

Toyota

Service training

EPS

Hi-Tech Training Instructions

Diagnoses on the car (or simulator)



Table of contents

DIAGNOSIS SYSTEM

1. Pre-check
2. DTC check (using SST check wire)
3. DTC check (using hand-held tester)
4. Input signal check (test mode)
5. Diagnostic codes

Items needed

- An intelligent tester 1 with program card V.10.0 or higher
- Or Intelligent tester 2 with software 1.21 or higher
- A 12V car battery with DIN terminals and a minimum capacity of 35 Ah
- A diagnostic wire SST 09843-18040

1. PRE-CHECK

Check the warning light.

When the ignition switch is turned ON, check that the P/S warning light comes on for 2 seconds.

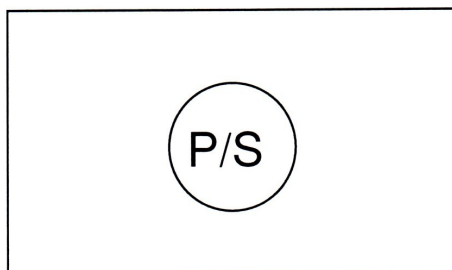


Fig. 1

HINT:

If the indicator check result is not normal, proceed to troubleshooting for the P/S warning light circuit (See page DI-315).

2. DTC CHECK (USING SST CHECK WIRE)

Checking DTCs using a SST check wire. SST 09843-18040

- (1) Using SST, connect terminals TC and CG of the DLC3.
- (2) Turn the ignition switch ON.

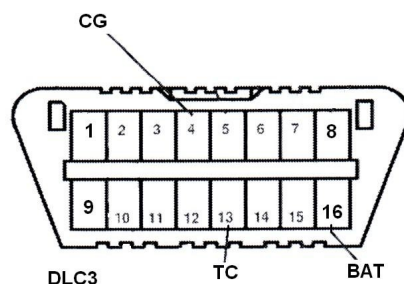


Fig. 2

- (3) Read and record any DTCs from the P/S warning light on the combination meter. Refer to the following chart for examples of a normal code and codes 21 and 22.

HINT:

If the P/S warning light does not blink any DTC codes or the normal code, inspect the warning light circuit.

Trouble Area	See page
Tc Terminal Circuit	DI-317
P/S Warning Light Circuit	DI-315

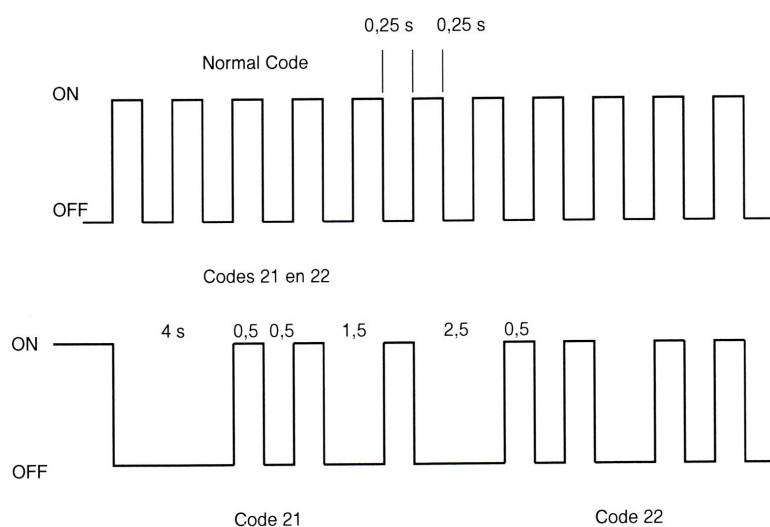


Fig. 3

(4) Refer to the Diagnostic Trouble Code Chart (See page DI-296) for DTC information.

Clearing the DTCs using the SST check wire. SST 09843-18040

- (1) Using SST, connect terminals TS and CG of DLC3.
- (2) Turn the ignition switch ON.
- (3) Disconnect and connect the SST check wire from the CG terminal 4 times or more in 8 seconds ending with it connected.
- (4) Check that the P/S warning light, blinks a normal code.
- (5) Turn the ignition switch OFF.
- (6) Remove the SST from the DLC3.

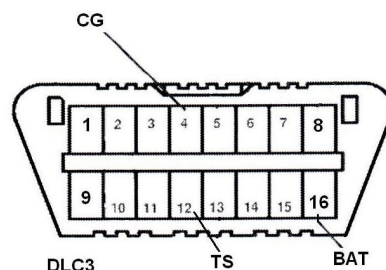


Fig. 4

3. DTC CHECK (USING HAND-HELD TESTER)

Checking DTCs using the hand-held tester.

- (1) Connect the hand-held tester to DLC3.



Fig. 5

- (2) Turn the ignition switch ON.
- (3) Read the DTC by following the prompts on the tester screen.

HINT:

Refer to the hand-held tester operators manual for further details.

Clearing the DTCs using the handheld tester.

- (1) Connect the hand-held tester to DLC3.
- (2) Turn the ignition switch ON.
- (3) Clear the DTCs following the prompts on the tester screen.

HINT:

Refer to the hand-held tester operators manual for further details.

4. INPUT SIGNAL CHECK (TEST MODE)

If not using the held-hand tester: Check the input signal.

- (1) Using SST, connect terminals TS and CG of DLC3. SST 09843-18040
- (2) Turn the ignition switch ON.
- (3) Check that the warning light goes off when driving more than 10 km/h (6 mph) or engine revolution is more than 300 rpm.

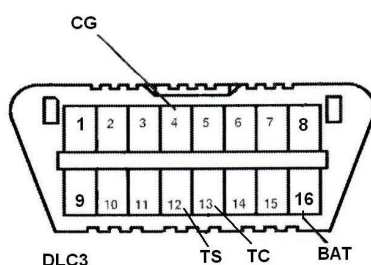


Fig. 6

HINT:

If the warning light goes off while driving, the sensor is working normally.

(4) Stop the vehicle.

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

(6) Read the number of blinks of the P/S warning light.

HINT:

- See the list of DTC shown on the next page.
- Even if the sensor is working normally, it outputs codes 71 and 73 during test mode.

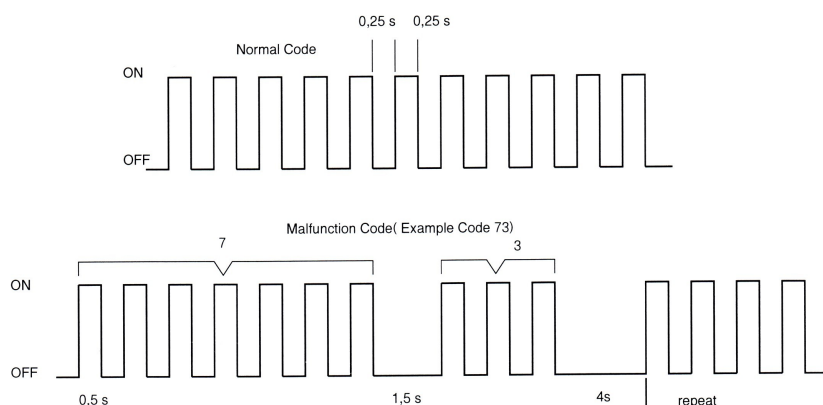


Fig. 7

(7) After checking, turn the ignition switch OFF, and disconnect the SST from the DLC3.
SST 09843-18040

DTC of input signal check function:

Code No.	Diagnosis	Trouble Area
C1571/71 (DI-308)	Speed sensor signal check 1 (Test mode)	Combination meter EMPS ECU
C1573/73 (DI-310)	Engine revolution signal check 1 (Test mode)	Engine ECU EMPS ECU

5. DIAGNOSTIC CODES DIAGNOSTIC TROUBLE CODE CHART**HINT:**

- Using SST 09843-18040, connect terminals Tc and CG of the DLC3.
- If a malfunction code is displayed during the DTC check, check the circuit listed for the code. For details of each code, refer to the following page for "DTC No." in the DTC chart.

DTC No.	Detection Item	Trouble Area
C1511/11 (DI-301)	Torque sensor circuit malfunction	Steering column assembly EMPS ECU
C1512/12 (DI-301)		
C1513/13 (DI-301)		
C1514/14	Torque sensor power source circuit malfunction	
C1515/15 (*)	Torque sensor zero point calibration not performed	Because sensor zero point calibration has not been performed
C1516/16 (DI-303)	Torque sensor zero point calibration not completed	Because sensor zero point calibration fails
C1517/17 (DI-301)	Torque sensor holding malfunction	Steering column assembly EMPS ECU
C1523/23 (DI-305)	Motor circuit malfunction	Steering column assembly EMPS ECU
C1524/24 (DI-305)	EMPS ECU circuit malfunction	EMPS ECU
C1531 /31 (DI-307)		
C1532/32 (DI-307)		
C1533/33 (DI-307)		
C1 534/34 (DI-307)		
C1541 /41 (DI-308)	Speed sensor signal malfunction	Combination meter EMPS ECU
C1542/42 (DI-308)		
C1544/44 (DI-310)	Engine revolution signal malfunction	Engine ECU EMPS ECU
C1545/45 (DI-310)		
C1551/51 (DI-312)	IG Power source circuit malfunction	Power source circuit Charging system EMPS ECU
C1552/52 (*)	PIG power source circuit malfunction	Power source circuit EMPS ECU
C1554/54 (*)	EMPS relay circuit malfunction	IG power source circuit EMPS ECU
C1555/55 (*)	EMPS motor relay circuit malfunction	PIG power source circuit EMPS ECU
C1581/51 (DI-307)	Assist map writing is not performed	EMPS ECU
Always ON (*)	Malfunction in EMPS ECU	Power source circuit P/S warning light circuit EMPS ECU