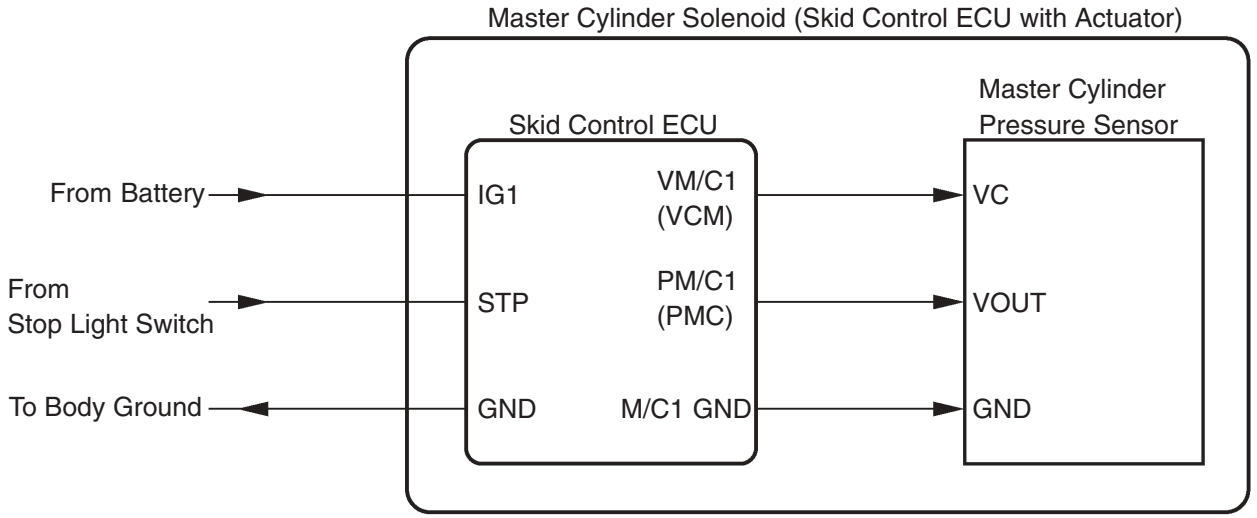
| DTC | C1246/46 | MALFUNCTION IN MASTER CYLINDER PRESSURE SENSOR |
|---|---|---|

## CIRCUIT 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 I44008

| DTC No. | DTC Detection Condition | Trouble Area |
|---|---|---|
| C1246/46 | When any of the following conditions is detected:<br>1. Both of the following conditions continue for at least 30 seconds.<br>• Vehicle speed is more than 4 mph (7 km/h).<br>• PMC terminal voltage does not change by more than 0.005 V once it exceeds 0.86 V.<br>2. PMC terminal receives interference at least 7 times within 5 sec.<br>3. Both of the following conditions continue for at least 1.2 seconds.<br>• Stop light switch is OFF.<br>• PMC terminal voltage is more than 0.86 V or less than 0.3 V.<br>4. Both of the following conditions continue for at least 1.2 sec.<br>• IG1 terminal voltage is between 9.5 and 17 V.<br>• VCM terminal voltage is not between 4.4 and 5.6 V.<br>5. Both of the following conditions continue for at least 1.2 sec.<br>• VCM terminal voltage is between 4.4 and 5.6 V.<br>• PMC terminal voltage is not between 0.14 and 4.85 V. | • Master cylinder pressure sensor<br>• Master cylinder pressure sensor circuit<br>• Master cylinder solenoid |

## INSPECTION PROCEDURE

**NOTICE:**

**When replacing the master cylinder solenoid, perform zero point calibration (see page 05–744).**

HINT:

Start the inspection from step 1 when using the intelligent tester II and start from step 2 when not using the intelligent tester II.

| 1 | READ VALUE OF INTELLIGENT TESTER II (MASTER CYLINDER PRESSURE SENSOR) |
|---|---|

(a) Connect the intelligent tester II to the DLC3.

(b) Turn the ignition switch to the ON position and push the intelligent tester II main switch ON.

(c) Select "DATA LIST" mode on the intelligent tester II.

| Item | Measurement Item/Range (Display) | Normal Condition | Diagnostic Note |
|---|---|---|---|
| Master Cylinder Sensor 1 | Master cylinder pressure sensor 1 reading/min.: 0 V, max.: 5 V | When brake pedal is released: 0.3 to 0.9 V<br>When stop light is turned on: 0.3 to 0.9 V | Reading increases when brake pedal is depressed |

(d) Check that the master cylinder pressure value of the master cylinder pressure sensor displayed on the intelligent tester II changes when depressing the brake pedal.

**Result:**

| | |
|---|---|
| Master cylinder pressure sensor value does not change | A |
| Master cylinder pressure sensor value changes but it is not normal | B |
| Master cylinder pressure sensor value becomes normal | C |

**B** → **Go to step 2**

**C** → **Go to step 4**

**A**

**REPLACE MASTER CYLINDER SOLENOID (SEE PAGE 32–12)**

| 2 | CHECK BRAKE PEDAL AND STOP LIGHT SWITCH INSTALLATION (SEE PUB. NO. RM990E, PAGE 32–10) |
|---|---|

(a) Check the brake pedal height.

(b) Check the stop light switch installation.

**OK:**

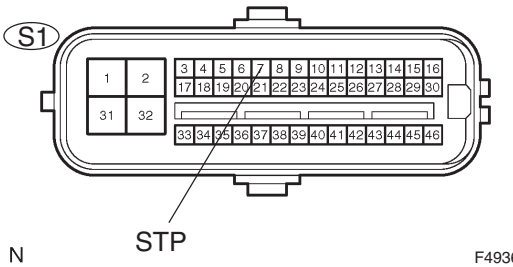
**The brake pedal and stop light switch are normal.**

**NG** → **ADJUST BRAKE PEDAL AND/OR STOP LIGHT SWITCH (SEE PUB. NO. RM990E, PAGE 32–10)**

**OK**

## 3 INSPECT SKID CONTROL ECU (STP TERMINAL VOLTAGE)

**Skid Control ECU (Wire Harness Side) Connector Front View:**




(a) Disconnect the skid control ECU connector.
(b) Measure the voltage according to the value(s) in the table below.

**Standard:**

| Tester Connection | Condition | Specified Condition |
|---|---|---|
| S1–7 (STP) – Body ground | Stop light switch ON (Brake pedal depressed) | 8 to 14 V |
| S1–7 (STP) – Body ground | Stop light switch OFF (Brake pedal released) | Below 1.5 V |

**NG** → **REPAIR OR REPLACE HARNESS OR CONNECTOR (STP CIRCUIT)**

**OK**

## 4 RECONFIRM DTC

(a) Clear the DTC (see page 05–766).
(b) Check if the same DTC is detected (see page 05–766).

HINT:
Reinstall the sensors, connectors, etc. and restore the previous vehicle conditions before rechecking for DTCs.

**Result:**

| | |
|---|---|
| DTC is output | A |
| DTC is not output | B |

**B** → **END**

**A**

**REPLACE MASTER CYLINDER SOLENOID (SEE PAGE 32–12)**