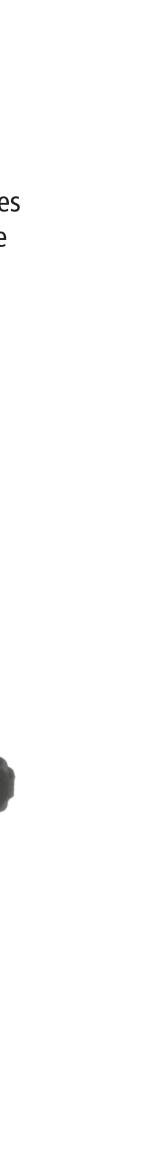
High-temperature, glass-reinforced plastic case forms a hermetically sealed cavity for the sensor on one side, with a port for pressure on the other

## **Standard<sup>®</sup> MAP Sensors**

#### **Peak Conductivity**

Utilizes precise automated wire bonding and inspection processes to ensure consistent and reliable electrical connections

#### **Durability**



# **Accelerator** Pedal Sensors

The performance and accuracy of accelerator pedal sensors is critical to safety, vehicle performance, and fuel economy. Standard<sup>®</sup> has over 400 Accelerator Pedal Sensors covering 250 million vehicles.

Standard<sup>®</sup> Sensors undergo intense testing to make sure the output matches the slope and linearity of the original in all pedal positions.

### Standard<sup>®</sup> Pro Training Tip

Due to the location of the APS and the amount of moisture or condensation that comes from wet floor mats and/or drivers' wet feet, it is advisable to use dielectric grease on the electrical connector.

Sensors





# **Standard<sup>®</sup>Accelerator Pedal Sensors** Accuracy Multi-finger wiper design accurately controls sensor contact to within a few grams of force **Precise Control** Features redundancy measures for safety and a comfortable, familiar pedal force profile

#### **Durability**

High-impact synthetic polymer construction provides best solution to pedal support and spring guide components

### **APS265**

GM Trucks & SUVs (2020-07)



# Standard® Quality

As an expert manufacturer, we have complete control of the process to deliver a trouble-free sensor. All Standard<sup>®</sup> Vehicle Speed Sensors (VSS) undergo environmental and endurance testing for signal amplitude and polarity to ensure consistent product reliability and application-specific performance.

### Standard<sup>®</sup> Pro Training Tip

VSS can be located in various locations such as in the transmission or in the differential. These locations expose the sensor to oil, road debris, and salt. Experts recommend replacing the electrical connector when a new sensor is installed.

Silicone connector seal retains flexibility and prevents moisture intrusion

**Includes zinc-coated** hardware, which is resistant to oxidation and corrosion

Matches OEM performance in all conditions and correctly integrates with

**SC468** Ford Cars & Trucks (2014-99)



### **Standard® Vehicle Speed Sensors**





# **ADAS Sensor** Program

Advanced driver assistance systems (ADAS) rely on multiple sensors to provide real-time data to both the driver and the vehicle. Sensors that have failed or are not correctly calibrated may put the motorist and the occupants at risk.

StandardBrand.com includes the most up-to-date information on our latest ADAS Components.



### **Blind Spot Detection Sensors**

Standard<sup>®</sup> BSD Sensors are direct-fit replacements to ensure proper fit and performance. All BSD Sensors undergo extensive quality testing and product validation.

125+ SKUs / VIO: 104M



### **Steering Angle Sensors**

Standard<sup>®</sup> Steering Angle Sensors are rigorously tested for proper fit and precise performance to match the original application they are replacing.

270+ SKUs / VIO: 230M





### **Cruise Control Distance Sensors**

Designed and manufactured to stringent quality standards to match the original for an easy install and to deliver precise performance.

75+ SKUs / VIO: 37M



### **Park Assist Sensors**

Standard<sup>®</sup> Park Assist Sensors are direct-fit replacements utilizing advanced ultrasonic technology that exactly matches the detection capabilities of the original sensors.

200+ SKUs / VIO: 1B

# TPMS Program

Standard<sup>®</sup> offers both QWIK-SENSOR<sup>®</sup> Multi-Frequency Sensors and preprogrammed OE-Match Sensors. The QWIK-SENSOR<sup>®</sup> can be quickly programmed to fit almost any vehicle. **OE-Match Sensors can be installed** right out of the box, without any programming.

StandardTPMS.com features additional information on our TPMS Sensors, Service Kits, and Programming Tools.





Available with rubber or metal valve stems

Can be programmed on or off of the vehicle

Works on both domestic and import vehicles with 314.9 MHz to 434 MHz systems

battery life



Military-grade lithium battery for maximum



Pre-programmed at the factory with exact OE protocol, so it's ready to install

Direct-fit replacement that matches the fit and performance of the original

Military-grade lithium battery for maximum battery life











# Manufacturing and Testing

All Standard<sup>®</sup> TPMS Sensors are designed and manufactured to meet the latest SAE2657 specifications.

Our TPMS Sensors are subjected to multiple tests for operational temperature, thermal shock, extreme temperatures, humidity, contamination, salt fog, centrifugal force and mechanical testing. The result is a Sensor that works correctly in all conditions, and lasts.

StandardTPMS.com features additional information on our TPMS Sensors, Service Kits, and Programming Tools.

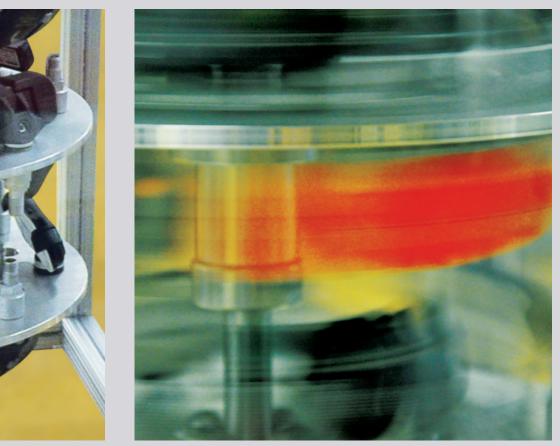






## **Standard**<sup>®</sup> **TPMS Manufacturing**

Our facility produces more than a million Sensors each year and has earned multiple certifications, including US FCC, European E-Mark, and Canada IC while meeting FMVSS 138, SAE J2657, ISO 9001 and IATF 16949 quality standards.



## **Standard**<sup>®</sup> **TPMS** Testing

To make sure our TPMS Sensors last, we subject them to a high-speed accelerated life test.

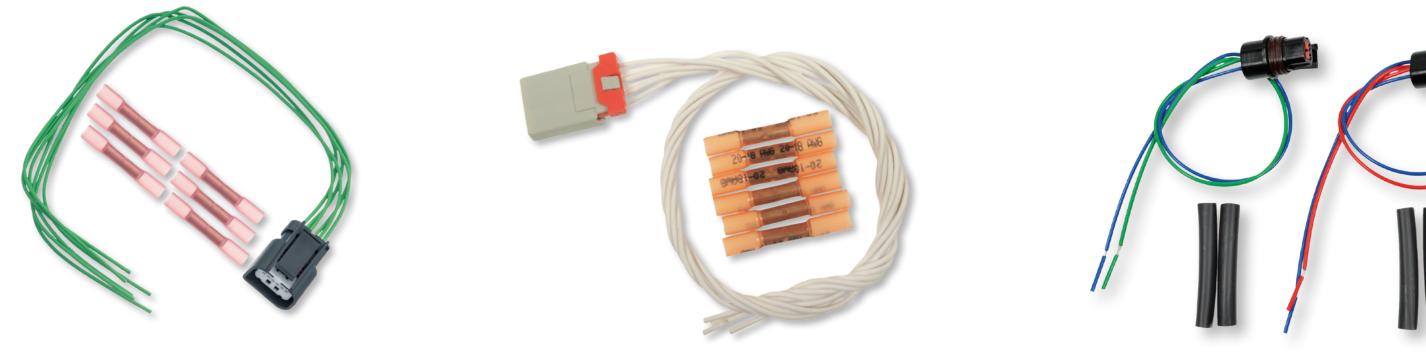


# **Related** Parts

### **Sensor Connectors**

In addition to nearly 90 different Sensor categories, we also offers thousands of Connectors technicians may need to get their customers back on the road.

For a comprehensive look at available Standard's connectors, visit StandardBrand.com.



**ABS Sensor Connectors Knock Sensor Connectors** Mass Air Flow Sensor Connectors Engine Oil Level Sensor Connectors **Misfire Sensor Connectors** 



**Sensor Connectors** 

### **Standard<sup>®</sup> Sensor Connectors**

- **Cruise Control Distance Sensor Connectors**
- **Accelerator Pedal Sensor Connectors**
- **EGR Valve Position Sensor Connectors**
- Air Intake Temperature Sensor Connectors
- **Ambient Air Temperature Sensor Connectors**
- **Engine Oil Temperature Sensor Connectors**

**Oxygen Sensor Connectors Blind Spot Detection Sensor Connectors** Engine Speed Sensor Connectors Park Assist Sensor Connectors **Camshaft Position Sensor Connectors Exhaust Gas Temperature Sensor Connectors Steering Angle Sensor Connectors** Crankshaft Position Sensor Connectors **Fuel Pressure Sensor Connectors** Vehicle Speed Sensor Connectors ...and more



# Connector Kits

Electrical connectors are easily damaged in accidents. Even if the connector looks alright, it is still recommended to replace all connectors around the impact area.

Standard<sup>®</sup> offers several Connector Kits that are popular with both body shops and general repair facilities.



and sockets

part identification card for convenient reordering



**Connector Kits** 

### **Electrical Assortment Kit**

### **STA35**

Includes 16 of the top wire pigtails

- Storage box features individual
- compartments and an easy-to-read

### Park Assist Connector Kit



### **PPS1K**

Includes multiple quantities of the 5 most popular Park Assist Sensor Connectors (64 total pieces)

Applications for Asian, European and Domestic vehicles





# **Standard**<sup>®</sup> **Pro Training Tech Tip**

As experienced ASE-certified automotive technicians themselves, Standard<sup>®</sup> Pro Trainers are experts in engine and sensor technology.

Here's what they say to look out for when replacing a sensor.

When replacing a crankshaft position sensor, make sure the appropriate relearn is performed. Failing to do this may cause the vehicle to misfire and run poorly







Accelerator pedal position sensors are known for poor connections causing intermittent "limp in/ default" throttle conditions. Ensure that the electrical connection is clean and tight



# **Standard**<sup>®</sup> Professional Training

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

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

An extension of Standard<sup>®</sup> training, our extensive YouTube video library has over 700 technical and installation videos.





**Available Classes** 

**Applied Voltage Drop Testing** 

**Brain Teasers** 

**GM Electric Powertrain Management** 

Labscope

Modern Cylinder Deactivation **Techniques and Tips** 

**Rapid Sensor and Circuit Testing** 

**SENT Sensor Overview** 

**Vehicle Electronic Fundamentals 1-7** 



**Sensor Program** 



**Available Classes** 

**Advanced Driveability Diagnosis** 

**Body Control Electronics Diagnosis** 

Ignition System and Cam/Crank **Synchronization** 

Labscope Power User

Misfire Diagnosis

**Powertrain Electronics** 

**Torque Management and Electronic Throttle Control** 

**Unleash the Power of Your Scan Tool**