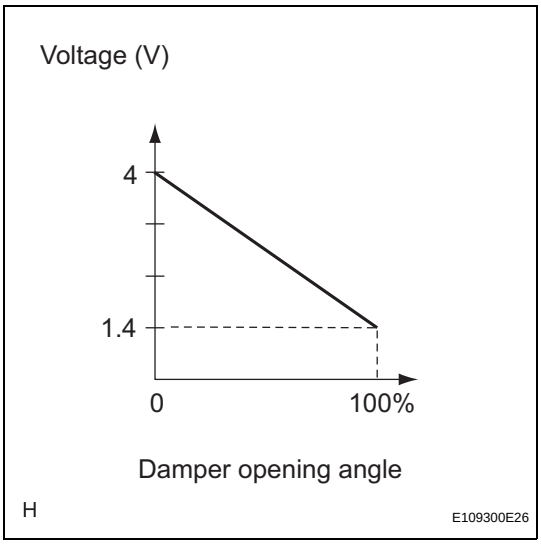
DTC	B1437/37	Rear Air Mix Damper Position Sensor Circuit

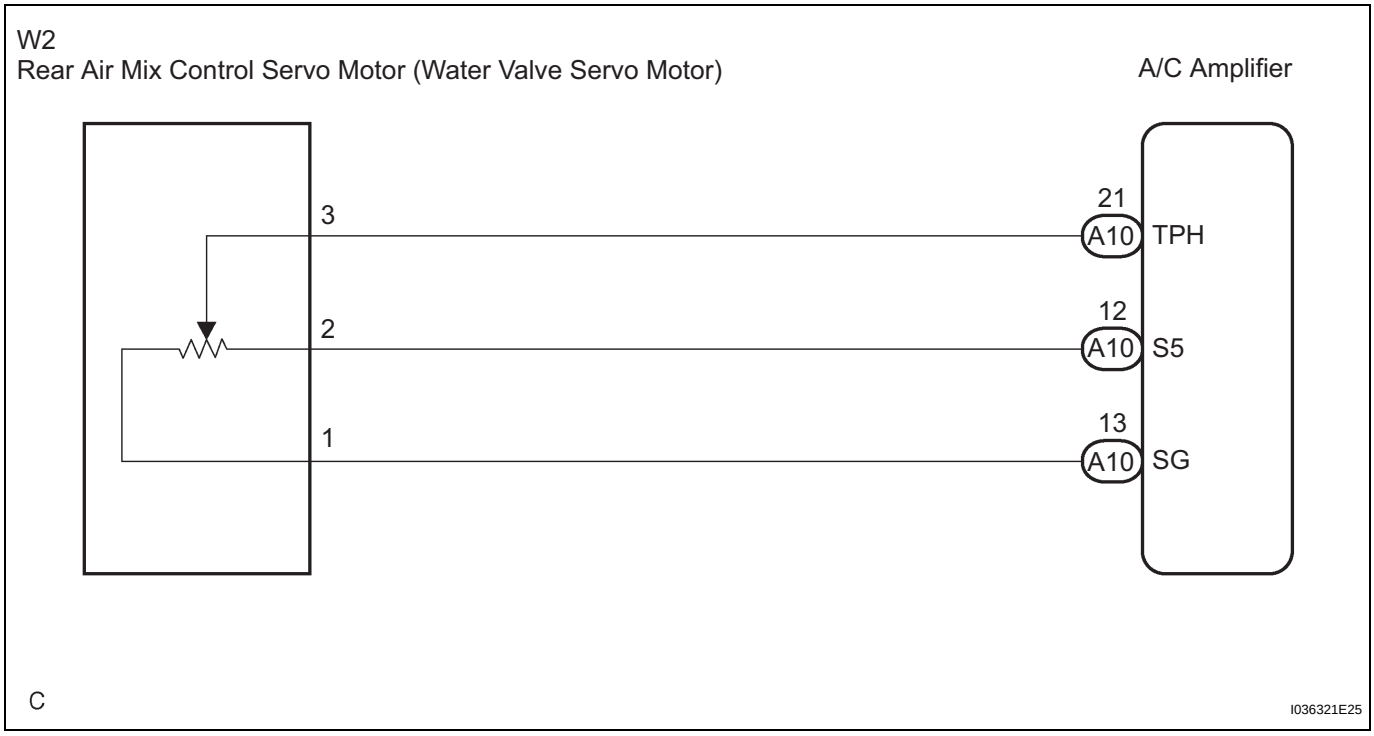
DESCRIPTION



This sensor detects the position of the rear air mix control servo motor (water valve servo motor) and sends the appropriate signals to the A/C amplifier. The position sensor is built in the rear air mix control servo motor (water valve servo motor).
The position sensor's resistance changes as the rear air mix control servo motor valve moves.
It outputs voltage (5 V) that is input to terminal 2 and terminal 3 via the variable resistor, and then to the A/C amplifier.
The A/C amplifier determines the valve position based on the input voltage from the position sensor.

DTC No.	DTC Detection Condition	Trouble Area
B1437/37	Open or short in power source circuit in rear air mix damper position sensor circuit.	• Rear air mix control servo motor (water valve servo motor) • Harness and connector between rear air mix control servo motor (water valve servo motor) and A/C amplifier • A/C amplifier

WIRING DIAGRAM



AC

INSPECTION PROCEDURE

1	READ VALUE OF INTELLIGENT TESTER

(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch to the ON position and turn the intelligent tester main switch on.
(c) Select the items below in the DATA LIST, and read the display on the intelligent tester.

DATA LIST / AIR CONDITIONER

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
A/M DAMP POS-R	Air mix damper position (Rear) / min.: -14%, max.: 113.5%	Damper is at "MAX. COOL": 0% Damper is at "MAX. HOT": 86.5%	-
A/M DAMP TARG-R	Air mix damper target position (Rear) / min.: -14%, max.: 113.5%		

OK:
The display is as specified in the normal condition column.

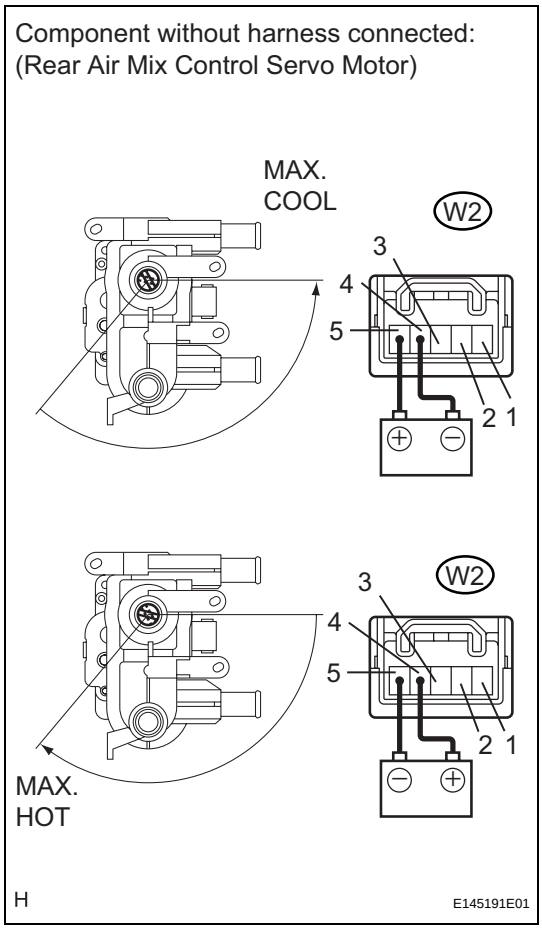
Result

Result	Proceed to
NG	A
OK (When troubleshooting according to the PROBLEM SYMPTOMS TABLE)	B
OK (When troubleshooting according to the DTC)	C

B	PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE
C	REPLACE A/C AMPLIFIER

A

2	INSPECT REAR AIR MIX CONTROL SERVO MOTOR (WATER VALVE SERVO MOTOR)



(a) Remove the rear air mix control servo motor (water valve servo motor).

(b) Disconnect the connector from the rear air mix control servo motor (water valve servo motor).

(c) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
W2-1 - W2-2	Always	4.2 to 7.8 kΩ

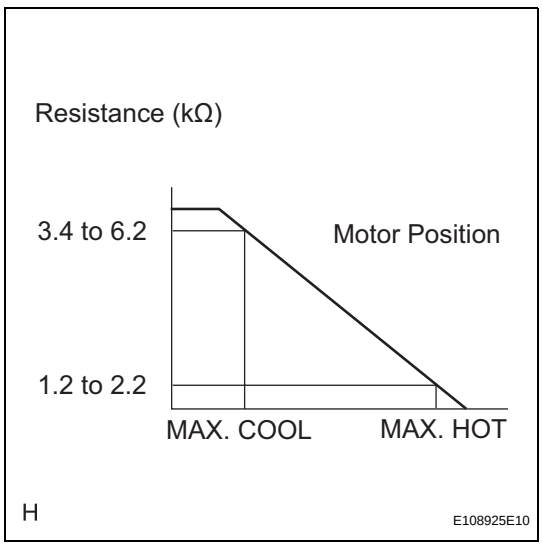
(d) Measure the resistance according to the value(s) in the table below.

HINT:

- In order to turn the motor to the "MAX. COOL" position, connect the positive (+) lead to terminal 5, and the negative (-) lead to terminal 4.
- In order to turn the motor to the "MAX. HOT" position, connect the positive (+) lead to terminal 4, and the negative (-) lead to terminal 5.

Standard resistance

Tester Connection	Condition	Specified Condition
W2-3 - W2-1	MAX. COOL position	3.4 to 6.2 kΩ
W2-3 - W2-1	MAX. HOT position	1.2 to 2.2 kΩ



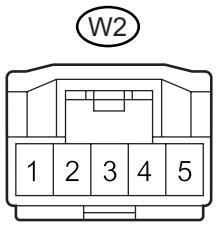
(e) As the rear air mix control servo motor (water valve servo motor) moves from the cool side to the hot side, the resistance decreases gradually without interruption.

NG → **REPLACE REAR AIR MIX CONTROL SERVO MOTOR (WATER VALVE SERVO MOTOR)**

OK

3	CHECK HARNESS AND CONNECTOR (REAR AIR MIX CONTROL SERVO MOTOR - A/C AMPLIFIER)

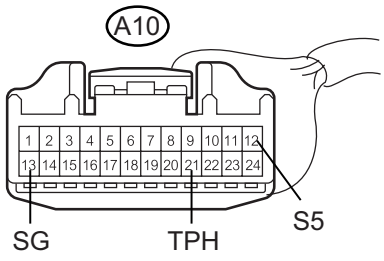
Front view of wire harness connector:
(to Rear Air Mix Control Servo Motor)



E145121E07

(a) Disconnect the connector from the A/C amplifier.

Front view of wire harness connector:
(to A/C Amplifier)



E141047E09

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Connection	Condition	Specified Condition
A10-21 (TPH) - W2-3	Always	Below 1 Ω
A10-12 (S5) - W2-2	Always	Below 1 Ω
A10-13 (SG) - W2-1	Always	Below 1 Ω
A10-21 (TPH) - Body ground	Always	10 kΩ or higher
A10-12 (S5) - Body ground	Always	10 kΩ or higher
A10-13 (SG) - Body ground	Always	10 kΩ or higher

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

OK

REPLACE A/C AMPLIFIER

AC