

Bulletin BPI 06-15

Subject: Passive and Active wheel speed sensors

Vehicle Involved: All Anti lock equipped

Condition: Diagnosing wheel speed sensors

Repair procedure:

Passive and active wheel speed sensors are both used on today's vehicles. Both sensors visual appearance are very close. Each sensor functions completely different from the other.

A (active) sensor generates an a/c voltage that results in an analog signal back to the controller.

A passive sensor is a resistance type sensor that receives 12 volts DC and a ground path to the antilock computer. As the tone ring passes the sensor, the sensor switches resistance values, which in turn affects the output signal. This results in a digital single.

Example: A 1999 Jeep Cherokee is equipped with a passive sensor. The circuit has a 12-volt power source, ground path, and signal return. The voltage is D C. When the sensor ring tooth is aligned in the valley on the ring the sensor will have a .90 volt reading. When the sensor is aligned with the peak of the ring a 1.65 voltage reading will be present. These two voltages switch back and forth as the tone ring is turning.

Example: A 1995 Chevrolet Tahoe has an active sensor. This sensor creates a continual a/c voltage signal as the ring passes the sensor. As vehicle speed increases a higher a/c voltage is created.

It is very important to consult your service manual for proper diagnostics procedure before a repair is performed.

