




## Wheel speed sensors

### Installation/removal information

The wheel speed sensor plays an essential role in the operation of many vehicle safety systems such as ABS and ESC.

There are two kinds of sensors :

- Active sensors which work with a magnetic encoder  integrated into the wheel bearing
- Passive sensors which work with an ABS ring (Toothed wheel) normally located on the driveshaft or the rear of the wheel hub.

### Why replace the wheel speed sensor?

An ABS or ESC warning light on the instrument panel is often a sign of a defective wheel speed sensor.

#### Sensor environment:

Located near the wheel, the wheel speed sensor is very exposed to many harsh conditions, these harsh conditions can cause such problems as:

- The sensor cable being damaged by road debris,
- The sensor connection can be damaged by ingress of water, mud snow and ice.

When a wheel bearing is replaced on a vehicle the sensor may be damaged in the process if is not removed before fitting the bearing.

When replacing the wheel bearing it is recomend that the wheel speed sensor should be checked for correct operation and any signs of damage to the lead and connector.

#### Safety:

A defective wheel speed sensor could cause the driver to lose control of the vehicle. Safety systems such as the ESC system or the ABS system may no longer function correctly if a sensor is damaged or defective.

## Removal recommendations

- Diagnose the defective sensor (Diag tool)
- Remove the wheel
- Unscrew/detach the sensor fastener
- Disconnect the sensor cable connector
- The speed sensor may be seized in to housing: when removing the sensor, make sure pressure is not applied against the wheel bearing magnetic encoder or transmission bearing.



**Active wheel speed sensors can be damaged by electrostatic discharges, be careful not to touch the sensors contacts.**

## Installation recommendations

- Clean the connections on the vehicle wiring and the sensor connections
- Install the new sensor in its housing and secure it in place following the manufacturer's fitting instructions and torque settings
- Make sure the sensor wiring is securely clipped into the plastic or rubber securing clips
- Plug the sensor connector into the vehicle socket
- Delete any error codes that may be showing on the vehicles instrument display.(Diag tool)
- Test drive the vehicle to insure the sensor is functioning correctly. The ABS or ESC indicator lights should not be illuminated.

**FOLLOW THE INSTALLATION  
RECOMMENDATIONS OF THE  
VEHICLE MANUFACTURER**

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