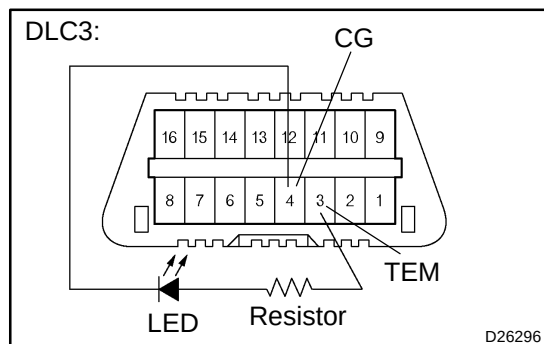


PRE-CHECK



1. DIAGNOSIS SYSTEM

(a) Check the TEM output (LED lightening check).

- (1) Connect the LED and resistor in series between terminals TEM and CG of the DLC3.

NOTICE:

If connected reversely, the LED does not light.

HINT:

- Use the LED whose recommended operating current is 10 - 20 mA.
- The 500 Ω to 1 k Ω resistor must be used.
- (2) Turn the ignition switch to ON, and check that the LED lights for about 2 seconds.

HINT:

If the LED does not light, inspect the TEM circuit (See page [05-234](#)).

(b) In case of not using hand-held tester:
check the DTC.

- (1) Check the battery positive voltage.

Battery positive voltage:

10 - 14 V (Engine stopped)

- (2) After driving the vehicle, using SST, connect terminals Tc and CG of the DLC3.

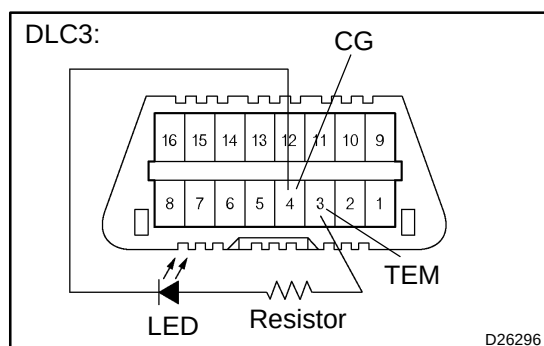
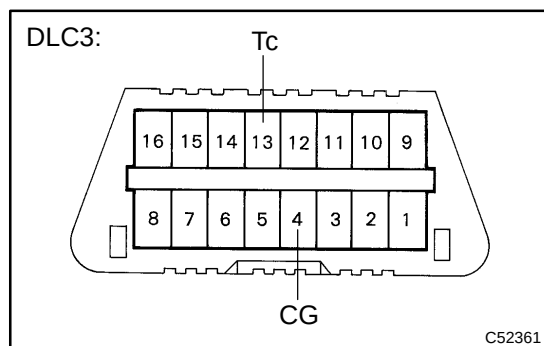
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HINT:

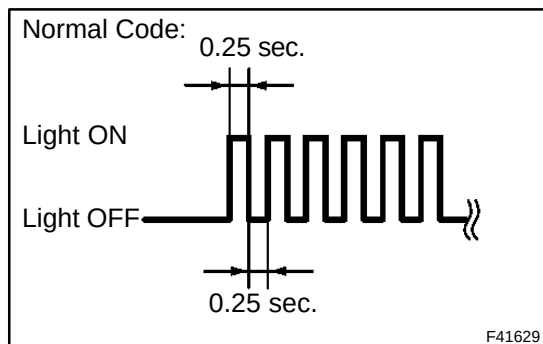
- Do not stop the engine.
- Under this condition, the ignition switch is ON.

NOTICE:

Wrong connection of the connector may cause a malfunction. With extreme caution, connect the connector.



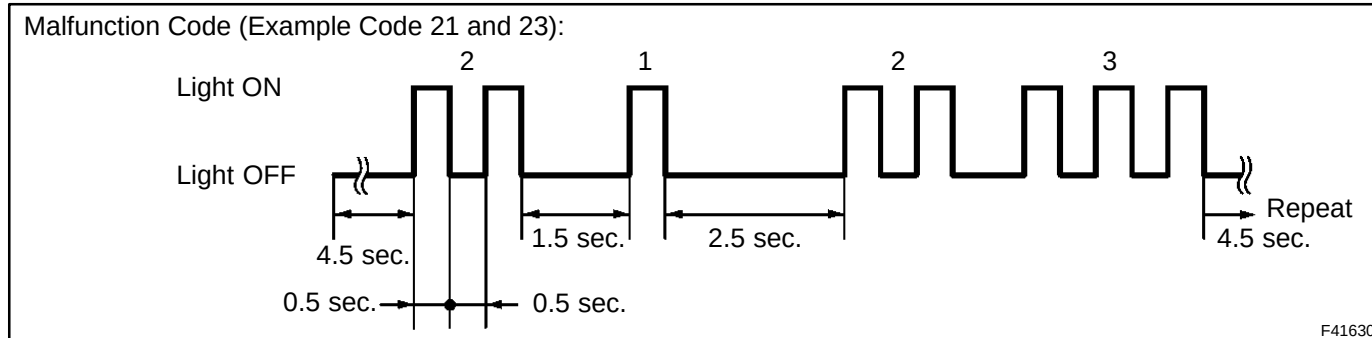
- (3) Connect the LED and resistor in series between terminals TEM and CG of the DLC3.



(4) Check the number that the LED blinks.

HINT:

- When the code is normal, the LED keeps on for 0.25 seconds and off for 0.25 seconds repeatedly.
- When more than 2 diagnosis codes are detected, the diagnosis codes are displayed in order from the smallest number.
- If no code appears, inspect the Tc circuit (See page [05-230](#)).
- Codes are explained in the code table on page [05-200](#).



(5) Turn the ignition switch to ON.

(6) Disconnect the SST from terminals Tc and CG of the DLC3.

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(7) Disconnect the LED and resistor from the terminals TEM and CG of the DLC3.

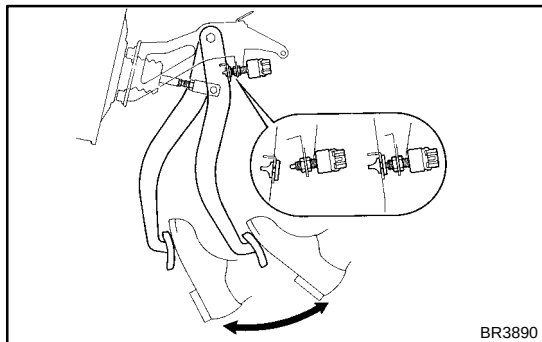
HINT:

Confirm that the connected LED is off.

- (8) When an abnormal code is output, inspect the function, absorber control ECU and input signal.
- (c) In case of using the hand-held tester:
Check the DTC.
- (1) Hook up the hand-held tester to the DLC3.
 - (2) Turn the ignition switch to 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.



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

Clear the DTC.

(1) Using SST, it connects the terminal Tc and CG of the DLC3.

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(2) Turn the ignition switch to ON.

(3) Clear DTC stored in ECU by depressing the brake pedal 8 or more times within 5 sec.

(4) Check that DTC output the normal code.
(See step 1 - (b)).

- (5) Remove the SST from the DLC3.
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HINT:

Disconnecting the battery cable during repairs will not erase the DTC in the ECU.

- (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 to ON.
- (3) Operate the hand-held tester to erase the codes.

HINT:

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

2. DATA LIST

HINT:

IG must be turned ON to observe data using a hand-held tester. The vehicle is considered to be placed on a flat level surface.

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
IG VOLTAGE	ECU power supply voltage / min.: 0 V, max.: 25.5 V	Actual ECU power supply voltage: 10 - 14 V	-
STEERING ANGLE	Steering angle sensor reading / min.: -73726 deg, max.: 73728 deg	Actual steering angle Left turn: reading increases Right turn: reading decreases	Zero point is set at the point when battery is connected
ENGINE SPD	Cam position sensor reading / min.: 0 rpm, max.: 25500 rpm	Actual engine speed	Speed indicated on combination meter
STOP LIGHT SW	Stop light switch / ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	-
DAMPER SW2	Damper switch2 / ON or OFF	(SW1 & SW2 condition) ON & OFF: COMFORT ON & ON: SEMI-COMFORT OFF & ON: SEMI-SPORT OFF & OFF: SPORT	-
DAMPER SW1	Damper switch1 / ON or OFF		-
TS	TS terminal / ON or OFF	ON: During test mode OFF: Normal mode	-
TC	TC terminal / ON or OFF	ON: DTC recorded OFF: No DTC recorded	-
G (UP & DOWN) FR	G (up & down) FR sensor reading / min.: -1045267 mm/s ² , max.: 1045299 mm/s ²	0 ± 0.1 G at still condition	Reading changes when vehicle (FR) is bounced
G (UP & DOWN) FL	G (up & down) FL sensor reading / min.: -1045267 mm/s ² , max.: 1045299 mm/s ²	0 ± 0.1 G at still condition	Reading changes when vehicle (FL) is bounced
G (UP & DOWN) R	G (up & down) rear sensor reading / min.: -1045267 mm/s ² , max.: 1045299 mm/s ²	0 ± 0.1 G at still condition	Reading changes when vehicle (rear) is bounced
DAMPER STEP FR	Damper step (FR) / min.: 0 step, max.: 255 step	Min.: 0 step, max.: 16 step	-
DAMPER STEP FL	Damper step (FL) / min.: 0 step, max.: 255 step	Min.: 0 step, max.: 16 step	-
DAMPER STEP RR	Damper step (RR) / min.: 0 step, max.: 255 step	Min.: 0 step, max.: 16 step	-
DAMPER STEP RL	Damper step (RL) / min.: 0 step, max.: 255 step	Min.: 0 step, max.: 16 step	-

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
MAX DMP STEP FR	Damper step / min.: 0 step, max.: 255 step	16 step	-
MAX DMP STEP FL	Damper step / min.: 0 step, max.: 255 step	16 step	-
MAX DMP STEP RR	Damper step / min.: 0 step, max.: 255 step	16 step	-
MAX DMP STEP RL	Damper step / min.: 0 step, max.: 255 step	16 step	-
WHEEL SPD FR	Wheel speed (FR) sensor reading / min.: 0 km/h (0 MPH), max.: 255 km/h (158 MPH)	Actual vehicle speed	Speed indicated on speedometer
#CODES	Number of DTC recorded / min.: 0, max.: 255	Min.: 0, max.: XX	-
TEST MODE STATUS	Test mode status / NORMAL or TEST	NORMAL: Normal mode TEST: During test mode	-

3. ACTIVE TEST LIST

HINT:

IG must be turned ON to proceed Active Test using a hand-held tester.

Item	Vehicle Condition / Test Details	Diagnostic Note
DAMPER STEP FR	Changes damper step / min.: 1 step, max.: 16 step	Shock absorber hardens as damper step increases
DAMPER STEP FL	Changes damper step / min.: 1 step, max.: 16 step	Shock absorber hardens as damper step increases
DAMPER STEP RR	Changes damper step / min.: 1 step, max.: 16 step	Shock absorber hardens as damper step increases
DAMPER STEP RL	Changes damper step / min.: 1 step, max.: 16 step	Shock absorber hardens as damper step increases

4. CHECK INPUT SIGNAL (TEST MODE CHECK)

HINT:

This function checks if signals from the stop lamp switch assy and absorber control switch assy etc. are being input normally to the ECU.

- (a) In case of not using hand-held tester:
Check the input signal (test mode check).

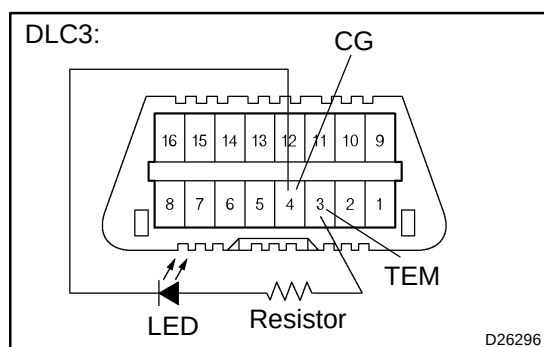
- (1) Check the battery positive voltage.

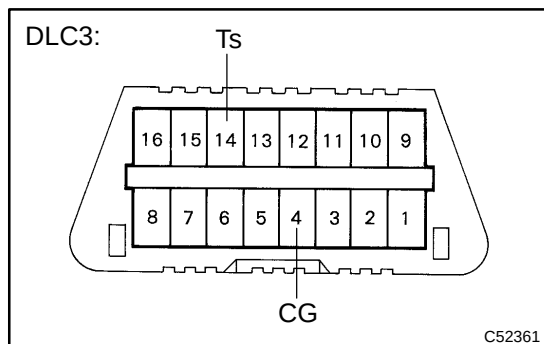
Battery positive voltage:

10 - 14 V (Engine stopped)

- (2) Turn the ignition switch to OFF.

- (3) Connect the LED and resistor in series between terminals TEM and CG of the DLC3.
- (4) Set each of the check items in the table below to the condition of operation (A).





(5) Using SST, connect terminals Ts and CG of the DLC3 (TEST mode).

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(6) Start the engine.

(7) Set each check items to the condition of operation (B).

HINT:

- The LED lights for 1 sec. before it blinks.
- If operation (B) has not been performed, DTC will indicate.

NOTICE:

Do not turn off the ignition switch OFF. Diagnosis code are erased by turning the ignition switch OFF.

Check Item	Operation (A)	Operation (B)
Stop light switch signal	OFF (Brake pedal not depressed)	ON (Brake pedal depressed)
Absorber control switch signal	-	Slowly move the absorber control switch "COMFORT" ↔ "SPORT" both ways once
Right front speed sensor signal	Vehicle speed below 20 km/h (12 mph)	Vehicle speed 20 km/h (12 mph) or higher
Right front acceleration sensor signal	-	Keep the vehicle still without any vertical movement for 1 second
Left front acceleration sensor signal	-	Keep the vehicle still without any vertical movement for 1 second
Rear acceleration sensor signal	-	Keep the vehicle still without any vertical movement for 1 second
Crankshaft Position Sensor Signal	Engine speed below 2,000 rpm or more	Engine speed 2,000 rpm or higher

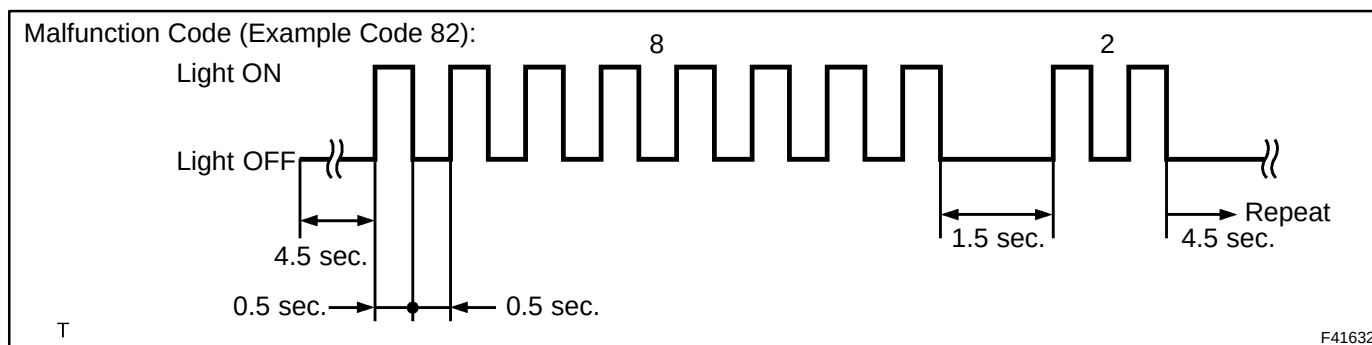
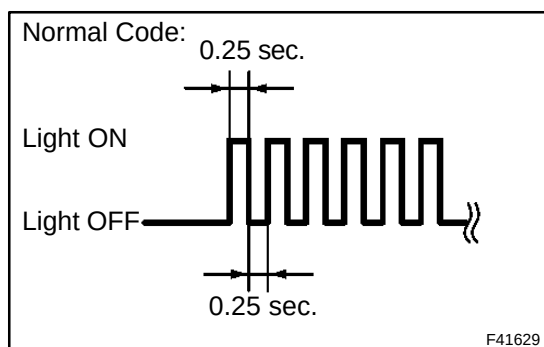
(8) Using SST, connect terminals Tc and CG of the DLC3.

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(9) Check the number that the LED blinks.

HINT:

When the code is normal, the LED turns on for 0.25 sec. and off for 0.25 sec. repeatedly.



(10) With the ignition switch to OFF, disconnect the SST from terminals Tc and CG of the DLC3.

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(11) Disconnect the SST from terminals Ts and CG of the DLC3.

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(12) Disconnect the LED and resistor from the terminals TEM and CG of the DLC3.

(b) In case of using hand-held tester:

Check the input signal (test mode).

(1) Hook up the hand-held tester to the DLC3.

(2) Perform step 3 - (a) - (2) to (7) on the previous page.

(3) Read the DTC on the tester screen.

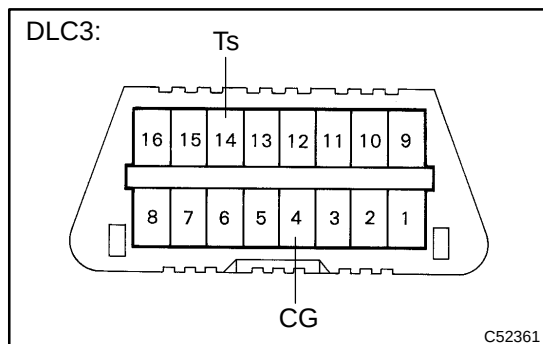
HINT:

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

DTC of the input signal check

If a malfunction code is displayed during the test mode DTC check, check the circuit listed for that code. For details of each code, turn to the page mentioned below "DTC No." in the DTC chart.

DTC No. (See Page)	Detection Item	Trouble Area
C1782/82 (05-224)	Stop light switch circuit malfunction	• Stop lamp switch assy • Stop light switch circuit • Absorber control ECU
C1787/87 (05-227)	Absorber control switch malfunction	• Absorber control switch assy • Absorber control switch circuit • Absorber control ECU
C1791/91 (05-205)	Open or short circuit in right front acceleration sensor circuit	• Right front acceleration sensor assy • Right front acceleration sensor circuit • Absorber control ECU
C1792/92 (05-205)	Open or short circuit in left front acceleration sensor circuit	• Absorber control ECU (Left front acceleration is a built-in equipment)
C1793/93 (05-205)	Open or short circuit in rear acceleration sensor circuit	• Rear acceleration sensor • Rear acceleration sensor circuit • Absorber control ECU
C1794/94 (05-217)	Right front speed sensor circuit malfunction	• Right front speed sensor • Right front speed sensor circuit • Skid control ECU assy • Absorber control ECU
C1797/97 (05-222)	Engine revolution signal circuit malfunction	• Crankshaft position sensor • Crankshaft position sensor circuit • ECM • Absorber control ECU



5. CHECK DAMPING FORCE CONTROLLING CONDITION

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

Check the damping force controlling condition.

(1) Using SST, connect terminals Ts and CG of the DLC3 with the ignition switch OFF (TEST mode).

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(2) Start the engine.

Under this condition, the absorber control actuator position becomes 1 (Soft).

(3) Starting from the above mentioned position, as the brake pedal is depressed, the absorber control actuator position increase (1 → 2 → 3 → ... 15 → 16). At this time, bounce the vehicle and check that the shock absorber is becoming harder.

HINT:

- To hold the absorber control actuator at a specific position, adjust it to the position using the above mentioned procedure then increase the vehicle speed to over 5 km/h.

After that the absorber control actuator position does not change until the ignition switch is turned to OFF.

- If the absorber control actuator does not operate, inspect the absorber control actuator circuit and absorber control ECU.

(4) Disconnect the SST from terminals Ts and CG of the DLC3.

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6. FAIL-SAFE FUNCTION

(a) When short circuit of the shock absorber control actuator is detected, the shock absorber control actuator located on the other side of the detected shock absorber is set at step 8. The shock absorber control actuator remains at step 8 until the ignition switch becomes OFF.