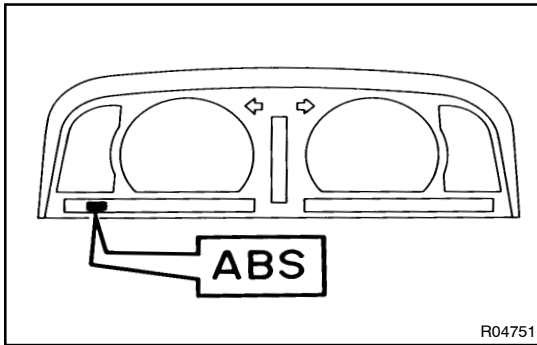




PRE-CHECK

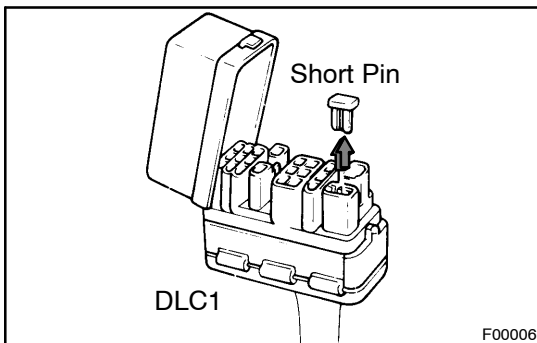
1. DIAGNOSIS SYSTEM

(a) INDICATOR CHECK

When the ignition switch is turned ON, check that the ABS warning light goes on for 3 seconds.

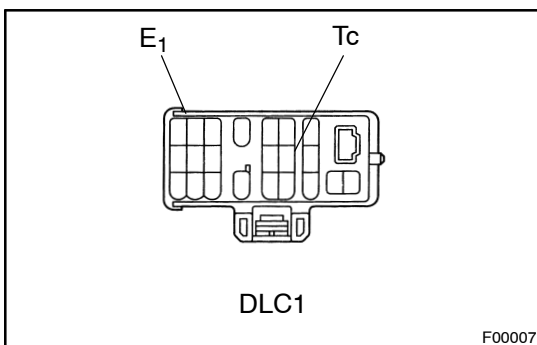
HINT:

- If the indicator check result is not normal, proceed to troubleshooting for the ABS warning light circuit (See page [DI-230](#)).
- When the transfer is in L position(center differential lock), the ABS does not operate and the ABS warning light stays ON.



(b) DTC CHECK

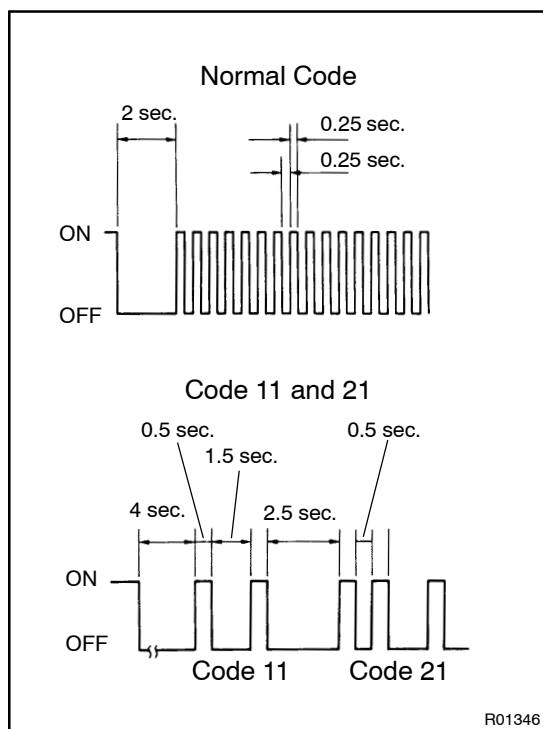
- (1) Confirm that the center differential is free.
- (2) Disconnect the short pin from DLC1.



- (3) Using SST, connect terminals Tc and E₁ of DLC1.
SST 09843-18020
- (4) Turn the ignition switch ON.
- (5) Read the DTC from the ABS warning light on the combination meter.

HINT:

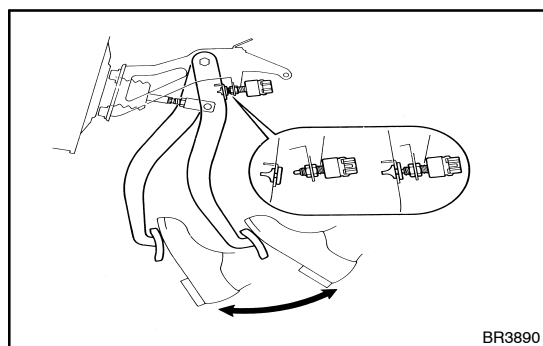
If no code appears, inspect the diagnostic circuit or ABS warning light circuit (See page [DI-234](#) or [DI-230](#)).



As an example, the blinking patterns for normal code and codes 11 and 21 are shown on the left.

- (1) Code are explained in the code table on page [DI-200](#).
- (2) After completing the check, disconnect terminals Tc and E₁, and turn off the display.

If 2 or more malfunctions are indicated at the same time the lowest numbered DTC will be displayed 1st.



(c) DTC CLEARANCE

- (1) Confirm that the center differential is free.
- (2) Using SST, connect terminals Tc and E₁ of DLC1 and remove the short pin from DLC1.

SST 09843-18020

- (3) Turn the ignition switch ON.
 - (4) Clear the DTC stored in ECU by depressing the brake pedal 8 or more times within 3 seconds.
 - (5) Check that the warning light shows the normal code.
 - (6) Remove the SST from the terminals of DLC1.
- SST 09843-18020
- (7) Connect the short pin to DLC1.

HINT:

Cancellation can also be done by removing the ECU-B fuse, but in this case, other memory systems will also be cancelled out.

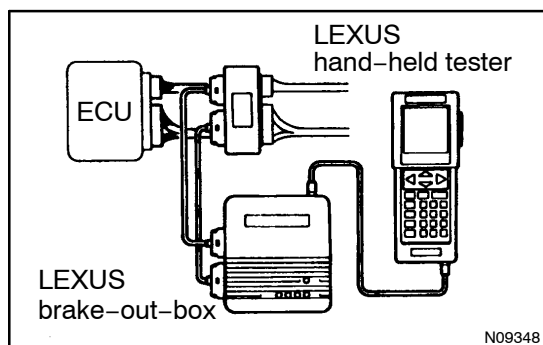
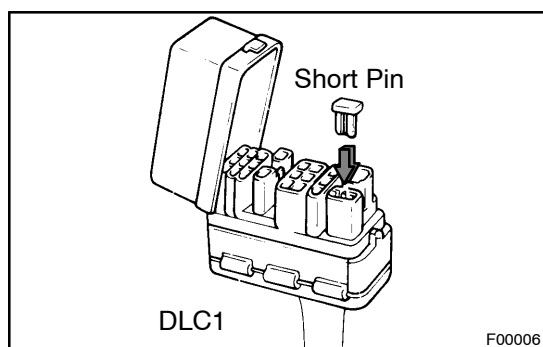
(d) ECU TERMINAL VALUES MEASUREMENT USING LEXUS BREAK-OUT-BOX AND LEXUS HAND-HELD TESTER

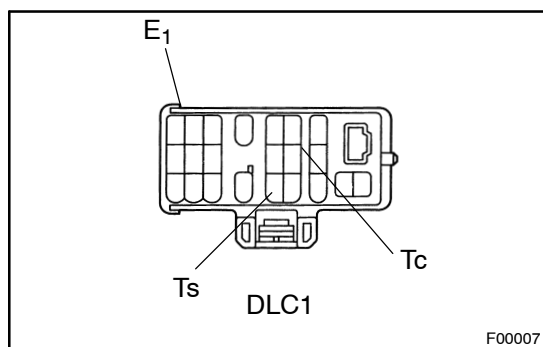
- (1) Hook up the LEXUS hand-held tester and LEXUS break-out-box to the vehicle.
- (2) Read the ECU input/output values by following the prompts on the tester screen.

HINT:

LEXUS hand-held tester has a "Snapshot" function. This records the measured values and is effective in the diagnosis of intermittent problems.

Please refer to the LEXUS hand-held tester/LEXUS break-out-box operator's manual for further details.





2. SPEED SENSOR SIGNAL AND DECELERATION SENSOR CHECK

(a) SPEED SENSOR SIGNAL CHECK

- (1) Confirm that the center differential is free.
- (2) Turn the ignition switch OFF.
- (3) Using SST, connect terminals Ts and E₁ of DLC1.
SST 09843-18020
- (4) Start the engine.

- (5) Check that the ABS warning light blinks.

HINT:

If the ABS warning light does not blink, inspect the ABS warning light circuit (See page DI-230).

- (6) Drive vehicle straight forward.

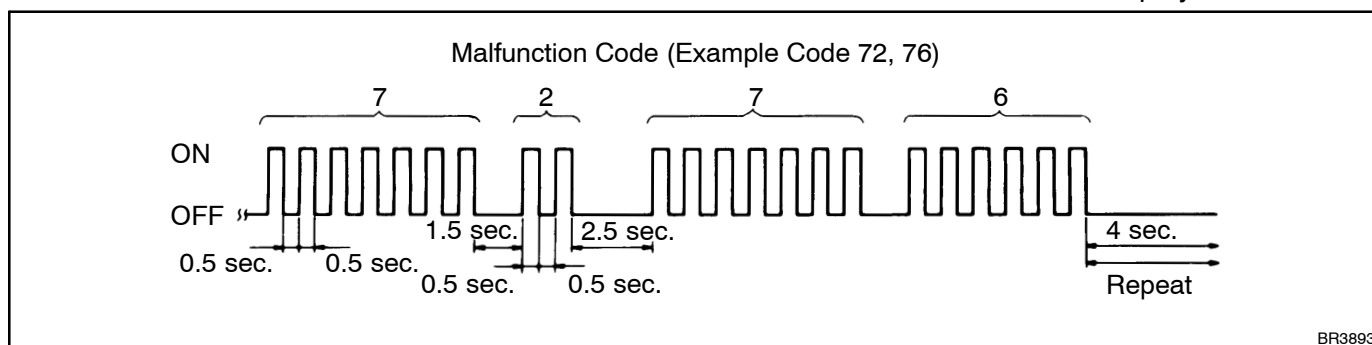
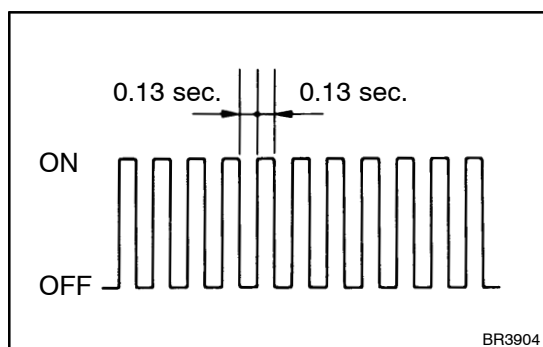
HINT:

Drive vehicle faster than 45 km/h (28 mph) for several seconds.

- (7) Stop the vehicle.
- (8) Using SST, connect terminals Tc and E₁ of DLC1.
SST 09843-18020
- (9) Read the number of blinks of the ABS warning light.

HINT:

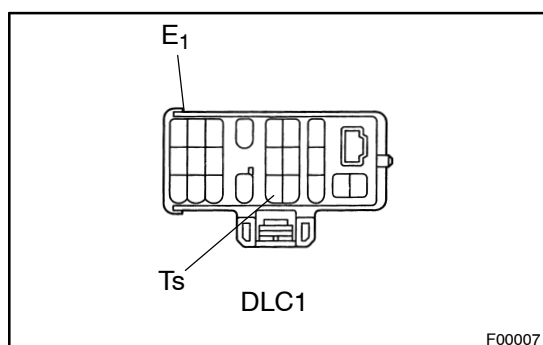
- See the list of DTC on page DI-193.
- If every sensor is normal, a normal code is output (A cycle of 0.25 sec. ON and 0.25 sec. OFF is repeated).
- If 2 or more malfunction are indicated at the same time, the lowest numbered code will be displayed 1st.

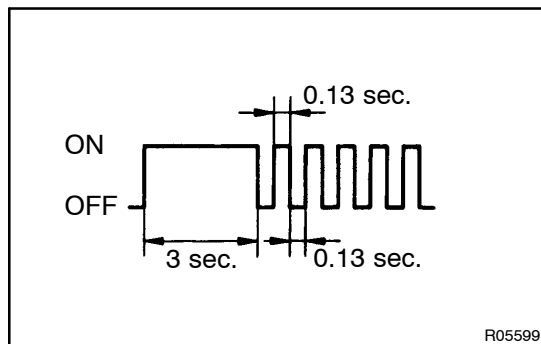


- (10) After doing the check, disconnect terminals Ts and E₁, Tc and E₁ of DLC1, and ignition switch turned OFF.

(b) DECELERATION SENSOR DETECTION POINT CHECK

- (1) Confirm that the center differential is free.
- (2) Turn the ignition switch OFF.
- (3) Using SST, connect terminals Ts and E₁ of DLC1.
SST 09843-18020
- (4) Start the engine.

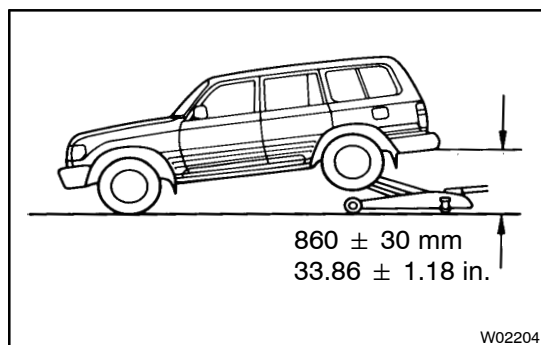




- (5) Check that the ABS warning light blinks.

HINT:

If the ABS warning light does not blink, inspect the ABS warning light circuit (See page DI-230).



- (6) Jack up the rear side of the vehicle slowly.

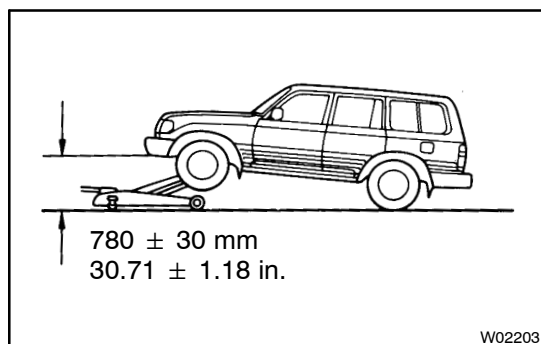
HINT:

When measuring the height, measure at the center of the lower body of the vehicle.

- (7) Check that the warning light blinks.

If the warning light turns on, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

- (8) Jack down the vehicle slowly.



- (9) Jack up the front side of the vehicle slowly, as shown.

HINT:

When measuring the height, measure at the center of the lower body of the vehicle.

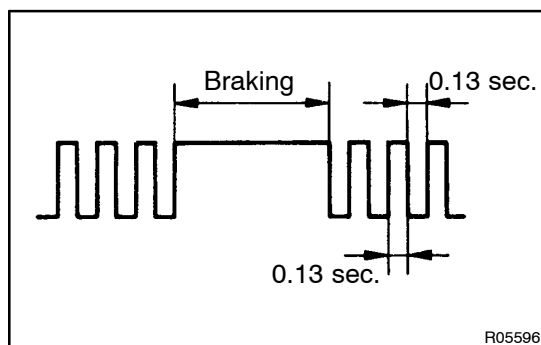
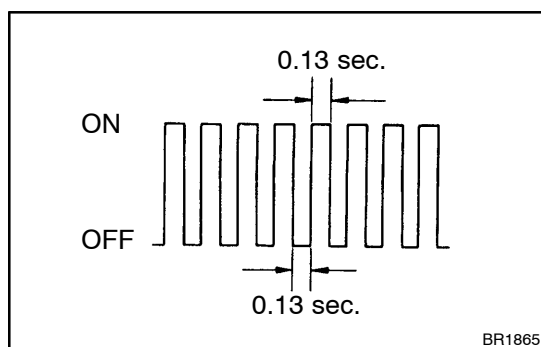
- (10) Check that the warning light blinks.

If the warning light turns on, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

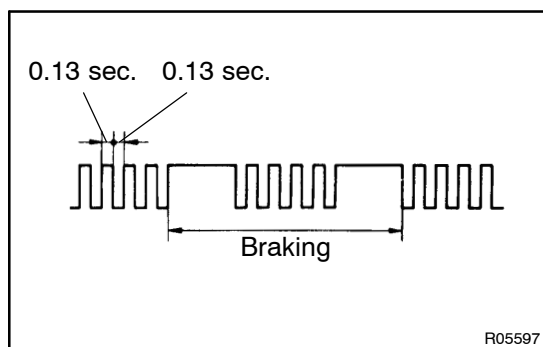
- (11) Jack down the vehicle slowly.

(c) DECELERATION SENSOR OPERATION CHECK

- (1) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, lightly depress the brake pedal.
- (2) Check that there is no change in the warning light pattern.



- (3) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, and depress the brake pedal moderately.
- (4) Check that the warning light turns on while braking.
- (5) Drive the vehicle straight ahead at about 20 km/h (12.4 mph) or more, and depress the brake pedal strongly.



- (6) Check that the warning light pattern changes while braking, as shown.

If the operation is not as specified, inspect the deceleration sensor installation. If the sensor installation is OK, replace the deceleration sensor.

- (7) Stop the vehicle and turn the ignition switch OFF.
 (8) Remove SST from the terminals Ts and E₁ of the DLC1.

SST 09843-18020

(d) DTC OF SPEED SENSOR CHECK FUNCTION

Code No.	Diagnosis	Trouble Area
71	Low output voltage of right front speed sensor	• Right front speed sensor • Sensor installation • Sensor rotor • Sensor wire harness
72	Low output voltage of left front speed sensor	• Left front speed sensor • Sensor installation • Sensor rotor • Sensor wire harness
73	Low output voltage of right rear speed sensor	• Right rear speed sensor • Sensor installation • Sensor rotor • Sensor wire harness
74	Low output voltage of left rear speed sensor	• Left rear speed sensor • Sensor installation • Sensor rotor • Sensor wire harness
75	Abnormal change in output voltage of right front speed sensor	• Right front speed sensor rotor • Sensor wire harness
76	Abnormal change in output voltage of left front speed sensor	• Left front speed sensor rotor • Sensor wire harness
77	Abnormal change in output voltage of right rear speed sensor	• Right rear speed sensor rotor • Sensor wire harness
78	Abnormal change in output voltage of left rear speed sensor	• Left rear speed sensor rotor • Sensor wire harness
79	Deceleration sensor is faulty	• Deceleration sensor • Sensor installation