

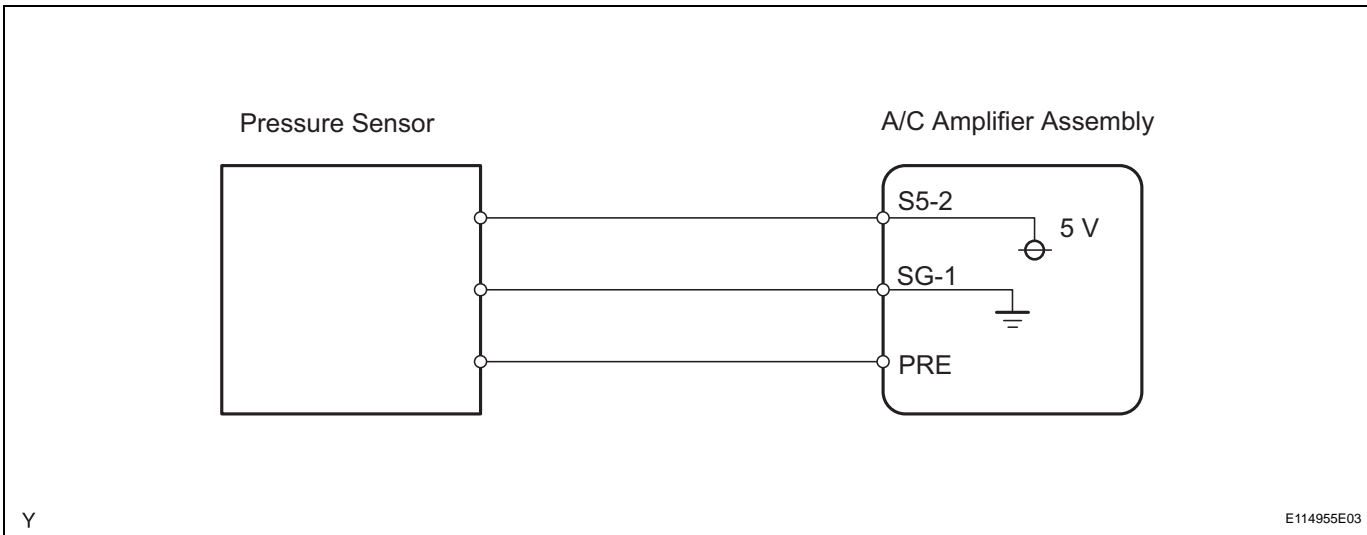
<b>DTC</b>	<b>B1423</b>	<b>Pressure Switch Circuit</b>
------------	--------------	--------------------------------

**DESCRIPTION**

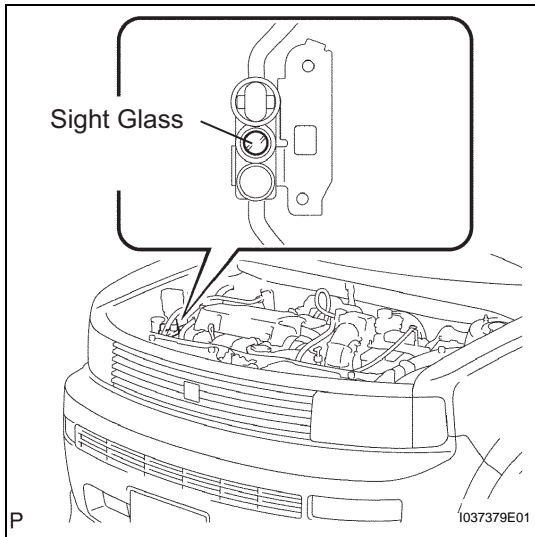
This DTC is output when refrigerant pressure is extremely low (0.176 MPa (1.8 kgf/cm<sup>2</sup>, 25 psi) or less) or extremely high (3.025 MPa (32.0 kgf/cm<sup>2</sup>, 455 psi) or more). The pressure sensor, which is installed on the pipe of the high pressure side to detect refrigerant pressure, outputs refrigerant pressure signals to the A/C amplifier assembly. The A/C amplifier assembly converts the signals to pressure according to the sensor characteristics to control the compressor.

DTC No.	DTC Detection Condition	Trouble Area
B1423	When either condition below is met: • Open or short in pressure switch circuit • Abnormal refrigerant pressure Below 0.176 MPa (1.8 kgf/cm <sup>2</sup> , 25 psi) Over 3.025 MPa (32.0 kgf/cm <sup>2</sup> , 455 psi)	<ul style="list-style-type: none"> <li>• Pressure sensor</li> <li>• Refrigerant line</li> <li>• Harness and connector between pressure sensor and A/C amplifier assembly</li> <li>• A/C amplifier assembly</li> </ul>

**WIRING DIAGRAM**



**1 CHECK REFRIGERANT VOLUME**



(a) Check the sight glass on the liquid tube sub-assembly.  
Test conditions:

- Engine is running at 1,500 rpm.
- Blower switch is at HI.
- A/C switch is ON.
- Air mix control knob is at the MAX COOL position.
- Doors are fully open.

Item	Symptom	Amount of Refrigerant	Corrective Procedures
1	Bubbles visible	Insufficient*	1. Check for gas leakage and repair if necessary 2. Add refrigerant until bubbles disappear
2	No bubbles visible	Empty, insufficient or too much	Refer to items 3 and 4
3	No temperature difference between compressor inlet and outlet	Empty or nearly empty	1. Check for gas leakage with gas leak detector and repair if necessary 2. Add refrigerant until bubbles disappear
4	Considerable temperature difference between compressor inlet and outlet	Correct or too much	Refer to items 5 and 6
5	Immediately after A/C is turned OFF, refrigerant becomes clear	Too much	1. Drain or discharge refrigerant 2. Bleed air and supply proper amount of purified refrigerant
6	Immediately after A/C is turned OFF, refrigerant foams and then becomes clear	Correct	-

HINT:

\*: If the ambient temperature is higher than usual but cooling is sufficient, bubbles in the sight glass are permissible.

**NG** → **CHARGE REFRIGERANT**

**OK**

**2 READ VALUE OF INTELLIGENT TESTER (PRESSURE SENSOR)**

- (a) Start the engine.  
(b) Turn the A/C switch ON.

- (c) Check the DATA LIST for proper functioning of the pressure sensor.

**A/C amplifier assembly**

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
REG PRESS SENS (Regulator pressure sensor)	Regulator Pressure Sensor / Min.: 0 kgf/cm2G, Max.: 38.19 kgf/cm2G	Actual regulator pressure is displayed	Open in circuit: 32.5 kgf/cm2G (continuous, regardless of actual temperature) Short in circuit: 0 kgf/cm2G (continuous, regardless of actual temperature)

**OK:**

The display is as specified in the normal condition.

**Result**

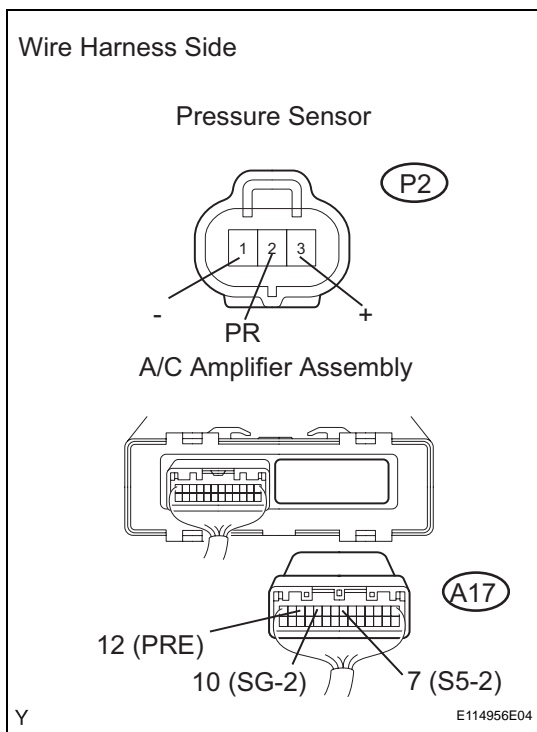
Result	Proceed to
NG	A
OK (when troubleshooting according to Problem Symptoms Table)	B
OK (when troubleshooting according to DTC Chart)	C

**B** → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

**C** → CHECK INTERMITTENT PROBLEM

**A**

**3 CHECK WIRE HARNESS (PRESSURE SENSOR - AIR CONDITIONING AMPLIFIER)**



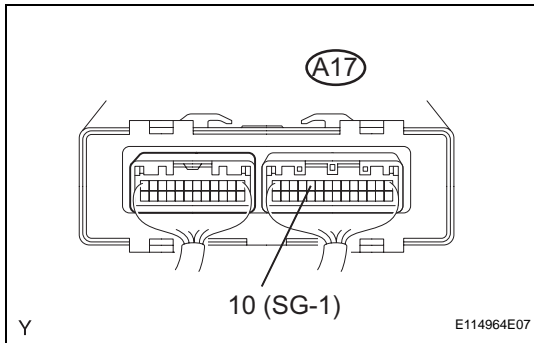
- (a) Disconnect the P2 sensor connector.
- (b) Disconnect the A17 amplifier connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
P2-3 (+) - A17-7 (S5-2)	Below 1 Ω
P2-2 (PR) - A17-12 (PRE)	Below 1 Ω
P2-1 (-) - A17-10 (SG-1)	Below 1 Ω

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

**OK**

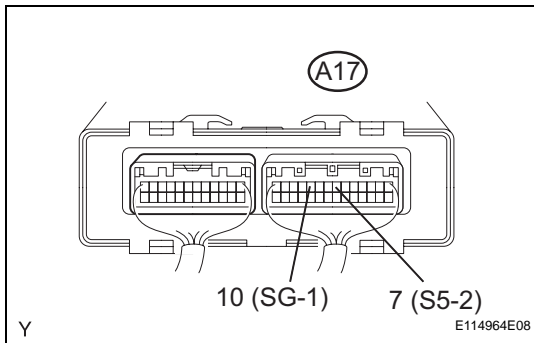
**4 CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY**

(a) Remove the A/C amplifier but do not disconnect the connectors.

(b) Measure the resistance of the connector.

**Standard resistance**

Tester Connection	Specified Condition
A17-10 (SG-1) - Body ground	Below 1 $\Omega$

**NG****REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY****OK****5 CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY (S5 VOLTAGE)**

(a) Remove the A/C amplifier but do not disconnect the connectors.

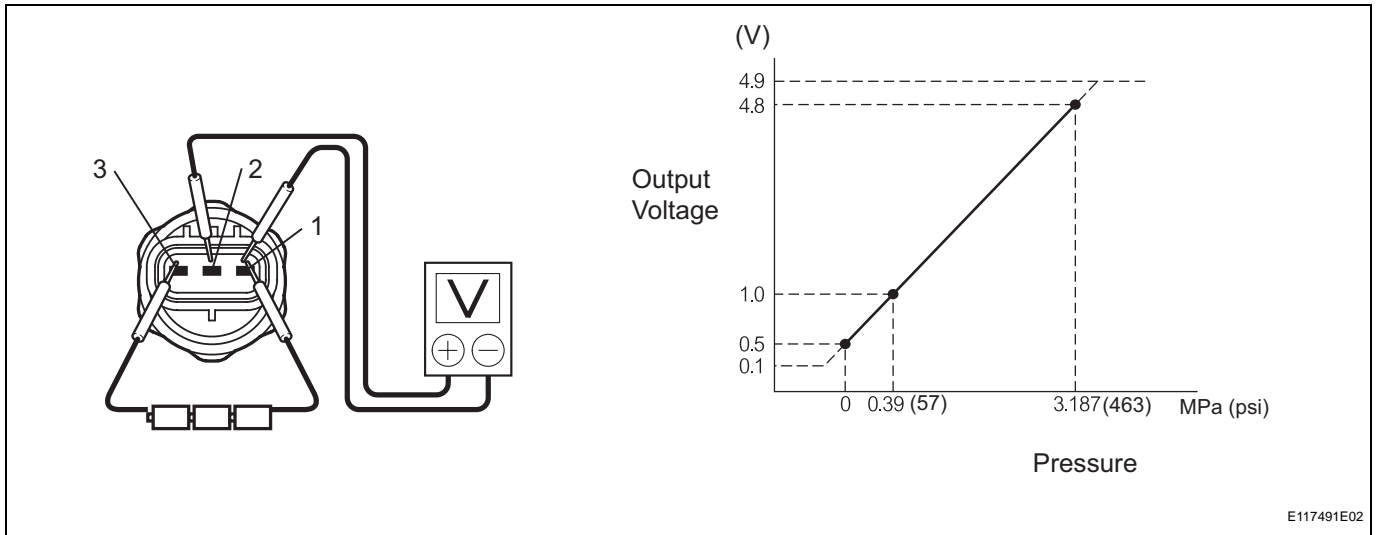
(b) Measure the voltage of the connector.

**Standard voltage**

Tester Connection	Condition	Specified Condition
A17-7 (S5-2) - A17-10 (SG-1)	Ignition switch ON	4.5 to 5.5 V
	Ignition switch OFF	Below 1 V

**NG****REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY****OK****6 CHECK PRESSURE SENSOR**

- (a) Install the manifold gauge set.
- (b) Connect the three 1.5 V dry cell batteries' positive (+) lead to terminal 3 and the negative (-) lead to terminal 1. Then connect the voltmeter's positive (+) lead to terminal 2 and the negative (-) lead to terminal 1. Measure the voltage.



**OK:**

**The voltage changes according to refrigerant pressure, as shown in the graph.**

**HINT:**

The graph shows the relationship between pressure and output voltage when the pressure sensor is used with an input voltage of 5 V. When using three 1.5 V dry cell batteries connected in series, the output voltage will be 90% of the output voltage in the 5 V input voltage case.

**NG** **REPLACE LIQUID TUBE SUB-ASSEMBLY**

**OK**

**REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**