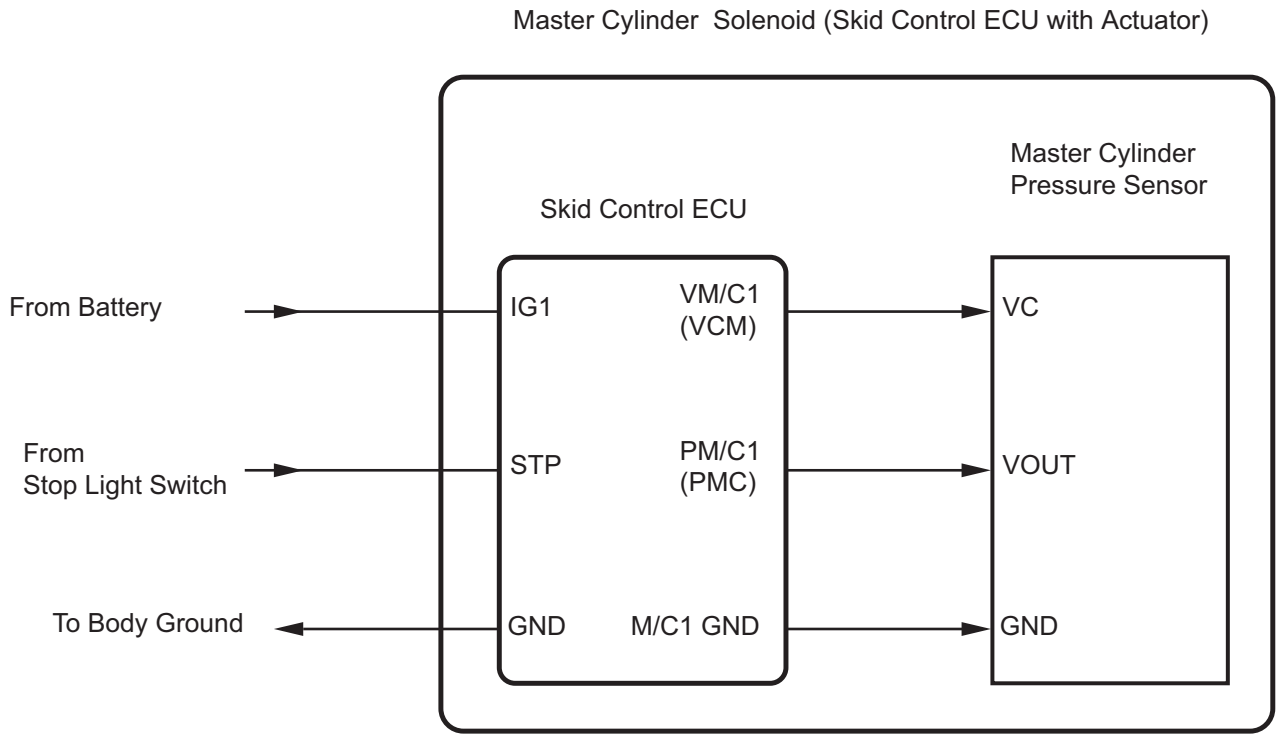
DTC	C1246/46	Master Cylinder Pressure Sensor Malfunction

DTC	C1281/81	Master Cylinder Pressure Sensor Output Malfunction (Test Mode DTC)

DESCRIPTION

The master cylinder pressure sensor is connected to the skid control ECU in the master cylinder solenoid.



VM/C1 (VCM): Master Cylinder Pressure Sensor Power Supply Output
PM/C1 (PMC): Master Cylinder Pressure Sensor Signal Input
M/C1 GND: Master Cylinder Pressure Sensor Ground

N

C124773E01

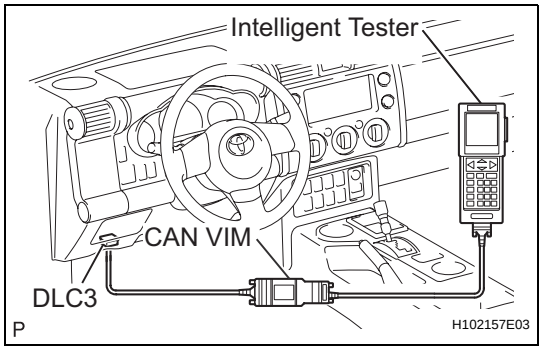
DTC No.	DTC Detecting Conditions	Trouble Areas
C1246/46	When any of following conditions detected: 1. Both of following conditions continue for at least 30 seconds. • Vehicle speed more than 4 mph (7 km/h). • PM/C1 terminal voltage does not change by more than 0.005 V once it exceeds 0.86 V. 2. PM/C1 terminal receives noise at least 7 times within 5 seconds. 3. Both of following conditions continue for at least 5 seconds. • Stop switch OFF. • PM/C1 terminal voltage more than 0.86 V or less than 0.3 V. 4. Both of following conditions continue for at least 1.2 seconds. • IG1 terminal voltage between 9.5 V and 17.0 V. • VM/C1 terminal voltage not within 4.4 V and 5.6 V. 5. Both of following conditions continue for at least 1.2 seconds. • VM/C1 terminal voltage between 4.4 V and 5.6 V. • PM/C1 terminal voltage not within 0.14 V and 4.85 V.	• Hydraulic brake booster (master cylinder pressure sensor) • Master cylinder solenoid (skid control ECU) • Stop light switch circuit
C1281/81	Detected only during test mode	• Hydraulic brake booster (master cylinder pressure sensor) • Master cylinder solenoid (skid control ECU) • Stop light switch circuit

INSPECTION PROCEDURE

NOTICE:

When replacing the master cylinder solenoid, perform zero point calibration (See page BC-24).

1	READ VALUE OF DATA LIST (MASTER CYLINDER PRESSURE SENSOR)



(a) Connect the intelligent tester to the DLC3.
(b) Start the engine.
(c) Turn the intelligent tester on.
(d) Select the DATA LIST mode on the intelligent tester.

DATA LIST: ABS/VSC

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
MAS CYL PRS 1	Master cylinder pressure sensor 1 reading / min.: 0 V, max.: 5 V	• When brake pedal released: 0.3 to 0.9 V • When stop lights turned on: 0.3 to 0.9 V	Reading increases when brake pedal depressed
MAS CYL PRESS 1	Master cylinder pressure sensor 1 reading / min.: 0 V, max.: 5 V	• When brake pedal released: 0.3 to 0.9 V • When stop lights turned on: 0.3 to 0.9 V	Reading increases when brake pedal depressed

(e) Check that the master cylinder pressure value of the master cylinder pressure sensor displayed on the intelligent tester changes when the brake pedal is depressed.

Result

Result	Proceed to
Master cylinder pressure sensor value normal	A
Master cylinder pressure sensor value changes but not normal	B
Master cylinder pressure sensor value does not change	C

B → Go to step 3

C → REPLACE HYDRAULIC BRAKE BOOSTER

A

2 RECONFIRM DTC

(a) Clear the DTCs (See page BC-45).
(b) Check if the same DTC is detected (See page BC-45).

Result

Result	Proceed to
DTC output	A
DTC not output	B

B → END

A

REPLACE MASTER CYLINDER SOLENOID

3 CHECK BRAKE PEDAL HEIGHT

(a) Check the brake pedal height.
(b) Check the stop light switch installation.

OK:

The brake pedal and stop light switch are normal.

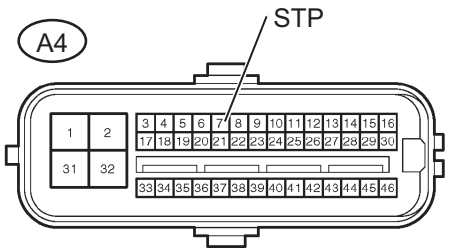
NG → ADJUST BRAKE PEDAL HEIGHT

OK

BC

4 INSPECT SKID CONTROL ECU TERMINAL VOLTAGE (STP TERMINAL)

Skid Control ECU (harness side connector):



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(a) Disconnect the skid control ECU connector.
(b) Measure the voltage.

Standard voltage

Tester Connection	Condition	Specified Condition
A4-7 (STP) - Body ground	Stop light switch ON (Brake pedal depressed)	8 to 14 V
A4-7 (STP) - Body ground	Stop light switch OFF (Brake pedal released)	Below 1.5 V

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

5 RECONFIRM DTC

(a) Clear the DTC (See page BC-45).
(b) Check if the same DTC is detected (See page BC-45).

Result

Result	Proceed to
DTC output	A
DTC not output	B

B → **END**

A

REPLACE MASTER CYLINDER SOLENOID