### standard® adas program Highlights

Standard<sup>®</sup> offers more than 750 Advanced Driver Assistance System (ADAS) related components



Standard<sup>®</sup> ADAS components are designed to intergrate correctly with electronic crash avoidance systems



ADAS components are powertrain neutral they are the same whether the powertrain is gas, diesel, hybrid or electric



What's in your box?



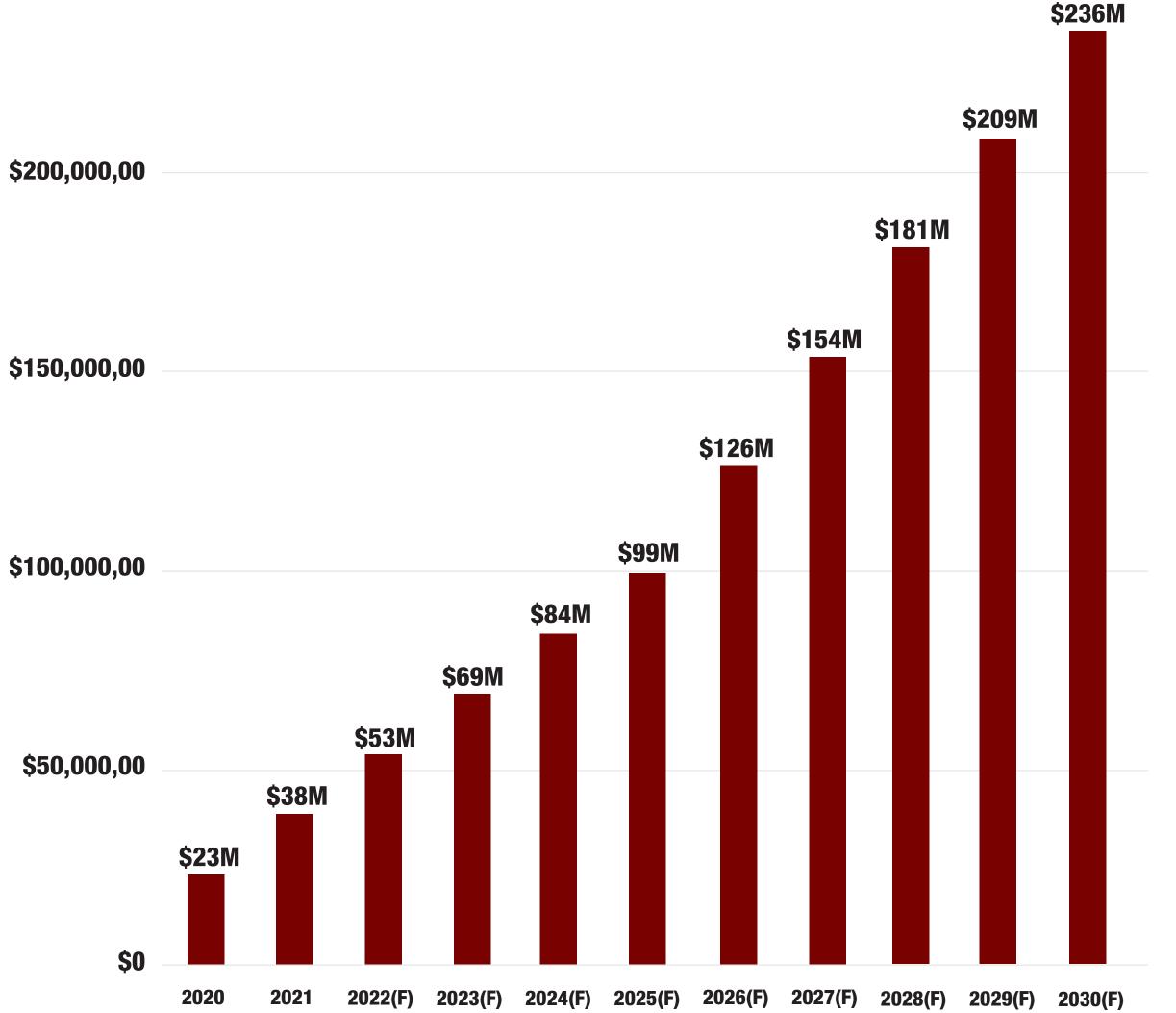
StandardADAS.com

### **STANDARD® ADAS PROGRAM** Growing Market

ADAS components are one of the fastest growing categories in our industry. These sophisticated cameras and sensors are entirely powertrain neutral, meaning wheather a vehicle is gas, hybrid or electric, the components and systems are the same. ADAS is here to stay, and it is going to grow exponentially in the coming years.

#### Between 2023 and 2030, sales of ADAS components will grow by 343%

**Aftermarket Sales of ADAS Components** 





### **STANDARD® ADAS** Timeline

Driver Assist Safety Systems aren't new. In fact, they have been around in some form for over 50 years. Newer, more advanced electronic safety systems are built on the foundations of ABS and Electronic Stability Control.



1969

Ford introduced "Sure Track," the first Anti-Lock Brake System on the Thunderbird



#### 2005

The Volvo S80 was equipped with **Blind Spot Monitoring** 

#### **Did You Know**

The gyro processor used in the prototype of the first ESC system came from a toy helicopter. It wasn't fast enough, so engineers sourced another from the warhead of a missile.



#### 1971

Buick introduced "MaxTrac" the first traction control system on all full-size cars



#### 1995

The first Electronic Stability **Control system was available from** Mercedes Benz





2012

All new light-duty vehicles sold in the US were required to have **Electronic Stability Control** 



#### 2018

New vehicles built after May of 2018 were required by law to have a back-up camera



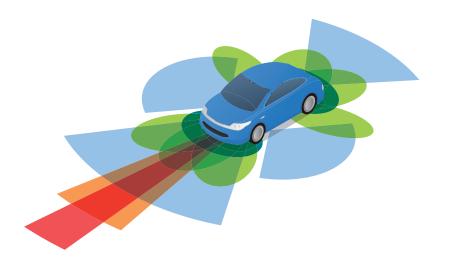


#### **STANDARD® ADAS**

## Sales **Opportunities**

Electronic Safety Systems like **Electronic Stability Control and** Automated Emergency Braking are programmed for brand-new components. Worn or low-quality replacement parts can reduce the effectiveness of all Electronic Safety Systems.

### **Explaining ADAS to your customers will help you** sell more premium parts







#### **How ADAS Works**

Your customers' vehicles may have safety features they don't even know about. When they understand how these systems work, they can make better decisions about their vehicle

#### Talk About "Systems," Not "Parts"

When we talk about parts, it is easy for customers to bring up price. Instead, talk about how a particular component is part of a complex Electronic Safety System. This helps your customer see more value in the quality parts you are recommending

#### **Recommend Premium Quality Replacement Parts**

The ability of electronic safety to keep your customers safe depends on the performance of both electronic and mechanical components. Only using premium parts helps make sure your customers get the benefits and capabilities of their vehicles' crash avoidance systems



#### **STANDARD® ADAS**

### Impact on Vehicle Systems



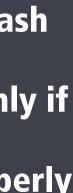
**Advanced Driver Assistance** Systems depend on real-time data from multiple components including ABS sensors and throttle position sensors



**Steering angle sensors** must be recalibrated after every wheel alignment



ADAS can lower crash rates by 20%, but only if the systems are properly maintained



# standard® adas What's New

#### **Park Assist Sensors**

Park assist sensors are of the most frequently replaced ADAS components. Standard® is regularly releasing new parts to make sure you have the parts needed to service your customers' vehicles.

For the most current applications, be sure to check out our catalog at StandardBrand.com.



PPS120 Park Assist Sensor Audi / VW (2021-14) VIO: 2.8M



PPS101 Park Assist Sensor General Motors (2021-14) VIO: 2.1M PPS98 Park Assist Sensor Jeep / Chrysler (2021-17) VIO: 1.1M





# standard® adas What's New

### **ADAS Components**

The industry's most complete ADAS program never rests. We are regularly introducing new parts across all of our ADAS categories, so you don't have to go back to the dealer.

For the most current applications, be sure to check out our catalog at StandardBrand.com



BSD127 Blind Spot Detection Sensor Ford (2021-17) VIO: 1.3M







CCD79 Cruise Control Distance Sensor Ford (2020-18) VIO: 2.2M PAC177 Park Assist Camera Nissan (2019-16) VIO: 1.2M





### **STANDARD® ADAS PROGRAM** What's New

#### **Park Assist Connector Kit**

Park assist sensor connectors are easily damaged in accidents, even minor ones. They are also prone to failure from salt and corrosion. Standard's new Park Assist Connector Kit gives technicians a total of 64 popular connectors to help get your customers back on the road quickly and safety.



#### **PPS1K Contents**

P	art #
S	51497
S	52269
S	52393
5	52316
S	51415

Includes the 5 most popular connectors, 64 total pieces

Shop time-saver – technicians have the parts they need at their fingertips

#### PPS1K

Qty	Vehicle Makes	VIO Coverage
16	Chrysler, Ford, GM	32.6 Million
16	Chrysler, Ford, GM	32.5 Million
16	BMW, Ford, GM	16.7 Million
8	Audi, Chrysler, Ford, Volkswagen, Volvo	11.3 Million
8	Toyota	2.0 Million



### **STANDARD<sup>®</sup> ADAS**

## Advanced Sensor Program

Advanced Driver Assistance Systems 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.

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

Salt and corrosion can damage blind spot detection sensors.



#### **Blind Spot Detection Sensors**

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

123 SKUs / 46M Repair Opportunities



#### **Steering Angle Sensors**

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

264 SKUs / 205M Repair Opportunities



#### **Cruise Control Distance Sensors**

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

71 SKUs / 32M Repair Opportunities



#### **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.

86 SKUs / 425M Repair Opportunities



### standard® adas program ADAS Cameras

Park Assist Cameras have been on every new vehicle since 2018. This is a growing category, and Standard has over 150 different Park Assist (or backup) Cameras to make sure you don't have to go back to the dealer

#### **Standard Pro Training Tip**

Low quality glass or a poor installation of a replacement windshield can affect the performance of Lane Departure System Cameras





#### **Park Assist Cameras**

Easily damaged in a rear collision, Park Assist Cameras have been mandatory in U.S. since 2019. Most cameras are replaceable without additional programming or calibration.

Premium replacement for the failed OE unit, Standard<sup>®</sup> cameras are "plug & play" – no programming required. Rigorously tested to match the OEM vehicle-specific performance.

174 Cameras / 84M Repair Opportunities

#### Lane Departure System Cameras

Located on the windshield behind the rearview mirror, Lane Departure Cameras are now also in side-view mirrors for additional protection.

Standard<sup>®</sup> LDS Cameras are rigorously tested for fit, form and precise performance to match the original application they are replacing.

38 SKUs / 19M Repair Opportunities

### DOMESTIC **PPS46 PPS44** GM Trucks & SUVs GM Trucks, SUVs & Cars (2020-06) (2020-13) IMPORT PPS65

Toyota Trucks and SUVs

(2020-14)

**PPS37** BMW & Volvo SUVs & Cars (2015-07)

### PARK ASSIST SENSORS **Top Movers**



**PPS45** Chrysler, Dodge, Jeep & RAM (2021-09)



**PPS64** Ford Trucks (2019-15)



**PPS47** Ford Trucks & SUVs (2022-00)



**PPS15 Volvo SUVs and Cars** (2014-07)



**PPS54** BMW & Mini SUVs & Cars (2008-02)



PPS3 **BMW SUVs and Cars** (2006-02)





### DOMESTIC



**PAC252** Park Assist Camera Ford Trucks (2020-17)



PAC22 Park Assist Camera **RAM Trucks** (2018-13)

### IMPORT



**PAC112** Park Assist Camera Honda Cars (2017-14)



**PAC164** Park Assist Camera Honda Cars (2015-14)

### **OTHER ADAS COMPONENTS Top Movers**



**BSD42 Blind Spot Detection Sensor** Dodge & Chrysler Vans (2016-13)



BSD77 **Blind Spot Detection Sensor** Ford Trucks (2018-17)



**CCD18 Cruise Control Distance Sensor** Ford Trucks (2020-15)



**PAC16** Park Assist Camera Hyundai Cars (2015-10)



BSD86 **Blind Spot Detection Sensor** Mercedes SUVs & Cars (2016-12)



**CCD10 Cruise Control Distance Sensor** Toyota SUVs & Cars (2018-15)





### **STANDARD® ADAS PROGRAM** Related Parts

Mechanical and electronic components must function as designed to keep electronic safety systems operating correctly. Sensors send information to electronic control modules hundreds of times per second, and the vehicle's computer sends commands back to help keep the motorist safe.

Standard<sup>®</sup> provides technicians with the additional Sensors and Connectors needed to keep electronic safety systems operating correctly.



#### **ABS Sensors**

Standard<sup>®</sup> ABS Sensors always match the fit and performance of the OE, even when OE uses a complex multi-directional sensor

2,476 SKUs / 700M Repair Opportunities



#### **Ride Height Sensors**

Standard<sup>®</sup> Ride Height Sensors are engineered and tested to provide the ECU with timely and accurate data to make decisions about vehicle performance and safety

26 SKUs / 31M VIO





#### **Accelerator Pedal Sensors**

tested for output to make sure they perform on every vehicle in every situation

Standard<sup>®</sup> Accelerator Pedal Sensors are

424 SKUs / 224M VIO

**Throttle Position Sensors** 

Standard<sup>®</sup> Throttle Position Sensors are tested and calibrated to electronically lock voltage output for accuracy

270 SKUs / 81M VIO



#### **Electrical Connectors**

Standard<sup>®</sup> offers hundreds of electrical connectors to help keep Advanced Driver Assistance Systems operating correctly.

**Steering Angle Sensor Connectors** Park Assist Sensor Connectors **Blind Spot Detection Sensor Connectors Cruise Control Distance Sensor Connectors** 

**Park Assist Sensor Connectors** Lane Departure System Connectors **ABS Sensor Connectors and more** 



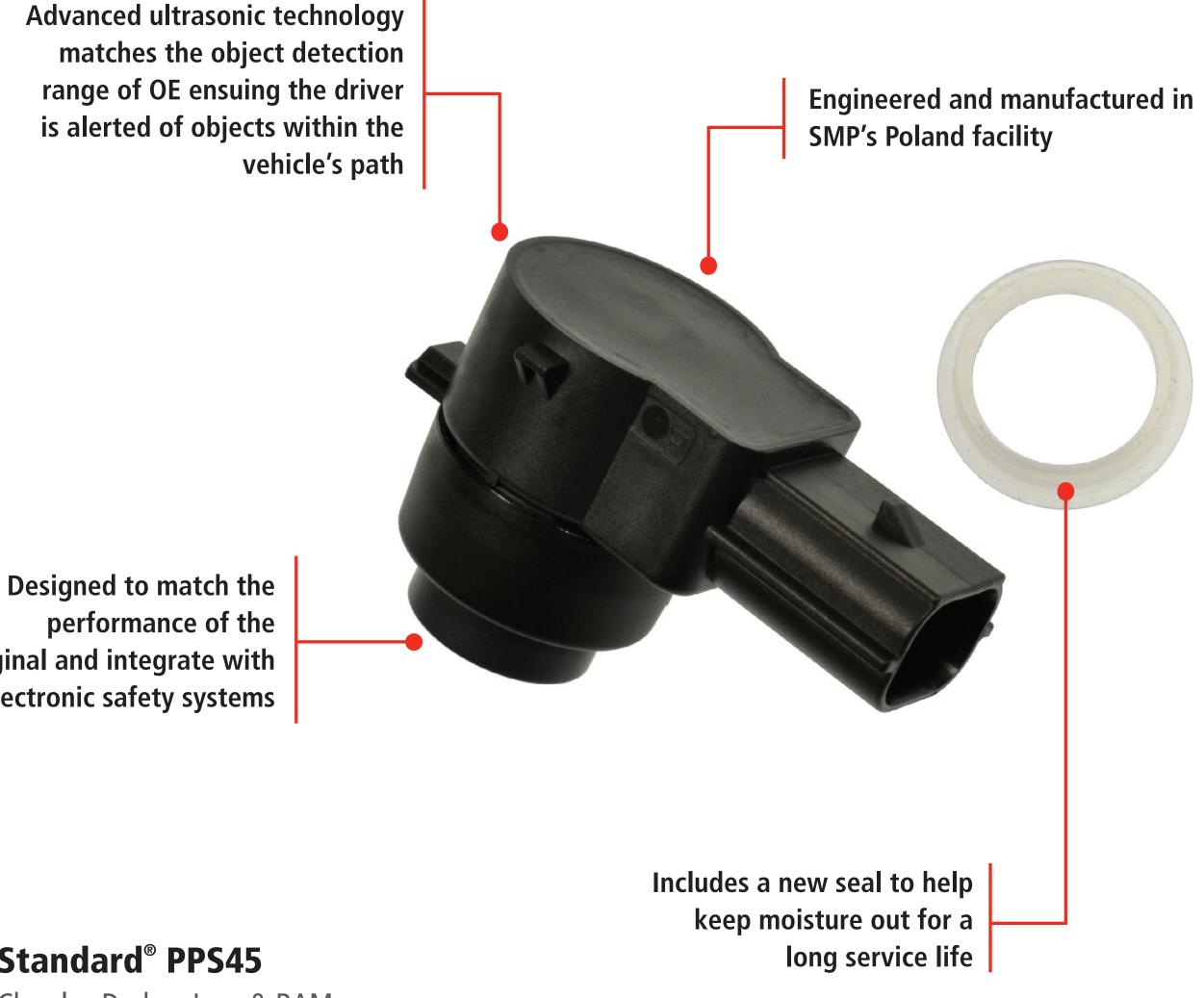
### **STANDARD® ADAS PROGRAM** Standard® Quality

Park assist sensors help keep your customers safe. The quality and performance of the part matters, which is why Standard<sup>®</sup> tests each part to make sure it integrates correctly with safety systems, and functions in all conditions.

original and integrate with electronic safety systems

> **Standard® PPS45** Chrysler, Dodge, Jeep & RAM (2021-2009)

#### **Standard<sup>®</sup> Park Assist Sensors**



#### **ADAS PROGRAM**

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

Standard<sup>®</sup> Pro Trainers have installed hundreds of ADAS components and trained thousands of technicians. Here's what they say to look out for during an install.

Any time an ADAS component is removed and reinstalled (even if it wasn't replaced or unplugged) it needs to be checked to see if a calibration is required per service information Always read and follow service information exactly and completely when performing a



calibration – no short cuts



**Ensure that all prerequisites are met** and correct (vehicle ride height, fuel tank level, tire pressure, etc.) prior to performing a calibration



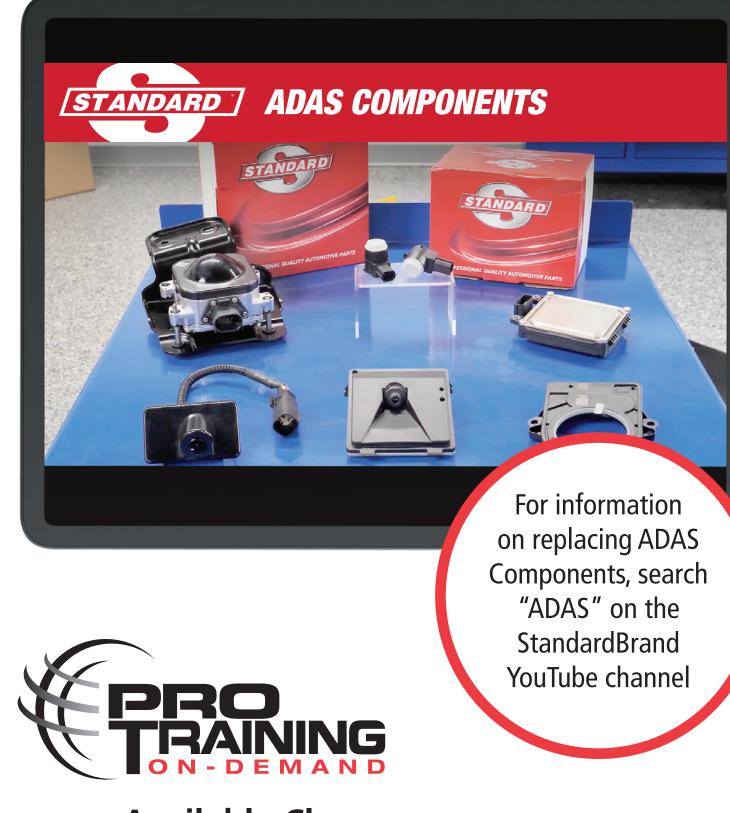
### **ADAS PROGRAM** Standard® Professional Training

#### 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 ADA-compliant YouTube professional installation video library has over 40 million views and 50,000+ channel subscribers.





**Available Classes** 

**ADAS Calibration Tips From The Pro** 

**Driver Assist Systems Overview** 

Visit StandardBrandTraining.com





**Available Classes** 

**Advanced Driver Assist Systems** 

**ADAS Calibration Techniques** 

**Body Electronics**