DTC	B1443	AIR OUTLET DAMPER CONTROL SERVOMOTOR CIRCUIT

CIRCUIT DESCRIPTION

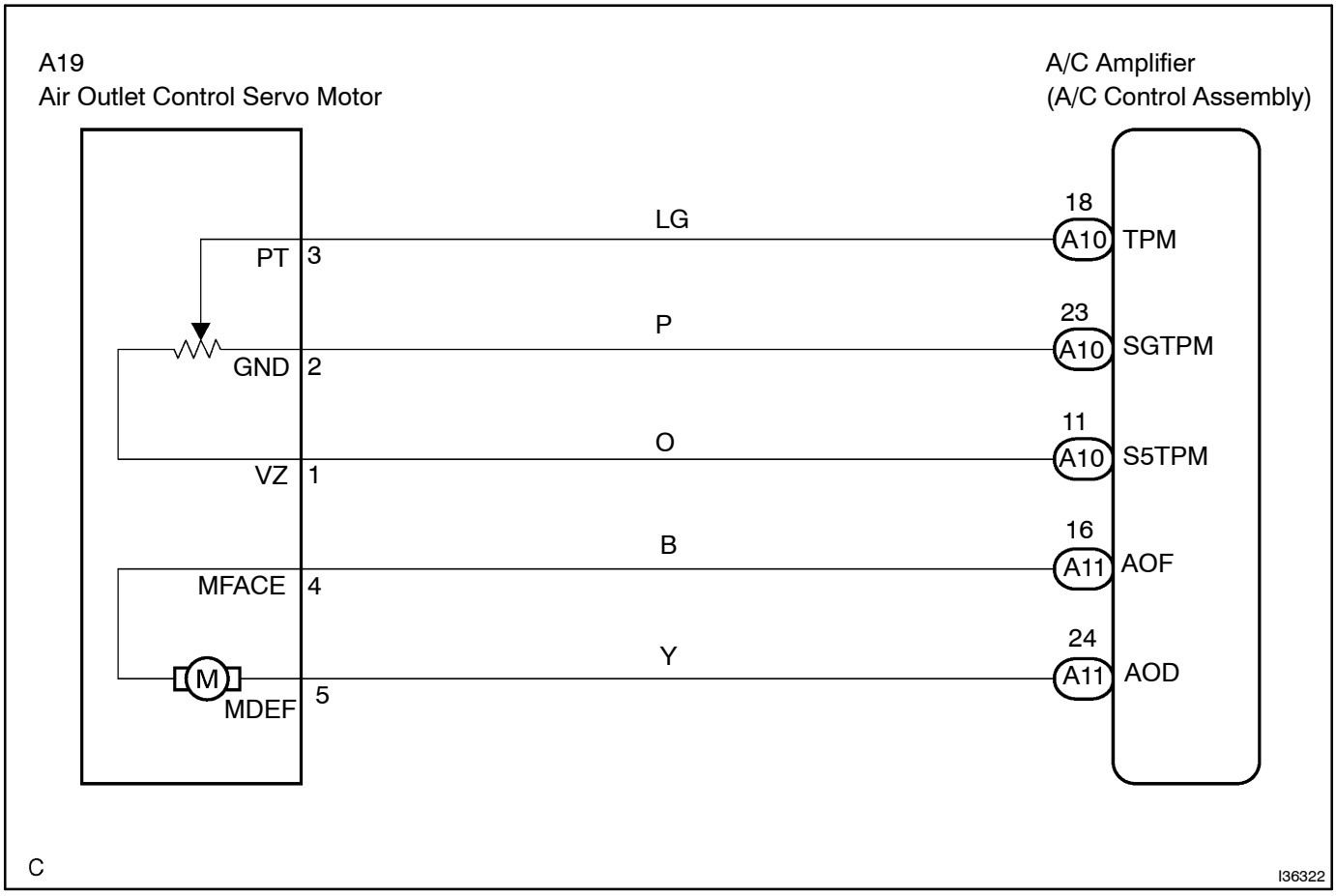
This circuit turns the servomotor and changes each damper position by receiving the signals from the A/C amplifier assy.

The air outlet damper servo switches the air outlet by rotating the motor (normal, reverse) with electrical power from the A/C amplifier.

When the AUTO switch is on, the A/C amplifier changes the mode between ”FACE”, ”BI–LEVEL” and ”FOOT” according to the temperature setting.

DTC No.	Detection Item	Trouble Area
B1443	Air outlet damper position sensor valve does not change even if air conditioner amplifier operated air outlet damper control servo motor.	• Air outlet control servomotor • Harness or connector between air outlet control servomotor and A/C amplifier • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE ON INTELLIGENT TESTER II

(a) Connect the intelligent tester II to DLC3.
(b) Turn the power switch ON and push the intelligent tester II main switch ON.
(c) Select the items below in the DATA LIST, and read the displays on the intelligent tester II.

DATA LIST / AIR CONDITIONER:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
Air outlet damper position (A/O Damp Pos)	Air outlet damper position / min.: –14% max.: 113.5%	Damper is at "FACE": –10.0% Damper is at "FACE/FOOT": 12.0% Damper is at "FOOT" (Manual): 33.5% or 69.0% (33.5%)*1 Damper is at "FOOT" (Auto): 49.0% or 69.0% Damper is at "FACE/DEF": 69.0% or 95.0%	Open in the circuit: 50.0%
Air outlet damper target position (A/O Damp Targ)	Air outlet damper target position / min.: –14% max.: 113.5%	Damper is at "FACE": –10.0% Damper is at "FACE/FOOT": 12.0% Damper is at "FOOT" (Manual): 33.5% or 69.0% (33.5%)*1 Damper is at "FOOT" (Auto): 49.0% or 69.0% Damper is at "FACE/DEF": 69.0% or 95.0%	Open in the circuit: 50.0%

HINT:
*1: Australian models

OK:

When the target position is at the "FACE" (–10.0%), the actual opening angle is 19.0% or less.

Result:

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

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–1035)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–52)**

A

2	READ VALUE ON INTELLIGENT TESTER II

(a) Connect the intelligent tester II to DLC3.
(b) Turn the power switch ON and push the intelligent tester II main switch ON.
(c) Select the items below in the DATA LIST, and read the displays on the intelligent tester II.

DATA LIST / AIR CONDITIONER:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
Air outlet damper position (A/O Damp Pos)	Air outlet damper position / min.: –14% max.: 113.5%	Damper is at ”FACE/FOOT”: 12.0% Damper is at ”FOOT” (Manual): 33.5% or 69.0% (33.5%)*1 Damper is at ”FOOT” (Auto): 49.0% or 69.0 % Damper is at ”FACE/DEF”: 69.0% or 95.0% Damper is at ”DEF”: 110.0%	Open in the circuit: 50.0%
Air outlet damper target position (A/O Damp Targ)	Air outlet damper target position / min.: –14% max.: 113.5%	Damper is at ”FACE/FOOT”: 12.0% Damper is at ”FOOT” (Manual): 33.5% or 69.0% (33.5%)*1 Damper is at ”FOOT” (Auto): 49.0% or 69.0 % Damper is at ”FACE/DEF”: 69.0% or 95.0% Damper is at ”DEF”: 110.0%	Open in the circuit: 50.0%

HINT:
*1: Australia models

OK:

When the target position is at the ”DEF” (110.0%), the actual opening angle is 81.0% or more.

Result:

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

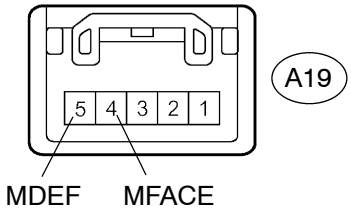
B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–1035)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–52)**

A

3 INSPECT AIR OUTLET CONTROL SERVOMOTOR

Air Outlet Control Servomotor Connector Front View:



(a) Remove the air outlet control servomotor.
(b) Disconnect the connector from air outlet control servomotor.
(c) Connect the positive (+) lead from the battery to terminal 4 and negative (–) lead to terminal 5 then check that the lever turns to ”FACE” position smoothly.
(d) Measure the resistance according to the value(s) in the table below.

Standard:

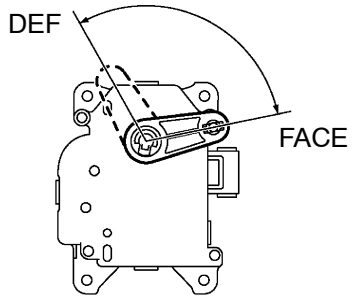
Tester connection	Condition	Specified condition
A19–3 (PT) – A19–2 (GND)	FACE position	3.6 to 6.7 kΩ

(e) Connect the positive (+) lead from the battery to terminal 5 and negative (–) lead to terminal 4 then check that the lever turn to ”DEF” position smoothly.
(f) Measure the resistance according to the value(s) in the table below.

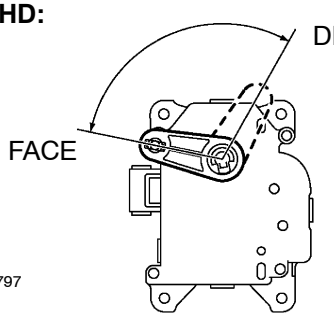
Standard:

Tester connection	Condition	Specified condition
A19–3 (PT) – A19–2 (GND)	DEF position	0.6 to 1.1 kΩ

LHD:



RHD:

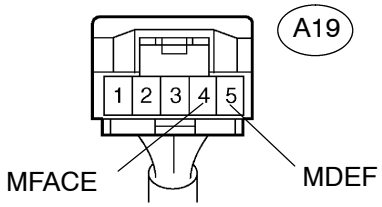


NG → **REPLACE AIR OUTLET CONTROL SERVOMOTOR**

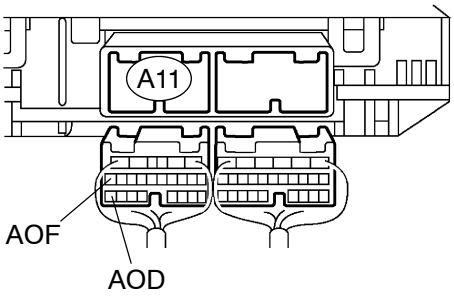
OK

4	CHECK HARNESS AND CONNECTOR(AIR OUTLET CONTROL SERVOMOTOR – AIR CONDITIONING AMPLIFIER) (SEE PAGE 01–46)

Air Outlet Control Servomotor Connector Front View:



Air Conditioning Amplifier Connector Wire Harness View:



(a) Disconnect the connector from air outlet control servomotor and air conditioning amplifier.

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

Standard:

Tester connection	Condition	Specified condition
A11–16 (AOF) – A19–4 (MFACE)	Always	Below 1 Ω
A11–24 (AOD) – A19–5 (MDEF)	Always	Below 1 Ω
A11–16 (AOF) – Body ground	Always	10 kΩ or higher
A11–24 (AOD) – Body ground	Always	10 kΩ or higher

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

OK

REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–52)