DI287–02

PRE–CHECK

1. DIAGNOSIS SYSTEM

LHD

RHD

F02853
F04710
F04717

(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 goes ON for 3 seconds.

HINT:

- If the ECU stores DTC, VSC warning light and VSC OFF indicator light is 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–342, DI–344, DI–347).

Check Connector

E₁

Tc

F02201
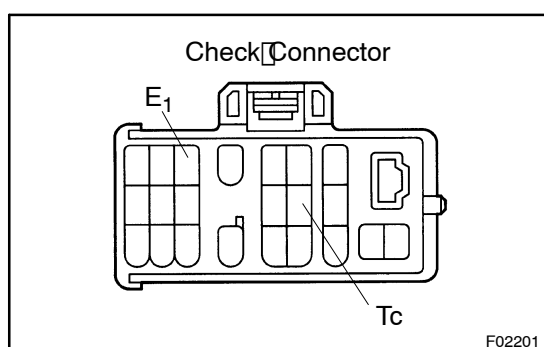
(b) In case of not using hand–held tester :

Check the DTC

(1) Using SST, connect terminals Tc and E_1 of check connector.
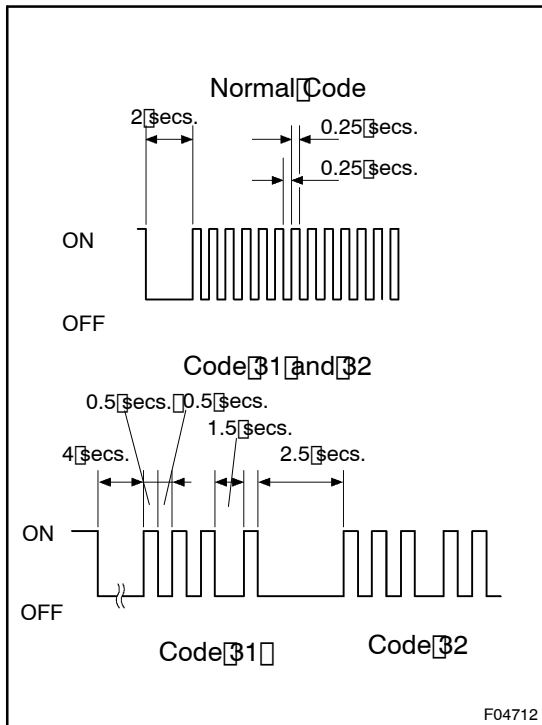
SST   09843 – 18020

(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–301 or DI–342).

Normal Code

2 secs.

0.25 secs.

0.25 secs.

ON

OFF

Code 31 and 32

0.5 secs. 0.5 secs.

1.5 secs.

4 secs.   2.5 secs.

ON

OFF

Code 31   Code 32

F04712

• 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

(5) After completing the check, disconnect terminals Tc and E_1, and turn OFF the display.

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

Hand–held Tester

DLC3

F04705
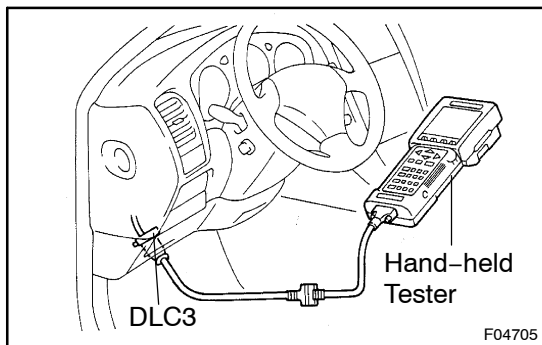
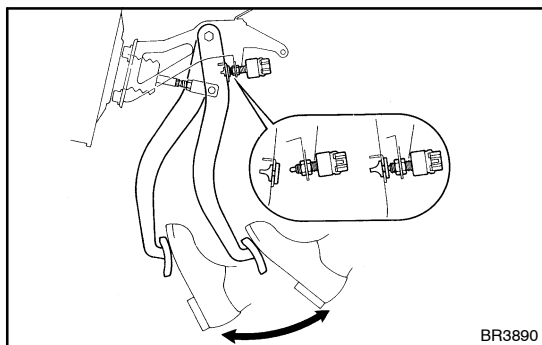(c) In case of using hand–held tester :
Check the DTC.
(1) Hook up the hand–held tester to the DLC3.
(2) Turn the ignition switch ON.
(3) Read the DTC by following the prompts on the tester screen.

HINT:
Please refer to the hand–held tester operator's manual for further details.

BR3890

(d) In case of not using hand–held tester:
Clear the DTC.
(1) Using SST, connect terminals Tc and E_1 of check connector.
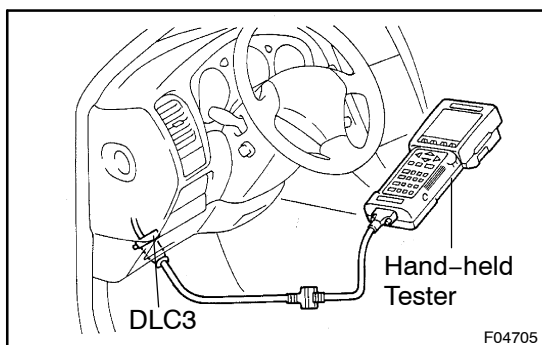SST   09843 – 18020
(2) Turn the ignition switch ON.
(3) Clear the DTC stored in ECU by depressing the brake pedal 8 or more times within 5 seconds.
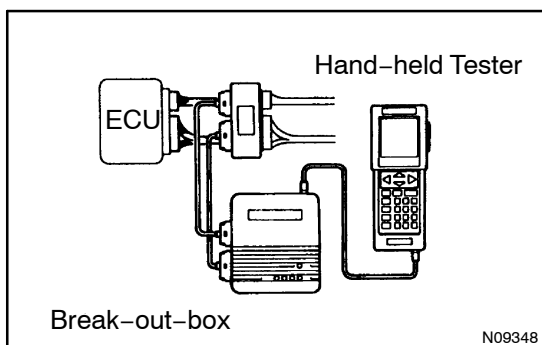(4) Check that the warning light shows the normal code.
(5) Remove the SST from the terminals of check connector.
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F04705

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

N09348

(f) (Reference):
Using break–out–box and hand–held tester, measure the ECU terminal values.
(1) Turn the ignition switch OFF.
(2) Hook up the break–out–box and 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:
- 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 hand–held tester/break–out–box operator's manual for further details.

F02201
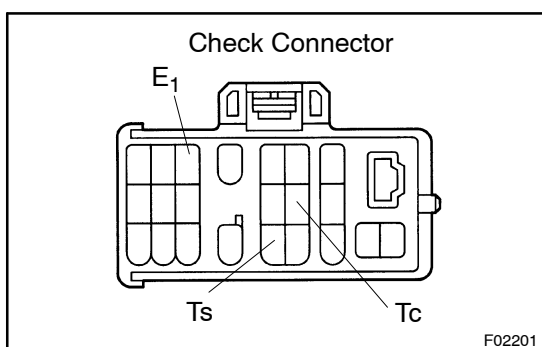
2. VSC SENSOR CHECK (TEST MODE)
HINT:
If the ignition switch is turned from ON to ACC or LOCK during test mode, DTC will be erased.
(a) In case of not using hand–held tester :
Check the VSC sensor signal.
(1) Turn the ignition switch OFF.
(2) Check that the shift lever position is at P range, turn the steering wheel to the neutral position.
(3) Using SST, connect terminals Ts and E_1 of check connector.
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(4) Start the engine.

0.13 secs.   0.13 secs.

ON

OFF

BR3904
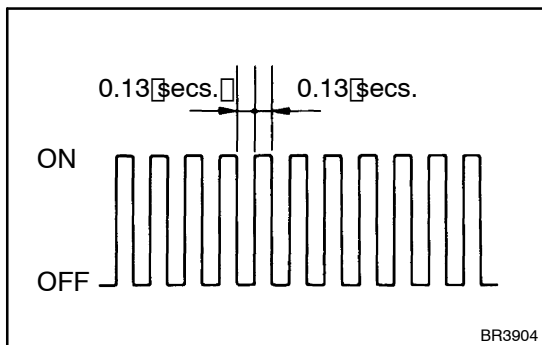
    (5)   Check that the VSC warning light blinks.

HINT:

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

(See page DI–303, DI–303)

    (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, and check the zero point calibration of the yaw rate sensor.

    (7)   Check the steering angle sensor.
Turn the steering wheel either to left or right for 450° or more from the vehicle stationary condition, and turn back the steering wheel to the straight ahead position.

Start Position

Within ± 5°

End Position   F02135
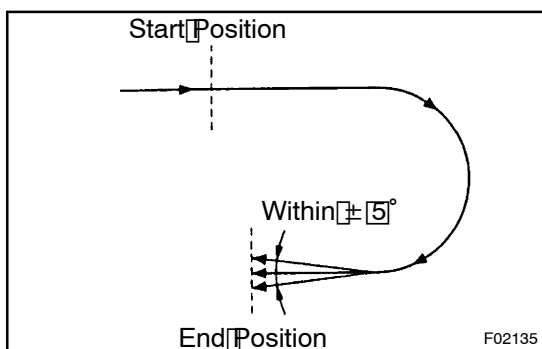
    (8)   Check the yaw rate sensor.
Shift the shift lever to the D range and drive the vehicle at the vehicle speed of approx. 5 km/h (3 mph), turn the steering wheel either to left or right for 90° or more, and maintain 180° circular drive for the vehicle.
Stop the vehicle and shift the shift lever to the P range, check that the VSC buzzer sounds for 3 secs.

- If the VSC buzzer sounded, 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 malfunction in the VSC sensor, so check the DTC.

HINT:

- Drive the vehicle circularly by 180°. At the end of the turn, the direction of the vehicle should be within 180° ± 5° of its start position.
- Do not spin the rear wheels.

    (9)   Using SST, connect terminals Tc and E_1 of check connector.

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    (10) Read the number of blinks of the VSC warning light.
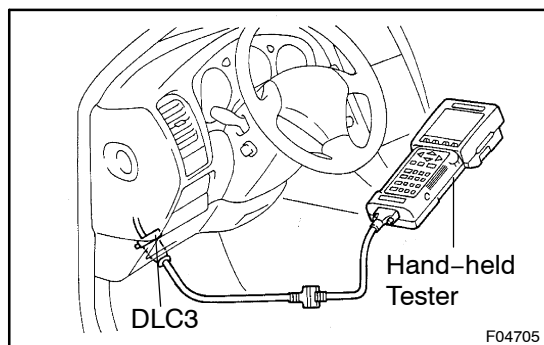
HINT:

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

Malfunction Code (Example Code 71, 72)
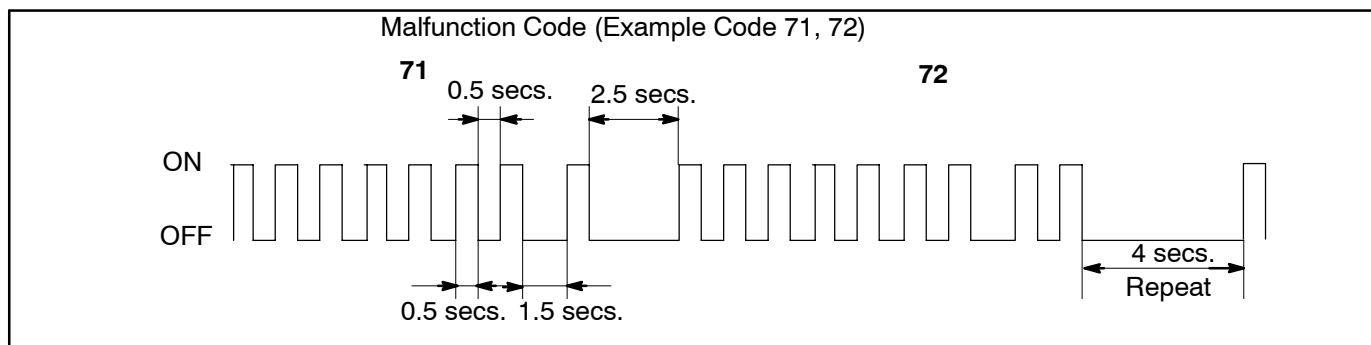
(11) After doing the check, disconnect the SST from terminals Ts and E_1, Tc and E_1 of check connector, and turn ignition switch OFF.

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Hand−held Tester
DLC3
F04705

(b) In case of using hand−held tester:
Check the VSC sensor signal.
(1) Hook up the hand−held tester to the DLC3.
(2) Do steps (2) and (4)~ (8) (See 2 pages before).
(3) Read the DTC by following the prompts on the tester screen.

HINT:
Please refer to the hand−held tester operator's manual for further details.

DTC of the VSC sensor check function:

Code No.	Diagnosis	Trouble Area
C0371 / 71	Yaw rate sensor output signal malfunction	• Yaw rate sensor • Yaw rate sensor circuit
C1208 / 72	Steering position sensor output signal malfunction	• Steering position sensor • Steering position sensor circuit

3.   YAW RATE SENSOR ZERO POINT CALIBRATION

HINT:
When replacing the yaw rate sensor 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 seconds 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:
Shift the shift lever in P position and turn the ignition switch ON, repeat connecting and releasing Ts and E1 terminals of check connector 4 times or more for 8 secs. After that do not move the vehicle for 15 secs. or more.

HINT:

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

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