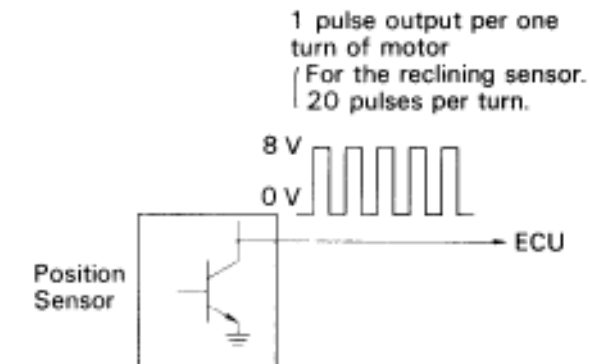


Position Sensor Circuit

CIRCUIT DESCRIPTION



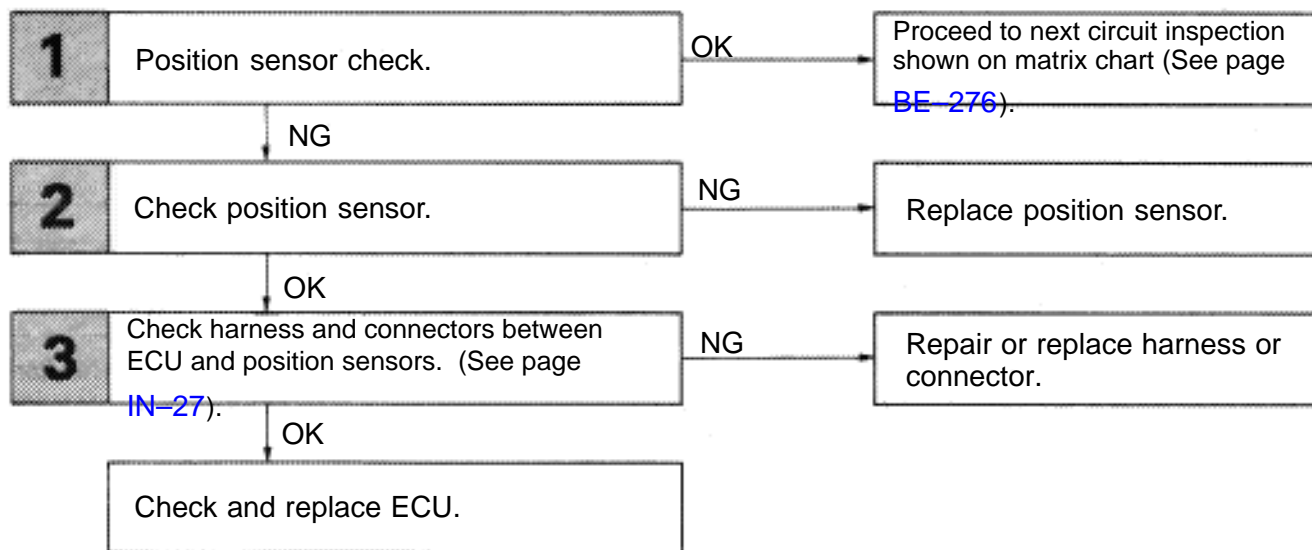
BE3991

The position sensor senses movement of the seat and send pulse signals to the ECU. The position sensor sends pulses to the ECU in proportion to the amount of seat movement, as shown in the diagram on the left.

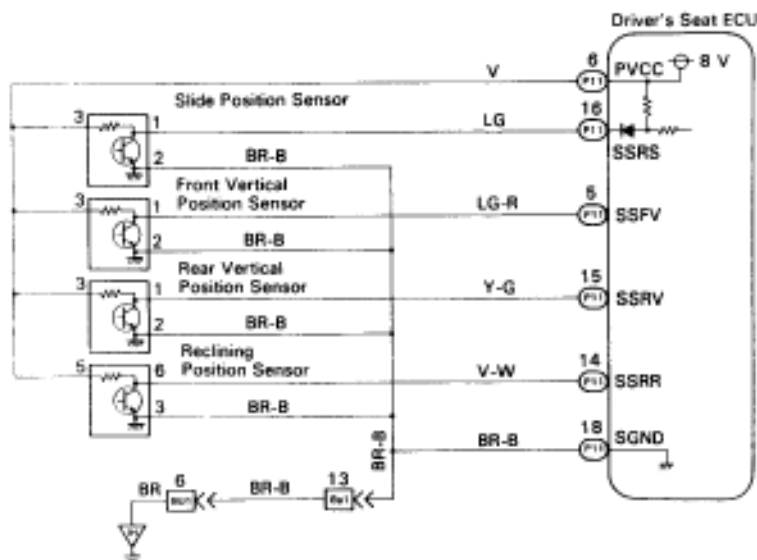
The ECU uses the number of pulses to constantly calculate the position relative to the memory position and returns the seat to the memorized position.

If a malfunction occurs in a position sensor and a sensor signal is not input to the ECU even when the motor operates, the ECU prohibits return operation.

DIAGNOSTIC CHART



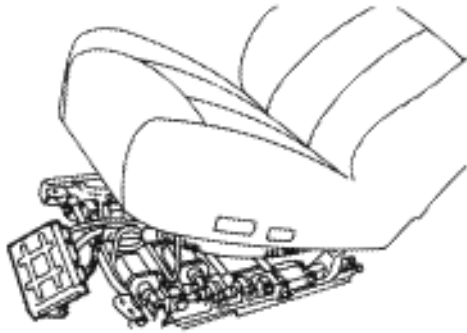
WIRING DIAGRAM



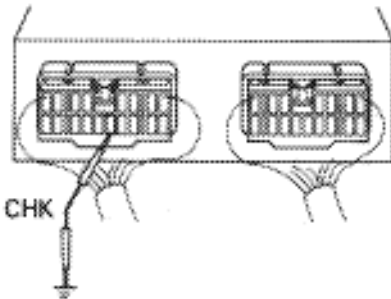
INSPECTION PROCEDURE

1

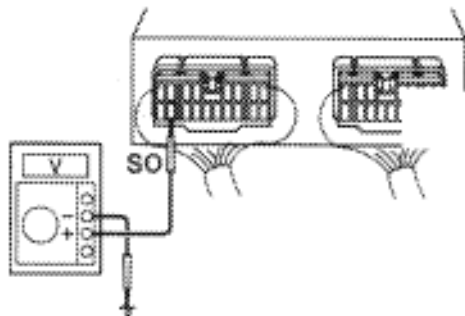
Position sensor check



BE3631

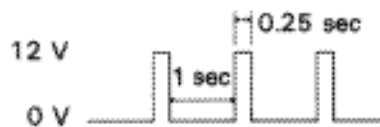


BE8846



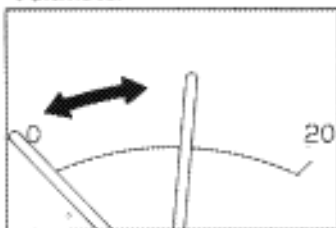
BE8645

"Ready" code



BE3939

Voltmeter



BE3646

P

- (1) Remove the driver's seat.
- (2) Remove the bolts for the front vertical adjuster and lift the seat cushion up a little.

Notice: If the seat cushion is lifted to high, the harness will be pulled and the clamp may come loose.

- (3) Remove the ECU with the connector attached from where it is installed to the underside of the seat cushion.

C

- (1) Connect terminal CHK of the ECU to body ground to put the ECU into check mode.

- (2) Measure the voltage between terminal SO of ECU and body ground.

HINT: Use an analog type meter.

- (3) Check that the "ready" code is output as shown in the illustration.

1

Position sensor check (Cont'd)

Slide

Reclining

Fr Vertical

Rr Vertical

BE3203 BE3203

OK Code

0.25 0.25

sec sec

12 V

0 V

BE3828

Voltmeter

0

20

BE3844

NG Code

0.5 0.5

sec sec

12 V

0 V

BE3830

Voltmeter

0

20

BE3845

(4) Operate the power seat switch and check the change in the voltage when the seat is moving.

Hint

The lumbar support does not have a position sensor, so the sensor check cannot be done.

(5) The changes in the output voltage when the input signal is normal and when it is abnormal are shown in the illustrations. Compare the results with those from (4) and diagnose the condition of each circuit.

Hint

The OK and NG codes continue to be output while the manual switch is ON.

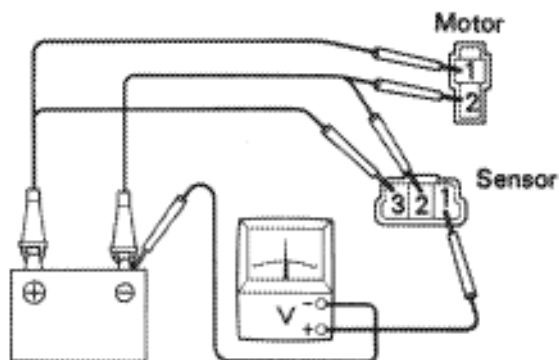
When the seat reaches the limit of movement, e.g. when the slide position reaches the most forward or back position, the voltage changes from the OK code to the NG code.

After operating any of the system functions with no problem and confirming the OK code and NG code by comparing the amount of wavering of the voltmeter needle, inspect the function with a problem.

The amount of wavering of the voltmeter needle depends on the meter.

OK

Output	OK	OK Code
	NG	NG Code

2 Check position sensor.

BE3857

P Disconnect the connector of the sensor and the connector of the motor leading to the sensor.

- C** (1) Connect positive \oplus lead to terminal 3 of sensor and negative \ominus lead to terminal 2.
- (2) Measure voltage between terminal 1 of sensor and body ground when battery voltage is applied between terminals 1 and 2 of motor connector.

Hint When the battery voltage is applied to the motor connector terminals, \oplus and \ominus are interchangeable.

OK

Condition	Voltage
Motor stopped (Check several times with the motor in a different position each time.)	0 V or battery voltage according to stop position
Motor Turning	half of battery voltage

OK**NG**

Replace position sensor.

3 Check for open and short in harness and connectors between ECU and position sensors (See page [IN-27](#)).**OK****NG**

Repair or replace harness or connectors.

Check and replace ECU.