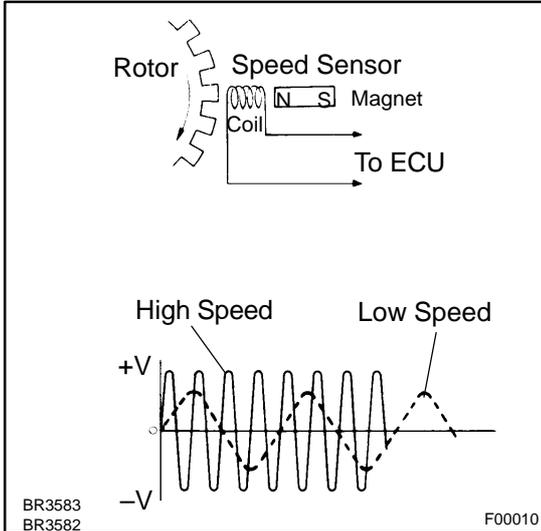


DTC	31, 32, 33, 34	Speed Sensor Circuit
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CIRCUIT DESCRIPTION



The speed sensor detects the wheel speed and sends the appropriate signals to the ECU. These signals are used to control the ABS control system. The front and rear rotors each have 48 serrations.

When the rotos rotate, the magnetic field emitted by the permanent magnet in the speed sensor generates an AC voltage. Since the frequency of this AC voltage changes in direct proportion to the speed of the rotor, the frequency is used by the ECU to detect the speed of each wheel.

DTC No.	DTC Detecting Condition	Trouble Area
31,32,33,34	Detection of any of conditions (1) through (3): (1) At vehicle speed of 10 km/h (6 mph) or more, pulses are not input for 15 sec. (2) Momentary interruption of the vehicle speed sensor signal occurs at least 7 times in the time between switching the ignition switch ON and switching it OFF. (3) Abnormal fluctuation of speed sensor signals with the vehicle speed 20 km/h (12 mph) or more.	<ul style="list-style-type: none"> • Right front, left front, right rear and left rear speed sensor • Open or short in each speed sensor circuit • Sensor rotor

HINT:

DTC No.31 is for the right front speed sensor.

DTC No.32 is for the left front speed sensor.

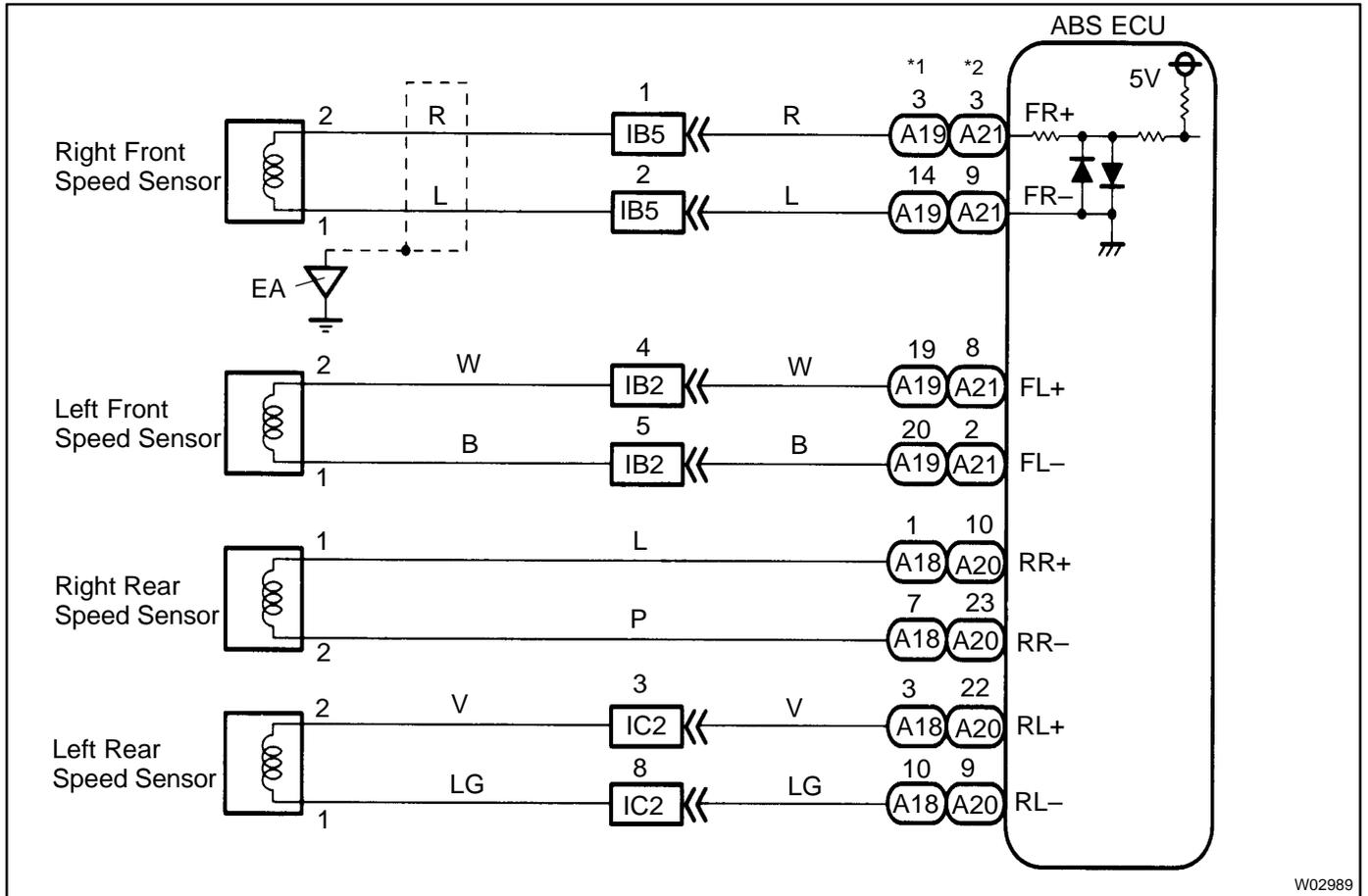
DTC No.33 is for the right rear speed sensor.

DTC No.34 is for the left rear speed sensor.

Fail safe function:

If trouble occurs in the speed sensor circuit, the ECU cuts off current to the ABS solenoid relay and prohibits ABS control.

WIRING DIAGRAM

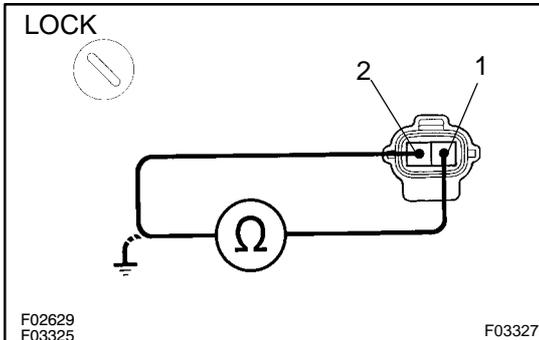


*1: NORMAL ABS (2JZ-GE Engine)

*2: SPORT ABS (2JZ-GTE Engine)

INSPECTION PROCEDURE

1 Check speed sensor.

**Front****PREPARATION:**

- (a) Remove front fender splash shield.
- (b) Disconnect speed sensor connector.

CHECK:

Measure resistance between terminals 1 and 2 of speed sensor connector.

OK:

Resistance: 0.6 – 2.5 kΩ

CHECK:

Measure resistance between terminals 1 and 2 of speed sensor connector and body ground.

OK:

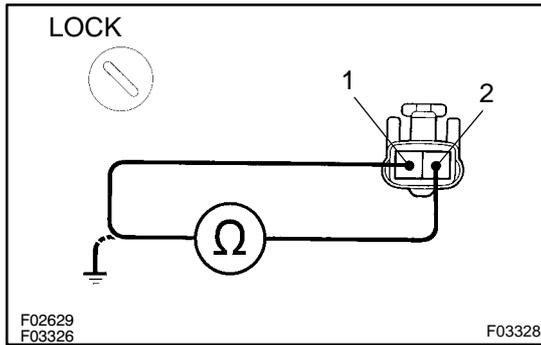
Resistance: 1 MΩ or higher

CHECK:

Check the sensor connector.

OK:

- (1) There is not play on the connector connecting part.
- (2) Connectors are connected each other securely.

**Rear****PREPARATION:**

- (a) Remove rear, seat cushion, seat back and quarter trim panel.
- (b) Disconnect speed sensor connector.

CHECK:

Measure resistance between terminals 1 and 2 of speed sensor connector.

OK:

Resistance: 0.65 – 1.8 kΩ

CHECK:

Measure resistance between terminals 1 and 2 of speed sensor connector and body ground.

OK:

Resistance: 1 MΩ or higher

CHECK:

Check the sensor connector.

OK:

- (1) There is not play on the connector connecting part.
- (2) Connectors are connected each other securely.

NG

Replace speed sensor.

NOTICE:

Check the speed sensor signal last (See page [DI-442](#)).

OK**2**

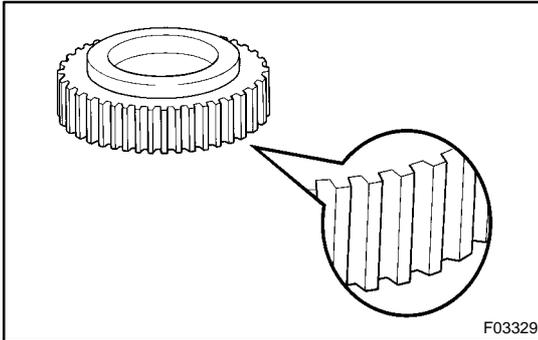
Check for open and short in harness and connector between each speed sensor and ABS ECU (See page [IN-28](#)).

NG

Repair or replace harness or connector.

OK

3 Check sensor rotor and sensor installation.



Front

PREPARATION:

Remove front speed sensor rotor (See page [SA-12](#)).

CHECK:

Check sensor rotor serrations.

OK:

No scratches, missing teeth or foreign objects.

CHECK:

Check the front speed sensor installation.

OK:

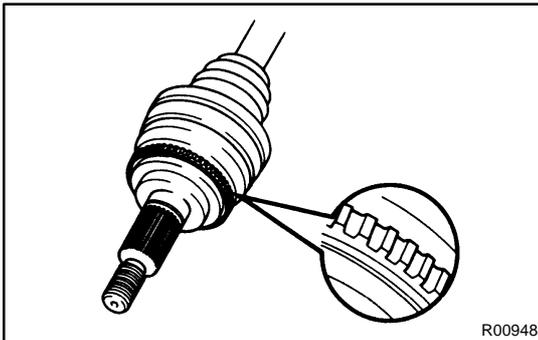
The installation bolt is tightened properly and there is no clearance between sensor and steering knuckle.

CHECK:

Check the sensor tip.

OK:

No scratches or foreign objects on the sensor tip.



Rear

PREPARATION:

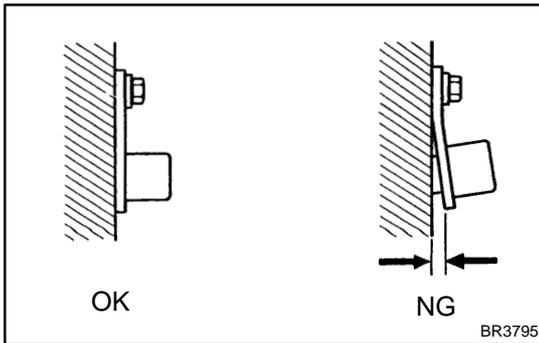
Remove the drive shaft (See page [SA-43](#)).

CHECK:

Check the sensor rotor serrations.

OK:

No scratches or missing teeth.

**CHECK:**

Check the rear speed sensor installation.

OK:

The installation bolt is tightened properly and there is no clearance between the sensor and rear axle carrier.

CHECK:

Check the sensor tip.

OK:

No scratches or foreign objects on the sensor tip.

NG

Replace speed sensor and grease or rotor and grease.

NOTICE:

Check the speed sensor signal last (See page [DI-442](#)).

OK

Check and replace ABS ECU.