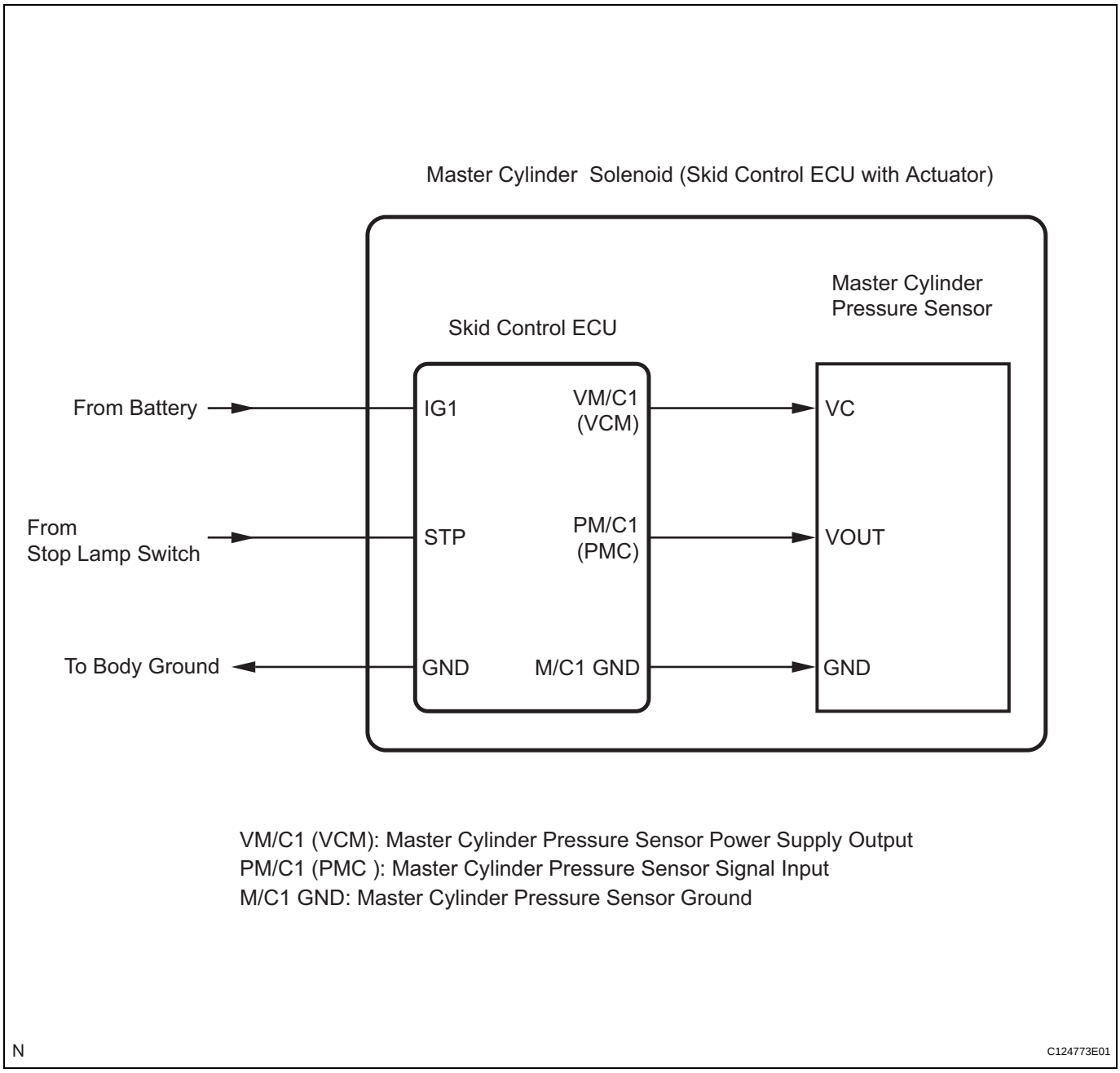
DTC	C1246/46	Master Cylinder Pressure Sensor Malfunction

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

DTC No.	DTC Detecting Conditions	Trouble Areas
C1246/46	When either of following conditions detected: 1. All of the 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. All 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. All 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. All 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.	• Master cylinder pressure sensor • Master cylinder pressure sensor circuit • Master cylinder solenoid (skid control ECU) • Stop light circuit

HINT:
Start the inspection from step 1 when using a intelligent tester and start from step 3 when not using a intelligent tester.

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

BC

(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.

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 lamps turned on: 0.3 to 0.9 V	Reading increases when brake pedal depressed

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

Result	Proceed to
Master cylinder pressure sensor value becomes 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 MASTER CYLINDER SOLENOID**

A

2 RECONFIRM DTC

(a) Clear the DTCs (See page BC-118).
(b) Check if the same DTCs are detected.

Result	Proceed to
DTC output	A
DTC not output	B

B → **END**

A

REPLACE MASTER CYLINDER SOLENOID

3 CHECK BRAKE PEDAL HEIGHT

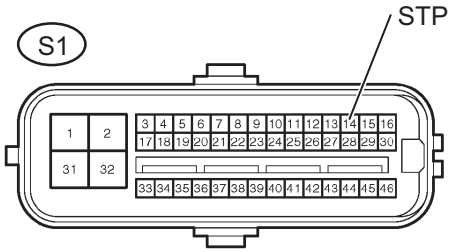
(a) Check the brake pedal height.
(b) Check the stop lamp switch installation.
OK:
The brake pedal and stop lamp switch are normal.

NG → **ADJUST BRAKE PEDAL HEIGHT**

OK

4 INSPECT SKID CONTROL ECU TERMINAL VOLTAGE (STP TERMINAL)

Skid Control ECU (harness side connector):



C121700E07

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

Tester Connection	Condition	Specified Condition
S1-7 (STP) - Body ground	Brake pedal depressed	8 to 16 V
S1-7 (STP) - Body ground	Brake pedal released	Below 1.5 V

(c) Reconnect the skid control ECU connector.

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

OK

5 RECONFIRM DTC

(a) Clear the DTCs (See page BC-118).

(b) Check if the same DTCs are detected.

Result	Proceed to
DTC output	A
DTC not output	B

B → **END**

A

REPLACE MASTER CYLINDER SOLENOID