



**BRAKES**

# DID YOU KNOW?

## NAPA® BRAKES Anti-lock Brake (ABS) Sensors

### What does an ABS Sensor do?

The anti-lock braking system uses an ABS or wheel sensor to monitor the wheel speed and send this information to the ABS computer. The ABS computer uses this information to prevent the brakes from locking during an emergency stop. If wheel speeds are not equal, the computer modulates the anti-lock feature until the speeds are equalized.

### Where are these sensors located?

The ABS sensor is typically located in each wheel hub/rotor on a four channel ABS system. Some rear wheel drive applications have the sensor mounted in the rear differential.

### Will a malfunctioning ABS Sensor illuminate the check engine light or affect vehicle operation?

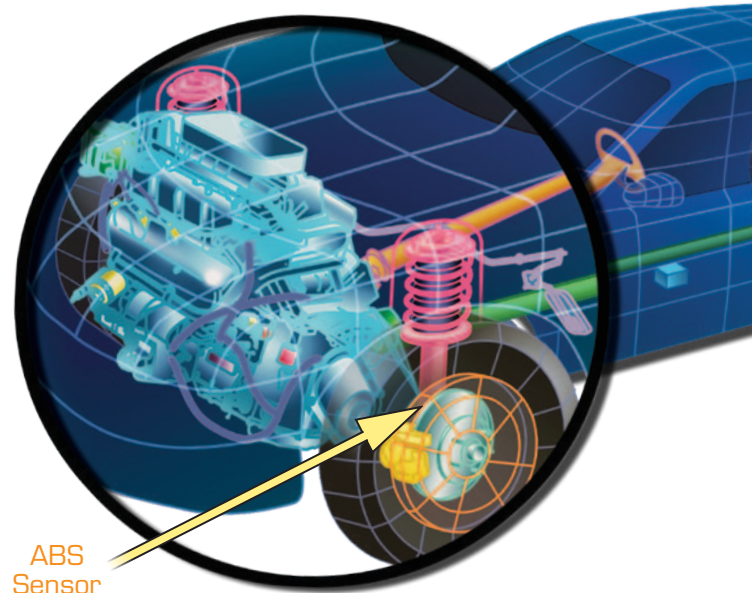
Yes, a failing sensor can illuminate the MIL or ABS warning lamp, and may cause failure of the anti-lock braking system to operate safely and properly.

### What are the common causes of failure?

Typically these sensors will fail as a result of clogging from metallic debris, brake dust or dirt due to exposure to the harsh elements.

### How to determine if these sensors are malfunctioning?

An ABS sensor can be visually inspected and the wire winding and sensor harness can be tested for opens, shorts and proper factory specified resistance with an ohmmeter.



### What makes NAPA® BRAKES ABS Sensors the best.

- As a global manufacturer, NAPA® BRAKES has complete control of the manufacturing process from componentry to finished product
- NAPA® BRAKES ABS sensor line has complete coverage for domestic and import applications
- Over 1,500 ABS numbers cataloged – and growing



Ford  
530889



GM  
531158



Chrysler  
530920



Toyota  
530166



Honda  
531429



Nissan  
531028

**PERFECT FIT, FORM AND FUNCTION.**

## NAPA® Brakes Anti-lock Brake (ABS) Sensors

### How does the rest of the pack stack up to NAPA® ABS Sensors?

#### The Testing Method

We left no stone unturned; performing extensive laboratory and real life testing that included measuring and comparing shaft speed vs. delta voltage, output voltage and variation to OE, magnetic field strength, air gap, output wave form, pulse width as well as a complete physical product comparison to OE.

#### The Findings

**NAPA® Brakes:** Quite simply, NAPA® Brakes ABS Sensors look, fit and perform like the original they replace with 100% end of the line production testing while the competition falls short.

#### Competition ABS Sensors:

- **No Consistency** in signal output performance
- **Inferior** materials in the magnetic circuit which results in low voltage output and can lead to ABS system failure
- **No Consistency** in critical sensor dimensions which establish the gap between the sensor tip and target wheel which can lead to the sensor tip hitting the spinning target wheel causing sensor damage
- **Inadequate** quality inspection and product testing
- **No Consistency** in matching OE for form, fit and critical function

**NAPA® Brakes:** ABS Sensor# 530581 (GM 02-95) matches OE for output voltage, resistance, trigger wheel gap and all critical fit, form, and function measurables.

**Competition:** 29%-51% lower voltage output when compared to OE leading to potential ABS system failure. Incorrect mounting bracket does not match OE.

**NAPA® Brakes:** ABS Sensor# 530916 (Ford 09-95) matches OE for output voltage, resistance, trigger wheel gap and all critical fit, form, and function measurables.

**Competition:** 45%-74% lower voltage output when compared to OE leading to potential ABS system failure. Inconsistent winding resistance, electrical inductance and magnetic field orientation resulting in poor sensor performance. Inconsistent gap between sensor tip and trigger wheel leading to potential sensor tip damage.

**NAPA® Brakes:** ABS Sensor# 530164, 530165 (Toyota 96-92) matches OE for output voltage, resistance, trigger wheel gap and all critical fit, form, and function measurables.

**Competition:** 64%-74% lower voltage output when compared to OE leading to potential ABS system failure. Inconsistent gap between sensor tip and trigger wheel leading to potential sensor tip damage. Does not match OE in electrical inductance and magnetic field orientation resulting in poor performance. Does not include the seal to stop contaminants from entering the functional area of the sensor tip. Metal harness channel does not match the OE shape.



**NAPA® BRAKES ABS Sensors**  
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