

Diagnostic Trouble Code (DTC) Detecting Criteria

GENERAL DESCRIPTION

CR:DTC P0500 VEHICLE SPEED SENSOR “A”

1. OUTLINE OF DIAGNOSIS

Judge as NG when outside of the judgment value.

Judge as NG when the data received from the ABS control module and hydraulic control unit indicates the erroneous vehicle speed, and when the displayed vehicle speed data is out of the normal range.

2. COMPONENT DESCRIPTION

Vehicle speed signals are taken in to the ABS control module and hydraulic control unit, and normal/erroneous data of the ABS wheel speed sensor is received by CAN communication from the ABS control module and hydraulic control unit.

3. ENABLE CONDITION

Secondary parameters	Enable conditions
Battery voltage	≥ 10.9 V
Elapsed time after engine starting	≥ 2 seconds

4. GENERAL DRIVING CYCLE

Always perform diagnosis more than 2 seconds after starting the engine.

5. DIAGNOSTIC METHOD

• Abnormality Judgment

Judge as NG when the continuous time of meeting the malfunction criteria below becomes 2.5 seconds or more.

Judgment Value

Malfunction criteria	Threshold value
Front ABS wheel speed sensor status	Malfunction
Either of the following is established	
Front left wheel speed	≥ 300 km/h (186 MPH)
Front right wheel speed	≥ 300 km/h (186 MPH)

Time Needed for Diagnosis: 2.5 seconds

Malfunction Indicator Light Illumination: Illuminates as soon as a malfunction occurs.

• Normality Judgment

Judge as OK and clear the NG when all of the following criteria are established.

Judgment Value

Malfunction criteria	Threshold value
Front left wheel speed	> 0 km/h (0 MPH) or < 300 km/h (186 MPH)
Front right wheel speed	> 0 km/h (0 MPH) or < 300 km/h (186 MPH)

6. DTC CLEAR CONDITION

- When the OK idling cycle is completed 40 times in a row
- When “Clear Memory” is performed

7. MALFUNCTION INDICATOR LIGHT CLEAR CONDITIONS

- When the OK driving cycle is completed 3 times in a row
- When “Clear Memory” is performed

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8. FAIL SAFE

- Accelerator sensor signal process: Not allowed full closed point learning (hold the previous value)
- ABS wheel speed sensor signal process: Vehicle speed = 10 km/h (6 MPH)
- Fuel cut control: Not allowed vehicle speed 0 km/h (0 MPH) fuel cut. Normally the high vehicle speed fuel cut performs on vehicle speed condition and engine speed, but perform the fuel cut only on engine speed condition (4400 rpm or more).
- ISC control: Open loop compensation is set to (1 g (0.04 oz) oz/s). Not allowed ISC feedback volume calculation.
- Air conditioner control: Not allowed air conditioner cut at accelerating.
- Radiator fan control: Both main and sub fan ON drive
- Gear ratio judgment: Gear = Control as fixed in sixth gear

9. ECM OPERATION AT DTC SETTING

Memorize the freeze frame data. (For test mode \$02)