DTC	B1443/43	Air Outlet Damper Control Servo Motor Circuit

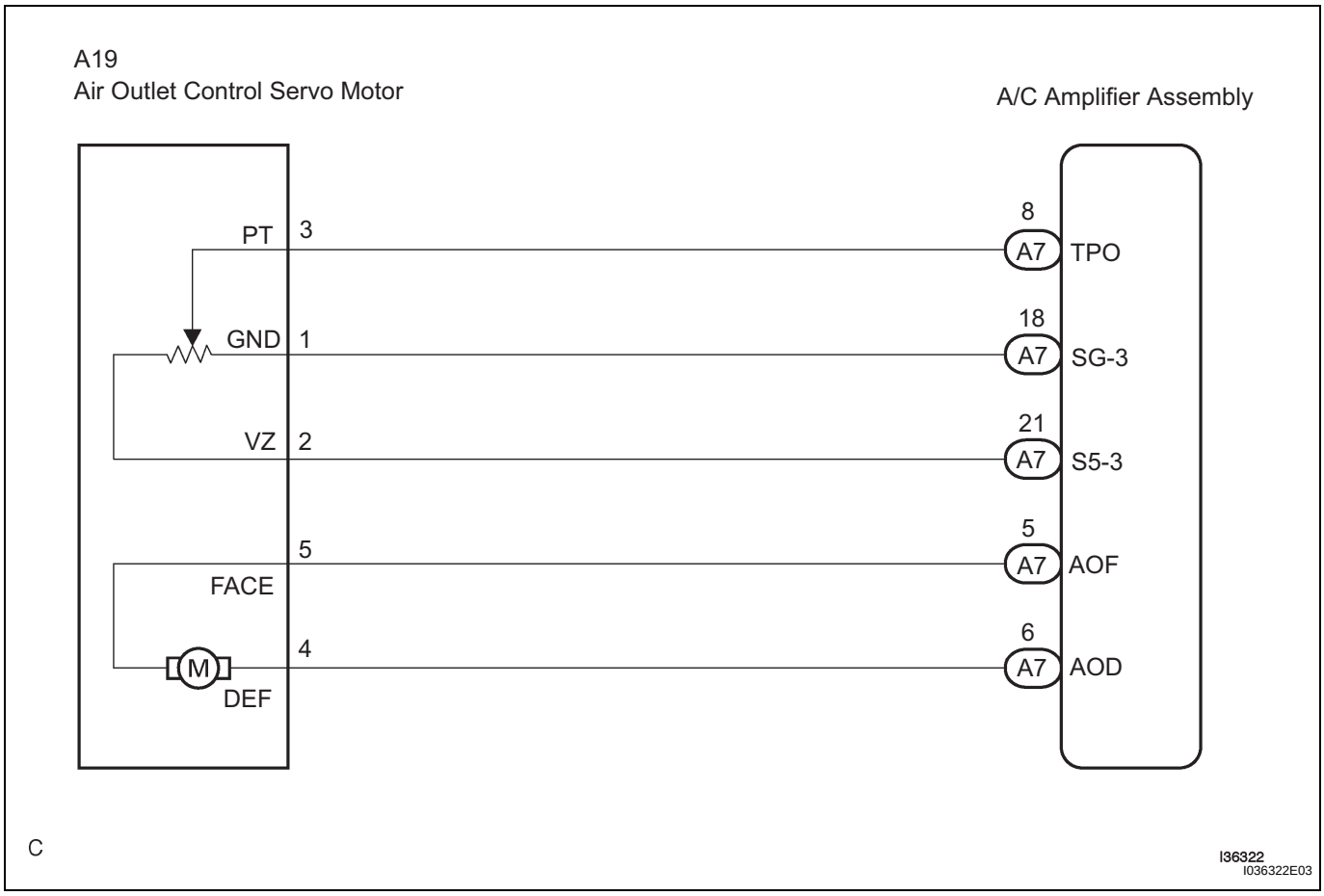
DESCRIPTION

This circuit turns the servo motor and changes each damper position by receiving the signals from the A/C amplifier assembly.
The air outlet damper servo switches the air outlet by rotating the motor (normal, reverse) with electrical power from the A/C amplifier assembly.
When the AUTO switch is on, the A/C amplifier assembly changes the mode between "FACE", "BI-LEVEL" and "FOOT" according to the temperature setting.

AC

DTC No.	DTC Detecting Condition	Trouble Area
B1443/43	Air outlet damper position sensor value does not change even if air conditioning amplifier assembly operated air outlet control servo motor.	• Air outlet control servo motor • Harness or connector between air outlet control servo motor and A/C amplifier assembly • A/C amplifier assembly

WIRING DIAGRAM



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 item below in the DATA LIST, and read the display 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% 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%	Open in the circuit: 50.0%
A/O DAMP TARG	Air outlet damper target position / min.: -14% max.: 113.5%		

OK:

When the target position is at the "FACE" (0%), the actual opening angle is 19.0% or less.
When the target position is at the "DEF" (100%), the actual opening angle is 81.0% or more.

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

2 PERFORM ACTIVE TEST BY 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 item below in the ACTIVE TEST and then check that the air flow position by hand.

ACTIVE TEST / AIR CONDITIONER

Item	Test Details / Display (Range)	Diagnostic Note
A/O MODE DAMP-D	Air outlet damper position (Driver side) /min.: -14% max.: 113.5%	-

OK:

Air comes out from the selected air outlet.

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 PERFORM ACTUATOR CHECK

AC

(a) Warm up the engine.
(b) Set the actuator check mode (See page AC-11).
(c) Press the UPDr switch and change to step operation.
(d) Press the UPDr switch and check the air flow by hand.

Display Code	Air flow condition
0	FACE (0%)
1	FACE (0%)
2	FACE (0%)
3	FACE (0%)
4	B/L (33.5%)
5	FOOT (AUTO) (53.5%)
6	FOOT (MANUAL) (53.5%)
7	FOOT (MANUAL) (53.5%)
8	F/D (73.5%)
9	DEF (100%)

OK:
Air flow position changes in accordance with each display code.

Result

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

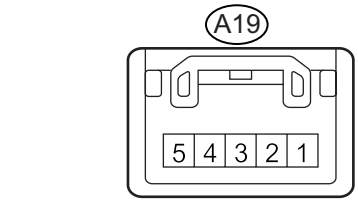
B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

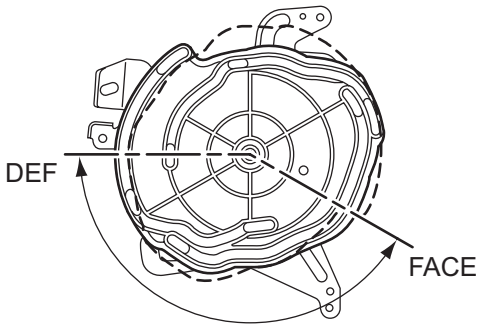
C → **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

A

4	INSPECT AIR OUTLET CONTROL SERVO MOTOR

Air Outlet Control Servo Motor Connector Front View:





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(a) Remove the air outlet control servo motor.
(b) Disconnect the connector from the air outlet control servo motor.
(c) Connect the positive (+) lead from the battery to terminal 4 and negative (-) lead to terminal 5 then check that the lever turns to "DEF" position smoothly.
OK:
Lever turns to "DEF" position smoothly.
(d) Connect the positive (+) lead from the battery to terminal 5 and negative (-) lead to terminal 4 then check that the lever turn to "FACE" position smoothly.
OK:
Lever turns to "FACE" position smoothly.

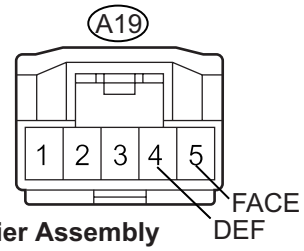
AC

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

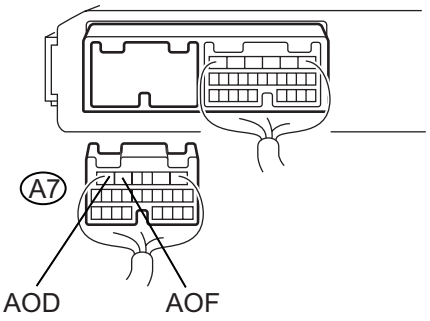
OK

5	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:



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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
A7-5 (AOF) - A19-5 (FACE)	Always	Below 1 Ω
A7-6 (AOD) - A19-4 (DEF)	Always	Below 1 Ω
A7-5 (AOF) - Body ground	Always	10 kΩ or higher
A7-6 (AOD) - Body ground	Always	10 kΩ or higher

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

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY