

PRE-CHECK

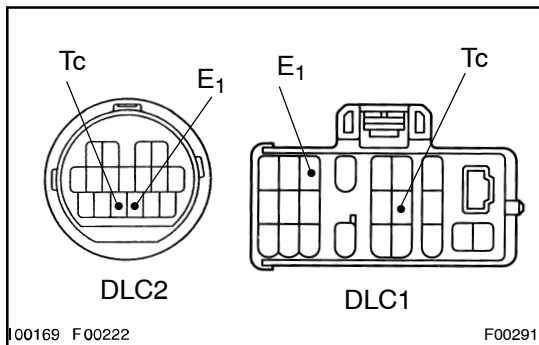
1. DIAGNOSIS SYSTEM

(a) Check the indicator.

When the ignition switch is turned ON, check that the VSC warning light, VSC OFF indicator light and SLIP indicator light go ON for about 3 seconds.

HINT:

- If the ECU stores DTC, VSC warning light and VSC OFF indicator light are ON.
- If the indicator check result is not normal, proceed to troubleshooting for the VSC warning light circuit, VSC OFF indicator light circuit, and SLIP indicator light circuit (See page [DI-364](#), [DI-368](#), [DI-371](#)).



(b) In case of not using LEXUS hand-held tester :

Check the DTC

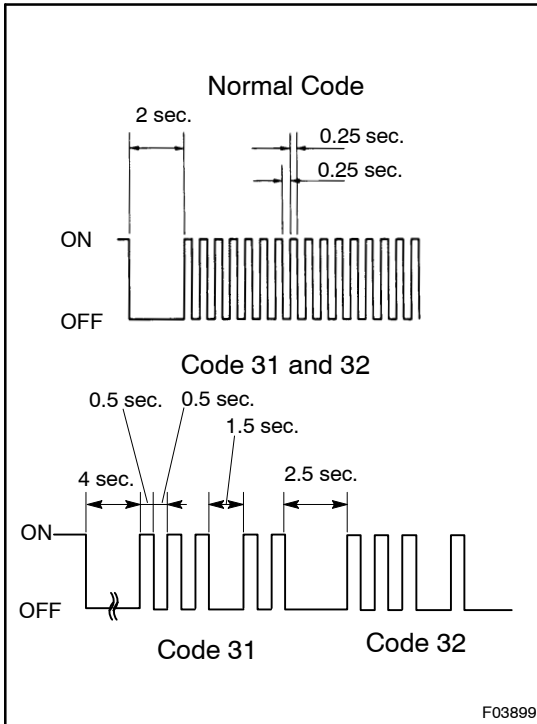
- (1) Using SST, connect terminals Tc and E₁ of DLC2 or DLC1.

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- (2) Turn the ignition switch ON.
- (3) Read the DTC from the VSC warning light on the combination meter.

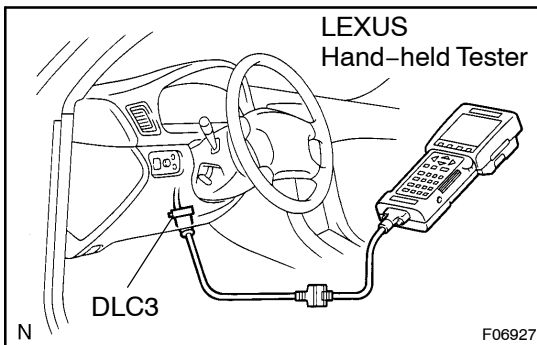
HINT:

- If no code appears, inspect the diagnostic circuit or VSC warning light circuit (See page [DI-364](#) or [DI-322](#)).



- As an example, the blinking patterns for normal code and code 31 and 32 are shown on the left.
 - (4) Codes are explained in the code table on page [DI-334](#).
 - (5) 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.

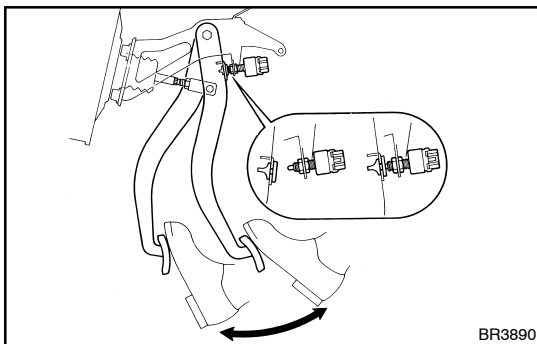


- (c) In case of using LEXUS hand-held tester :
Check the DTC.

- (1) Hook up the LEXUS hand-held tester to the DLC3.
- (2) Turn the ignition switch ON.
- (3) Read the DTC by following the prompts on the tester screen.

HINT:

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



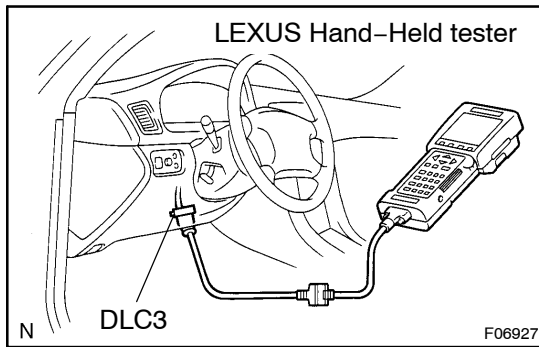
- (d) In case of not using LEXUS hand-held tester :
Clear the DTC.

- (1) Using SST, connect terminals Tc and E₁ of DLC2 or DLC1.

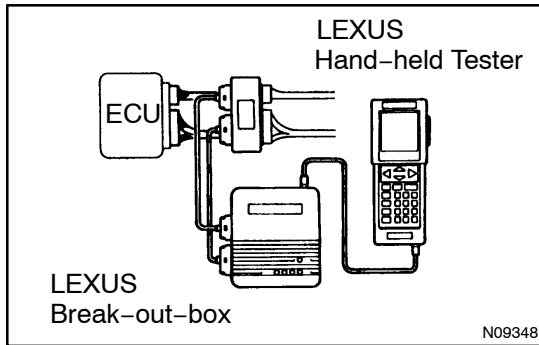
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- (2) Turn the ignition switch ON.
- (3) Clear the DTC stored in ECU by depressing the brake pedal 8 or more times within 5 seconds.
- (4) Check that the warning light shows the normal code.
- (5) Remove the SST from the terminals of DLC2 or DLC1.

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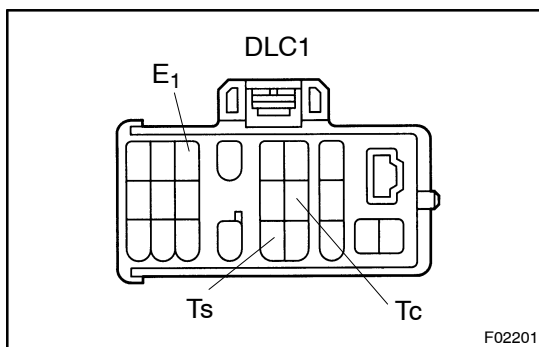
- (e) In case of using LEXUS hand-held tester :
Clear the DTC.
- (1) Hook up the LEXUS hand-held tester to the DLC3.
 - (2) Turn the ignition switch ON.
 - (3) Operate the LEXUS hand-held tester to erase the codes.
(See LEXUS hand-held tester operator's manual.)



- (f) (Reference):
Using LEXUS break-out-box and LEXUS hand-held tester, measure the ECU terminal values.
- (1) Turn the ignition switch OFF.
 - (2) Hook up the LEXUS break-out-box and LEXUS hand-held tester to the vehicle.
 - (3) Turn the ignition switch ON.
 - (4) Read the ECU input/output values by following the prompts on the tester screen.

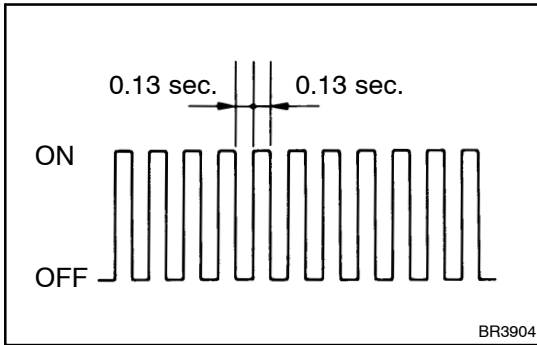
HINT:

- 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. VSC SENSOR CHECK (TEST MODE)****HINT:**

If the ignition switch is turned from ON to ACC or LOCK during test mode, DTC will be erased.

- (a) In case of not using LEXUS hand-held tester :
Check the VSC sensor signal.
- (1) Turn the ignition switch OFF.
 - (2) Check that the shift lever position is at P range, turn the steering wheel to the neutral position.
 - (3) Using SST, connect terminals Ts and E₁ of DLC1.
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 - (4) Start the engine.



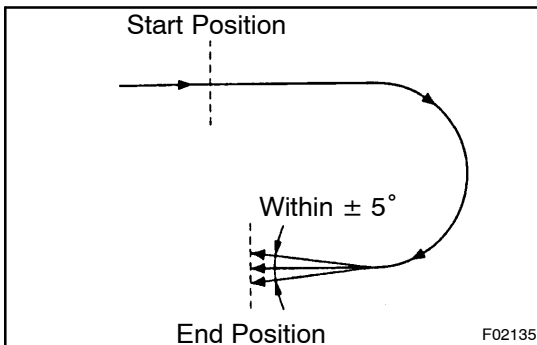
- (5) Check that the VSC warning light blinks.

HINT:

If the VSC warning light does not blink, inspect the VSC warning light circuit and Ts terminal circuit

(See page [DI-364](#), [DI-324](#)).

- (6) After a new ECU installed, the first time only:
Start the engine and keep the vehicle in the stationary condition on the flat place for 3 sec. or more, it's installed the zero point calibration of the yaw rate sensor.
- (7) Check the steering angle sensor.
Turn the steering wheel to either left or right to the full lock position, from the vehicle stationary condition, and turn back the steering wheel to the neutral position.



- (8) Check the yaw rate sensor.
Shift the shift lever to the D range and drive the vehicle at the vehicle speed of approx. 5 km/h (3 mph), turn the steering wheel either to left or right 90° or more, and maintain 180° circular drive for the vehicle.
Stop the vehicle and shift the shift lever to the P range, check that the VSC buzzer sounds for 3 sec.

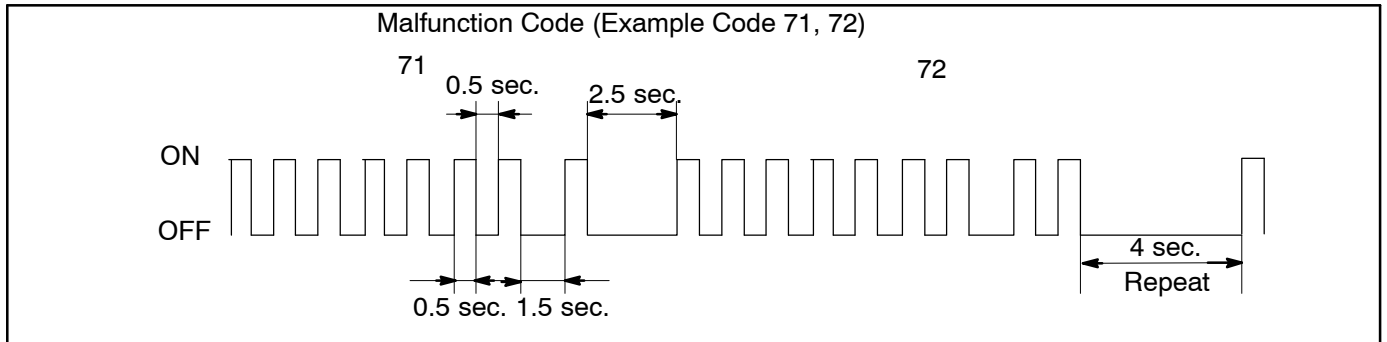
HINT:

- If the VSC buzzer sounds, the sensor check is in normal completion.
 - If the VSC buzzer does not sound, do the sensor check again.
 - If the VSC buzzer still won't sound, there is a malfunction in the VSC sensor, so check the DTC.
 - Drive the vehicle in a 180° circle. At the end of the turn, the direction of the vehicle should be within $180^\circ \pm 5^\circ$ of its start position.
 - Do not spin the front wheels.
- (9) Using SST, connect terminals Tc and E₁ of DLC1.
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(10) Read the number of blinks of the VSC warning light.

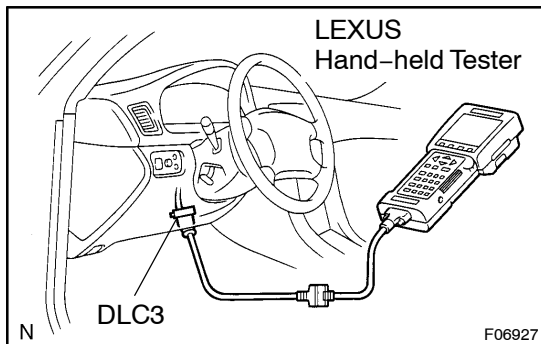
HINT:

- See the list of DTC shown at the bottom on page.
- 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 malfunctions are indicated at the same time, the lowest numbered code will be displayed 1st.



(11) After doing the check, disconnect the SST from terminals Ts and E₁, Tc and E₁ of DLC1, and turn the ignition switch OFF.

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(b) In case of using LEXUS hand-held tester :
Check the VSC sensor signal.

- (1) Hook up the LEXUS hand-held tester to the DLC3.
- (2) Do steps (2) and (4) to (8) on the previous pages.
- (3) Read the DTC by following the prompts on the tester screen.

HINT:

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

DTC of VSC sensor check function:

Code No.	Diagnosis	Trouble Area
C0371 / 71	Yaw rate sensor output signal malfunction	<ul style="list-style-type: none"> • Yaw rate sensor • Yaw rate sensor circuit
C1208 / 72	Steering angle sensor output signal malfunction	<ul style="list-style-type: none"> • Steering angle sensor • Steering angle sensor circuit

3. YAW RATE SENSOR ZERO POINT CALIBRATION**HINT:**

When replacing the yaw rate sensor assembly or ECU, make sure to perform yaw rate sensor zero point calibration.

(a) When replacing the ECU:

After replacing ECU, shift the shift lever in P position and turn the ignition switch ON. Do not move the vehicle for 15 sec. or more.

HINT:

At this time, VSC warning light and VSC OFF indicator light are ON for 15 seconds and go OFF.

(b) When replacing the yaw rate sensor assembly:

Shift the shift lever in P position and turn the ignition switch ON, repeat connecting and releasing Ts and E1 terminals of DLC1 4 times or more for 8 sec. After that do not move the vehicle for 15 sec. or more.

NOTICE:

When replacing G sensor, replace the sensor with it assembled to the bracket assembly.

HINT:

When the operation (b) is performed, DTC is deleted.

At this time, ABS warning light flashes. VSC OFF light lights up for 15 sec., then goes off. VSC warning light lights up for approx. 15 sec., then flashes to indicate DTC.