



## ANTILOCK BRAKING SYSTEM (ABS) SENSORS WHEEL SPEED SENSORS

### ***What is the “Anti-Lock Braking System”?***

The anti-lock brake system is simply a computer operated hydraulic controlled system that rapidly applies the brakes on and off to make sure your brakes do not lock up and cause you to skid during a sudden stop or on slick surfaces. ABS Sensors help this system by providing the ABS Computer with signals of information on the wheel’s rotational speed.



### ***ABS Signal & Wheel Spin/Lock***

An ABS sensor transmits a pulsing signal consistent with the speed of the wheel. The sensor is mounted near a tone wheel or ring. The ring is mounted on the wheel itself or the axle shaft so that it turns at the same speed as the wheel. A computer compares the speed of all the wheels to determine whether a wheel is spinning or locked and pulses the brakes accordingly. When a wheel loses grip on the road surface, the result is wheel spin during acceleration or wheel lock-up during braking. An ABS helps to restore traction by pulsing the brakes which allows the wheel to regain grip with the pavement.

### ***What happens when the ABS fails?***

Quite simply the fail-safe system is deactivated, and your vehicle has regular hydraulic/vacuum assisted brakes. It will in no way affect the normal day to day operations of your brakes because ABS only activates when it reads a lock up event.

### ***How to diagnose the ABS:***

Diagnosing the ABS system can be a tricky procedure. Generally, a technician would start with reading the diagnostic codes causing the ABS failure. Once the tech has a starting point to what is causing the issue, they are able to use a diagnostics tree to pinpoint the exact component causing the failure such as a failed ABS wheel speed sensor or a broken wire connection.

### ***What are some tips on installing an ABS Sensor:***

It is suggested to always make sure to lubricate all O-rings on the Wheel speed sensors when installing and make sure that the sensor tone ring is free of debris that could cause damage or the new sensor not to read properly. Always clear any codes stored in the ABS systems computer and always test drive the vehicle to verify proper repair. For replacement, it is important to match the original sensor type, typically accomplished by following the year/make/model for the vehicle to choose the correct ABS sensors, or to use a cross reference for the OE part number.



### ***ABS Sensor Fails***

An OBDII scanner can be used for troubleshooting IF IT IS CONFIGURED TO READ ABS CODES. Check the scanner instructions for compatibility.

- The scan tool will tell which ABS sensor to scrutinize.
- Front left or right ABS sensor codes: C0034, 35, 40, 41, 51; C0221, 222, 223, 225, 226, 227; C1145, C1155, C1158,
- Rear left or right ABS codes: C0037, 45, 50; C0235, 236, 237; C1175
- Sensor damaged or out of position – Check and replace sensors that show damage
- Sensor connector or harness damaged or cut – Check and replace sensors that have damaged harnesses.

### ***Additional ABS Sensor Technical Notes:***

An anti-lock brake sensor or ABS sensor is a type of tachometer that measures the rotational speed of a wheel and passes it to the car's Engine Control Module (ECM). The ABS sensor is also called the wheel speed sensor or ABS brake sensor. The PCM monitors all 4 wheels for even rotational speed. When one wheel speed is detected to be at a different speed than the others the PCM sends a signal to the Anti-locking brake control module that there is a problem and to activate the anti-locking brake system.

### ***Why Buy from Walker Products?***

Walker goes beyond testing parts to ensure function – Walker designs and manufactures proprietary testing equipment that gives us even more insight to ABS Sensors. With a machine that tests and analyzes against the OE signals, sensors are precisely measured to evaluate shift or lag versus the OE. This data is not available from the manufacturer. In addition to machine testing, Walker ABS Sensors are tested on vehicle as part of a long-term stress test to ensure durability under extreme conditions. Whether you are performing a simple removal and replacement or an in-depth diagnostic project, always count on



Walker Products ABS Sensors to deliver superior Quality, Coverage, and Support.

The next time you are servicing a vehicle with a check engine light, look no further than the Engine Management Experts – trust Walker Products for all your fuel, ignition, and engine sensor needs so you can complete the job right the first time.

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