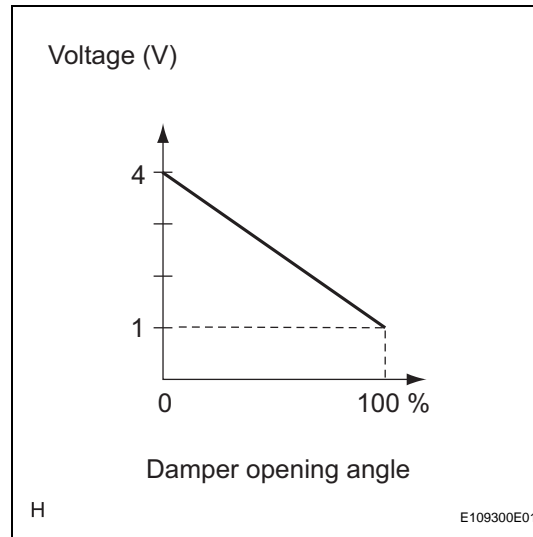


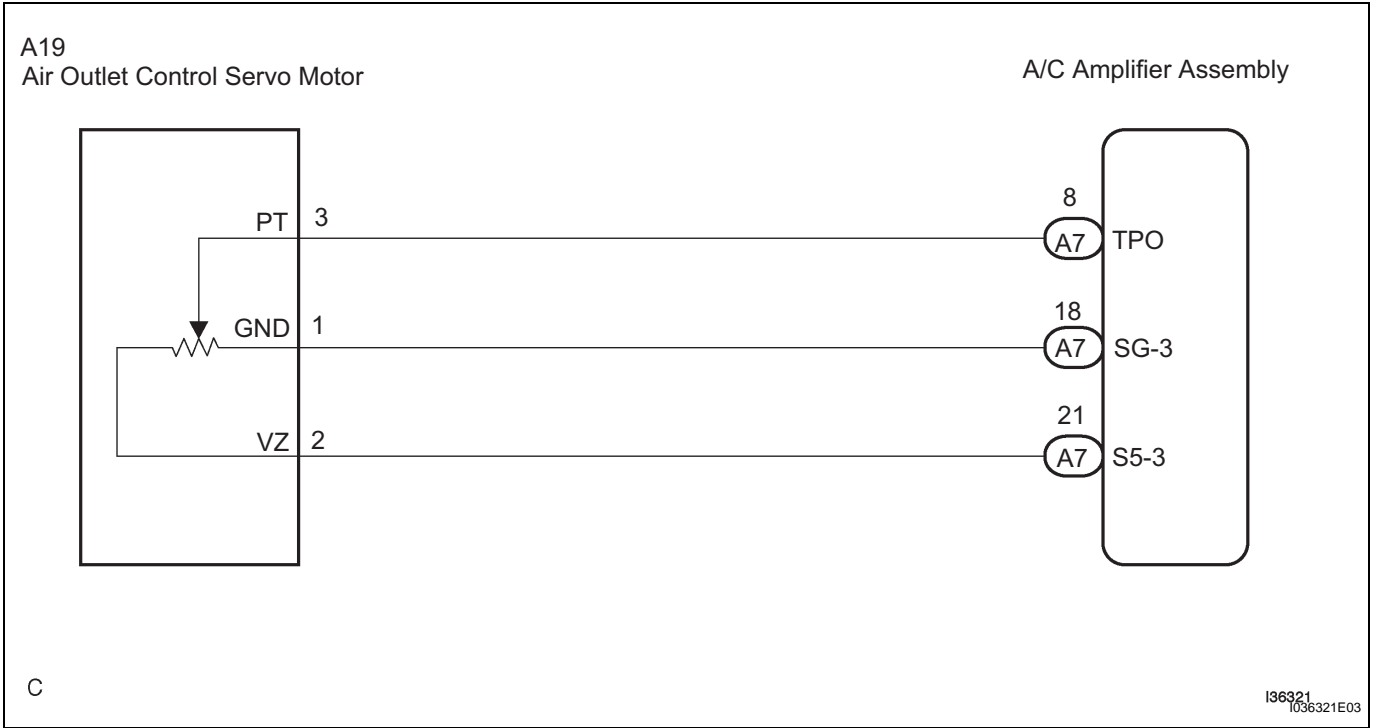
DTC**B1433/33****Air Outlet Damper Position Sensor Circuit****DESCRIPTION**

This sensor detects the position of the air outlet control servo motor and sends the appropriate signals to the A/C amplifier assembly. The position sensor is built in the air outlet control servo motor. The potentiometer's resistance changes as the air outlet control servo motor arm moves.

It outputs voltage (5 V) that is input to terminal 2 (VZ) and terminal 3 (PT) via the variable resistor, and then to the A/C amplifier assembly. The A/C amplifier assembly reads the arm position with the input voltage from the position sensor.

DTC No.	DTC Detecting Condition	Trouble Area
B1433/33	Open or short in power source circuit in air outlet damper position sensor circuit.	<ul style="list-style-type: none"> • Air outlet control servo motor (air outlet damper position sensor) • Harness or connector between air outlet control servo motor and A/C amplifier assembly • A/C amplifier assembly

WIRING DIAGRAM



AC

1 READ VALUE OF INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON and push 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

Item	Measurement Item / Display (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%	Open in the circuit: 50.0%
A/O DAMP TARG	Air outlet damper target position / min.: -14% max.: 113.5%	Damper is at "FOOT" (Manual): 53.5% Damper is at "FOOT" (Auto): 53.5% Damper is at "FACE/DEF": 73.5% Damper is at "DEF": 100%	

OK:

The display is as specified in the normal condition.

Result

Result	Proceed to
NG	A
OK (Checking from the PROBLEM SYMPTOM TABLE)	B
OK (Checking from the DTC)	C



PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

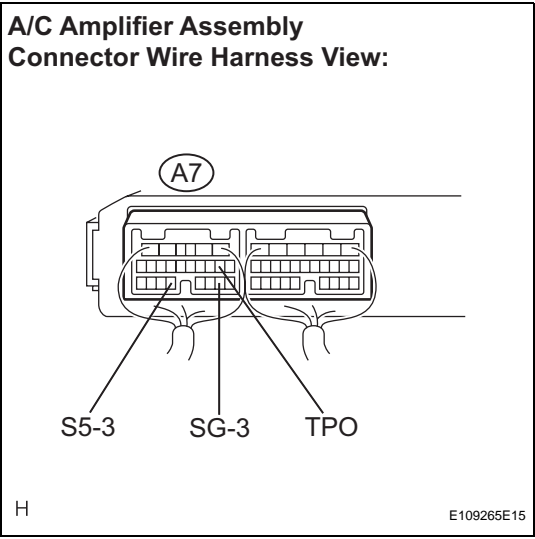
C REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

A

2 INSPECT AIR CONDITIONING AMPLIFIER ASSEMBLY

AC

A/C Amplifier Assembly Connector Wire Harness View:



- (a) Remove the A/C amplifier assembly with the connectors still connected.
- (b) Measure the voltage according to the value(s) in the table below.

Standard voltage

Tester connection (Symbols)	Condition	Specified condition
A7-8 (TPO) - A7-18 (SG-3)	Ignition switch ON FACE position	3.97 to 4.03 V
A7-8 (TPO) - A7-18 (SG-3)	Ignition switch ON DEF position	0.97 to 1.03 V
A7-21 (S5-3) - A7-18 (SG-3)	Ignition switch ON	4.5 to 5.5 V
A7-21 (S5-3) - A7-18 (SG-3)	Ignition switch OFF	Below 1 V

HINT:

As the air outlet control servo motor is moved from the FACE side to DEF side, the voltage decreases gradually without interruption.

Result

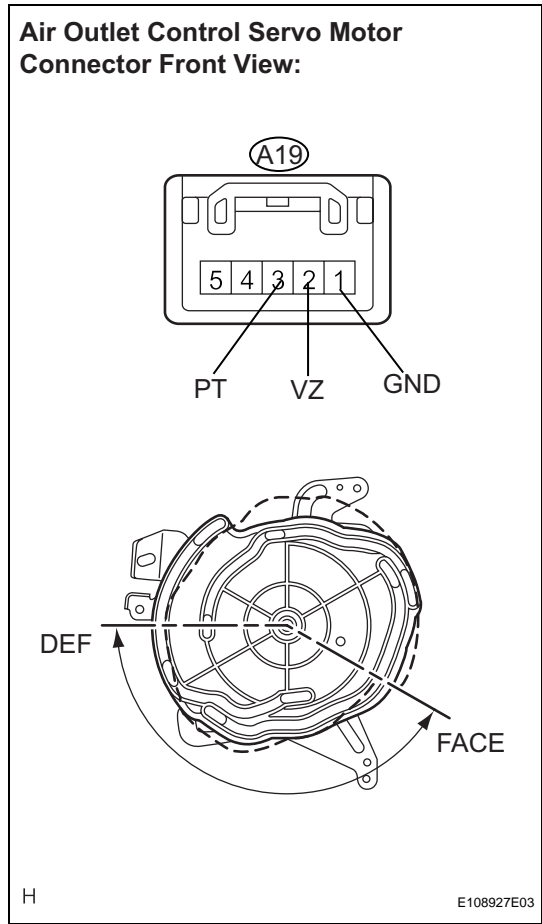
Result	Proceed to
NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

B PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

C REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

A

3 INSPECT AIR OUTLET CONTROL SERVO MOTOR



- (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.

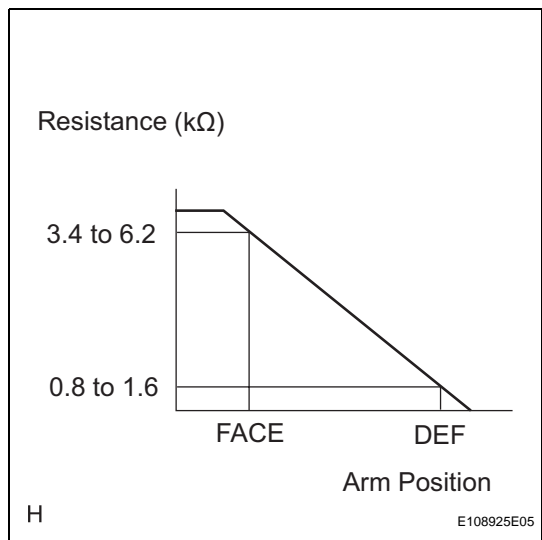
Standard resistance

Tester connection (Symbols)	Condition	Specified condition
A19-2 (VZ) - A19-1 (GND)	Always	4.2 to 7.8 kΩ

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

Standard resistance

Tester connection (Symbols)	Condition	Specified condition
A19-3 (PT) - A19-1 (GND)	DEF position	0.8 to 1.6 kΩ
A19-3 (PT) - A19-1 (GND)	FACE position	3.4 to 6.2 kΩ



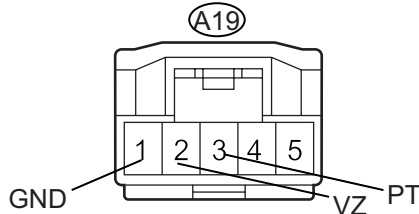
- (e) As the air outlet control servo motor moved from the DEF side to FACE side, the resistance decreases gradually without interruption.
- HINT:
For details regarding operation of the servo motor (See page [AC-90](#)).

NG **REPLACE AIR INLET CONTROL SERVO MOTOR**

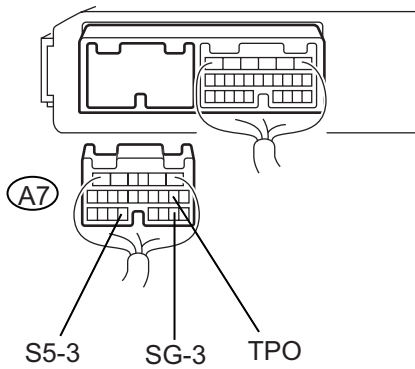
OK

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

Air Outlet Control Servo Motor Connector Front View:



A/C Amplifier Assembly Connector Wire Harness View:



H

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- (a) Disconnect the connector from the A/C amplifier assembly.
- (b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester connection (Symbols)	Condition	Specified condition
A7-8 (TPO) - A19-3 (PT)	Always	Below 1 Ω
A7-18 (SG-3) - A19-1 (GND)	Always	Below 1 Ω
A7-21 (S5-3) - A19-2 (VZ)	Always	Below 1 Ω
A7-8 (TPO) - Body ground	Always	10 kΩ or higher
A7-18 (SG-3) - Body ground	Always	10 kΩ or higher
A7-21 (S5-3) - Body ground	Always	10 kΩ or higher

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

AC