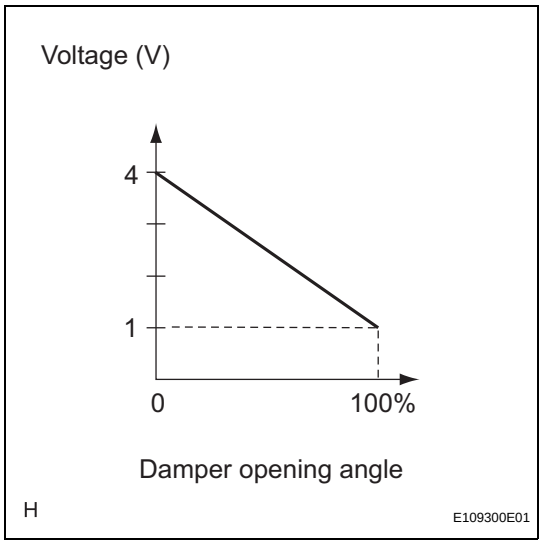
DTC	B1433/33	Air Outlet Damper Position Sensor Circuit

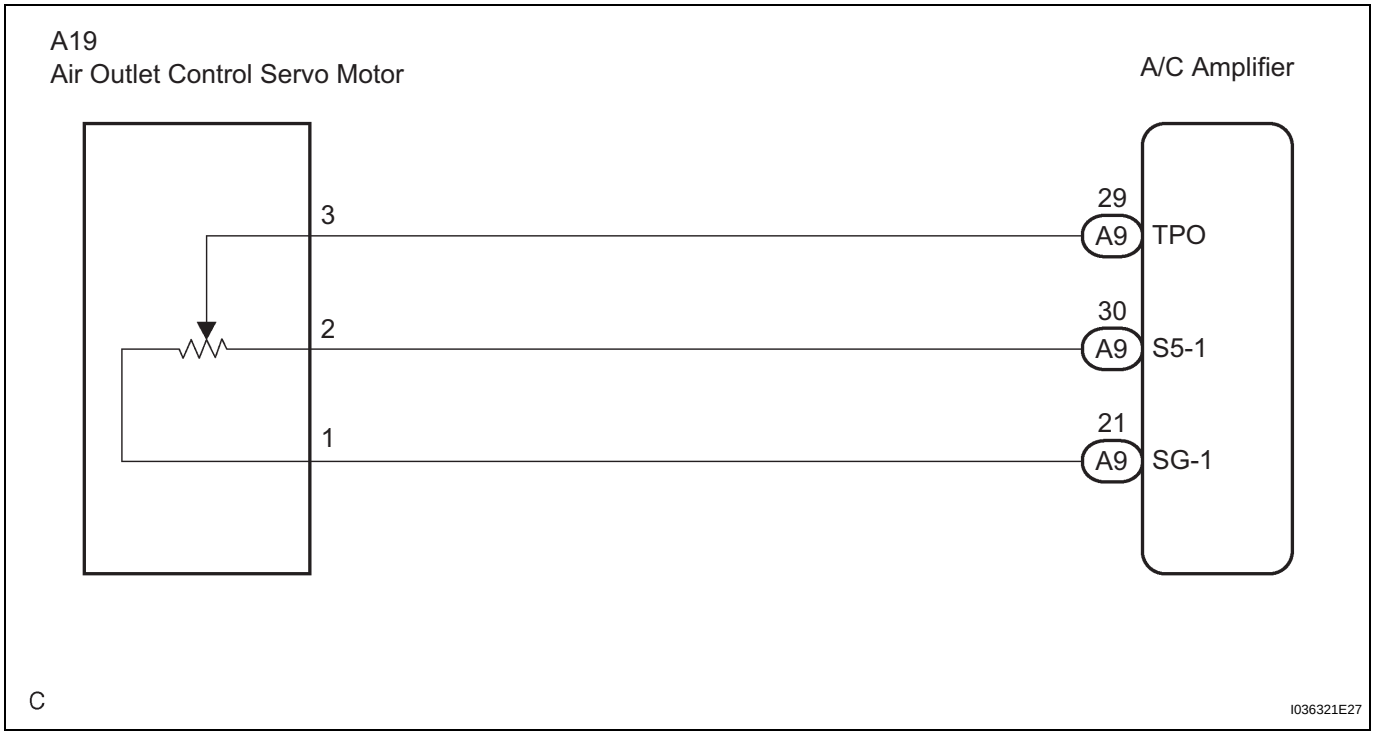
DESCRIPTION



This sensor detects the position of the air outlet control servo motor and sends the appropriate signals to the A/C amplifier. The position sensor is built in the air outlet control servo motor. The position sensor's resistance changes as the air outlet control servo motor arm 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 arm position based on the input voltage from the position sensor.

DTC No.	DTC Detection Condition	Trouble Area
B1433/33	Open or short in power source circuit in air outlet damper position sensor circuit.	• Air outlet control servo motor (air outlet damper position sensor) • Harness or connector between air outlet control servo motor (air outlet damper position sensor) 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 displays on the intelligent tester.

DATA LIST / AIR CONDITIONER

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
A/O DAMP POS	Air outlet damper position / min.: -14%, max.: 113.5%	Damper is at "FACE": 0% Damper is at "FACE/FOOT": 33.5% Damper is at "FOOT": 53.5% Damper is at "FACE/DEF": 73.5% Damper is at "DEF": 100%	Open in the circuit: 50.0%
A/O DAMP TARG	Air outlet damper target position / 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 SYMPTOM TABLE)	B
OK (When troubleshooting according to the DTC)	C

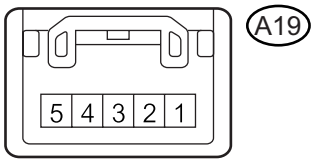
B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

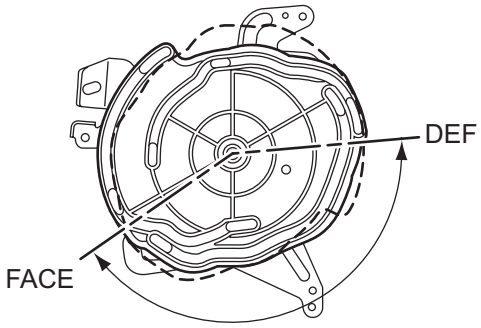
C → **REPLACE A/C AMPLIFIER**

A

2 INSPECT AIR OUTLET CONTROL SERVO MOTOR

Component without harness connected:
(Air Outlet Control Servo Motor)





H

E147338E01

(a) Remove the air outlet control servo motor.
(b) Disconnect the connector from the air outlet control servo motor.
(c) Measure the resistance according to the value(s) in the table below.

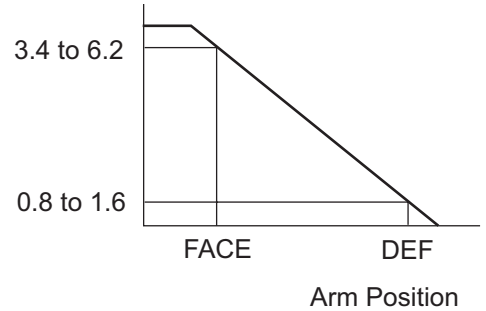
Standard resistance

Tester Connection	Condition	Specified Condition
A19-2 - A19-1	Always	4.2 to 7.8 kΩ

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

Standard resistance

Tester Connection	Condition	Specified Condition
A19-3 - A19-1	DEF position	0.8 to 1.6 kΩ
A19-3 - A19-1	FACE position	3.4 to 6.2 kΩ



H

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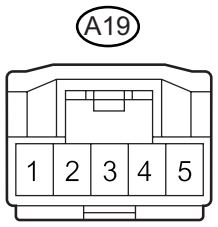
(e) As the air outlet control servo motor moves from the FACE side to the DEF side, the resistance decreases gradually without interruption.

NG → **REPLACE AIR OUTLET CONTROL SERVO MOTOR**

OK

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

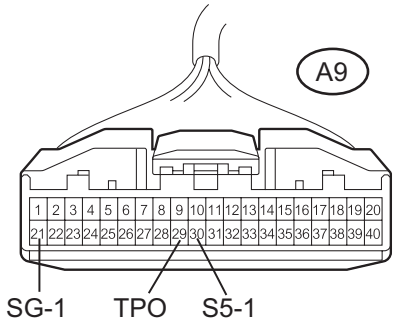
Front view of wire harness connector:
(to Air Outlet Control Servo Motor)



E145121E05

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

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



H

E143742E37

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

Standard resistance

Tester Connection	Condition	Specified Condition
A9-29 (TPO) - A19-3	Always	Below 1 Ω
A9-21 (SG-1) - A19-1	Always	Below 1 Ω
A9-30 (S5-1) - A19-2	Always	Below 1 Ω
A9-29 (TPO) - Body ground	Always	10 kΩ or higher
A9-21 (SG-1) - Body ground	Always	10 kΩ or higher
A9-30 (S5-1) - Body ground	Always	10 kΩ or higher

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

OK

REPLACE A/C AMPLIFIER