

# Technical Service Information



TSI-06-04-02

---

**Date:** June, 2006

**Subject File:** BRAKES

**Subject:** Bendix Wheel Speed Sensor Fault Diagnostic Checklist

Model: BE 200, CE 200, CE 300, FE 300, RE 200, RE 300, 3200, 3300, 4100 , 4200, 4300, 4400, 5500i, 5600i, 5900i, 7300, 7400, 7500, 7600, 7700, 8500, 8600, 9200i, 9400i, 9900i, 9900ix

## DESCRIPTION

### NOTICE

The information supplied herein has been furnished by the manufacturer and/or the supplier for use with its product. International Truck and Engine Corporation reprints this information based on representations made to the Company. While users are urged to carefully follow the instructions accompanying the product, International cannot accept any responsibility for user errors, or mishaps resulting from such errors, or from any misuse of the product.



# Bendix® Wheel Speed Sensor Warranty Checklist



## Preparation

**CAUTION:** Follow all standard safety precautions - see back page. Park the vehicle, chock the wheels and drain air system. Turn the ignition off. Use ABS diagnostics to find the suspected sensor.

### A. Inspect Physical Condition

Inspect the sensor cable for cuts, evidence of pinching or wear, abrasions with wiring exposed, or pinches. If any of the above conditions are found, replace the sensor, clear the trouble code according to the ECU Service Data directions. Re-check system before returning vehicle to service.

### B. Test Resistance and Voltage

The vehicle must be at ambient temperature (0-100 degrees F, -18 to 38 degrees C) for an accurate reading, so be sure that the wheel end area is not hot. Based on the ABS ECU diagnostic code, disconnect the suspected sensor harness. At the extreme top of the temperature range, the sensor resistance can vary from 1200-2700 Ohms and still be within the operable range.

1. Inspect the connectors and terminals for corrosion, physical damage or loose connections. If possible, repair and/or clean the connectors.
2. Use a Volt-Ohm meter to measure resistance across the connector pins:

- check one → ☐ OK - between 1200 and 2700 ohms.  
☐ Not OK - less than 1200 or more than 2700 ohms.

**If not OK, replace the sensor. End test.**

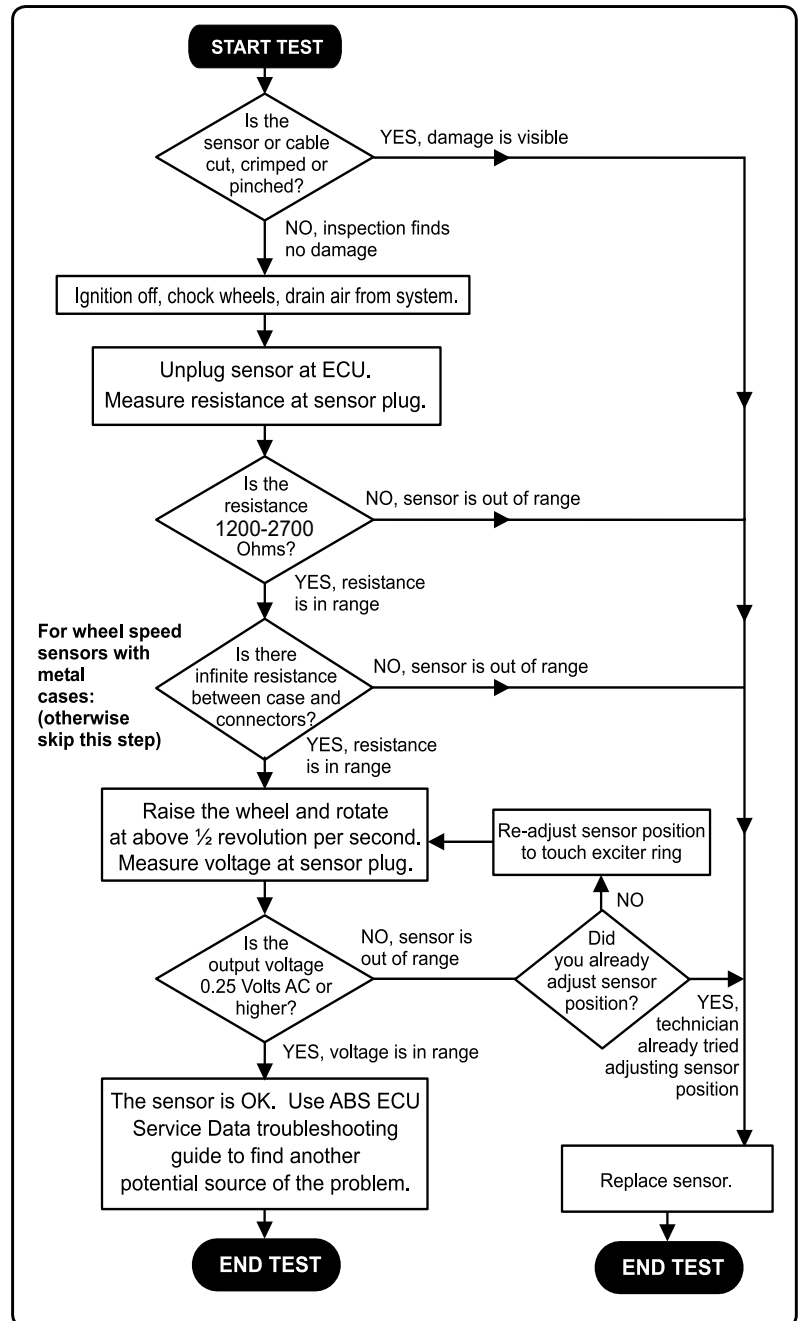
3. Confirm that chocks are in place on vehicle. Raise the wheel off the ground to test the suspect wheel speed sensor.
4. Release the parking brakes.
5. By hand, slowly rotate the wheel at a rate of at least ½ revolution per second. Using an **AC** voltage meter, measure the voltage at the ECU across the sensor terminals.

- check one → ☐ OK - Output voltage is 0.25 Volt AC minimum  
☐ Not OK - Output voltage is less than 0.25 Volt **AC**.

If voltage is not OK, reposition sensor by gently pushing it closer toward the wheel until it touches the exciter ring. Repeat the voltage measurement.

**If still not OK, replace sensor. End test.**

7. If the Ohm and voltage readings are OK, the sensor itself is not the cause of the failure.



Reconnect the sensor and examine the wiring harness and ECU connector for causes of failure, such as pinched wires, loose pins, abrasions, exposed wires etc.

**NOTE: DO NOT CUT THE SENSOR CABLE WHEN REMOVING SENSOR so that a proper failure analysis can be completed.**

- A. Use the new corresponding Bendix sensor service kit that contains the sensor and clamping sleeve.
- B. Clear the trouble code using the ECU Service Data instructions.

## SAFE MAINTENANCE PRACTICES

When working on or around a vehicle, the following general precautions should be observed at all times.

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with an AD-IS™ air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
8. Use only genuine Bendix® replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Antilock Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.