DTC	B1442	AIR INLET DAMPER CONTROL SERVOMOTOR CIRCUIT

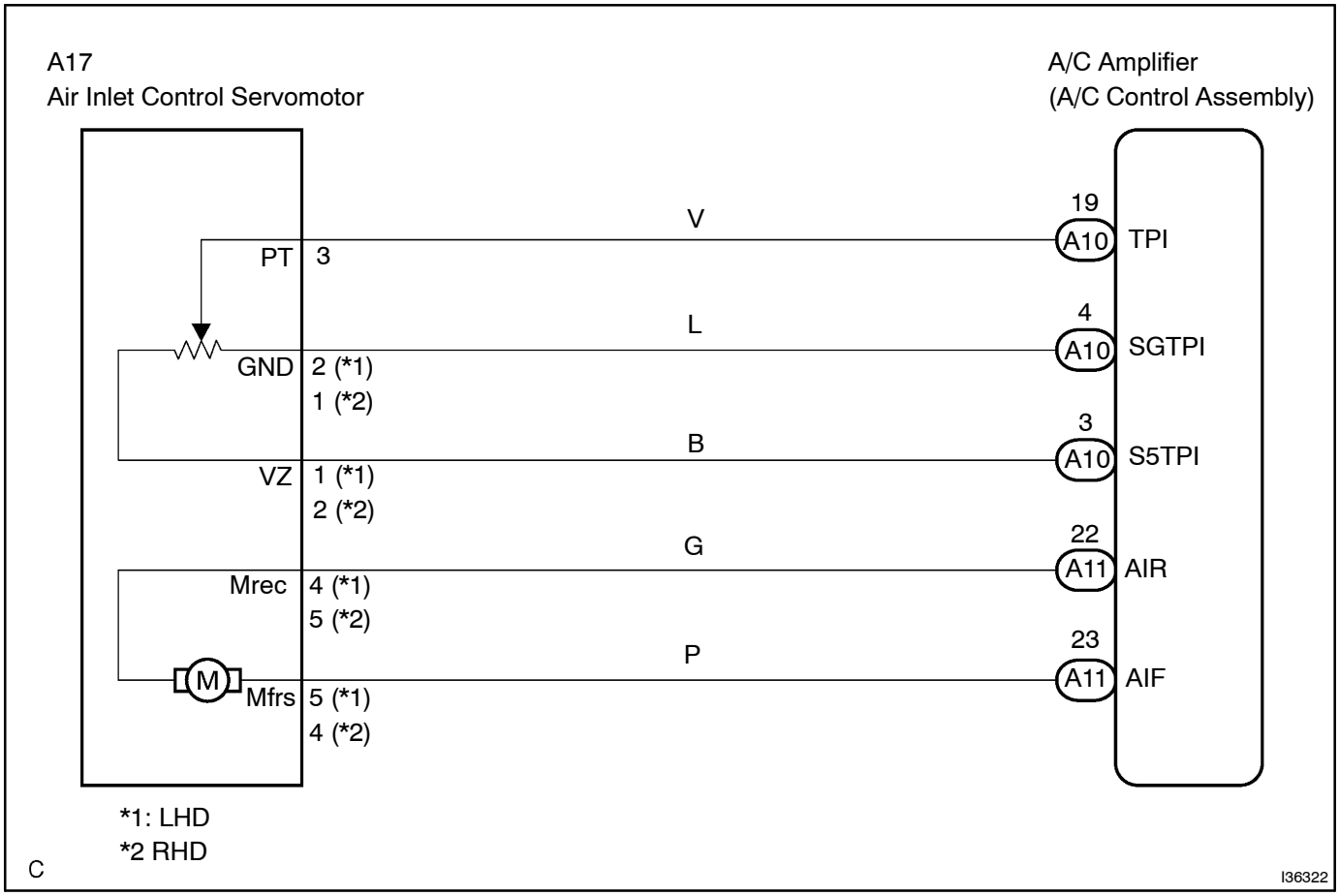
CIRCUIT DESCRIPTION

The air inlet control servomotor is controlled by the A/C amplifier and moves the air inlet control servomotor to the desired position.

The air inlet control servomotor switches between ”RECIRCULATION” and ”FRESH” by rotating the motor (normal, reverse) with electrical power from the A/C amplifier. This controls intake air and switches ”RECIRCULATION”, ”FRESH” and ”HALF–RECIRCULATION”.

DTC No.	Detection Item	Trouble Area
B1442	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 inlet damper position (A/I Damp Pos)	Air inlet damper position / min.: –14% max.: 113.5%	Damper is at ”RECIRCULATION”: –1.0% Damper is at ”HALF–RECIRCULATION”: 20.0 to 102.0%	Open in the circuit: 50.0%
Air inlet damper target position (A/I Damp Targ)	Air inlet damper target position / min.: –14% max.: 113.5%	Damper is at ”RECIRCULATION”: –1.0% Damper is at ”HALF–RECIRCULATION”: 20.0 to 102.0%	Open in the circuit: 50.0%

OK:

When the target position is at the ”RECIRCULATION” (–1.0%), 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 inlet damper position (A/I Damp Pos)	Air inlet damper position / min.: –14% max.: 113.5%	Damper is at "FRESH": 110.0% Damper is at "HALF–RECIRCULATION": 20.0 to 102.0%	Open in the circuit: 50.0%
Air inlet damper target position (A/I Damp Targ)	Air inlet damper target position / min.: –14% max.: 113.5%	Damper is at "FRESH": 110.0% Damper is at "HALF–RECIRCULATION": 20.0 to 102.0%	Open in the circuit: 50.0%

OK:

When the target position is at the "FRESH" (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

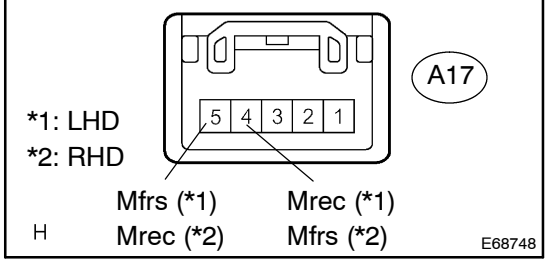
B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–1035)**

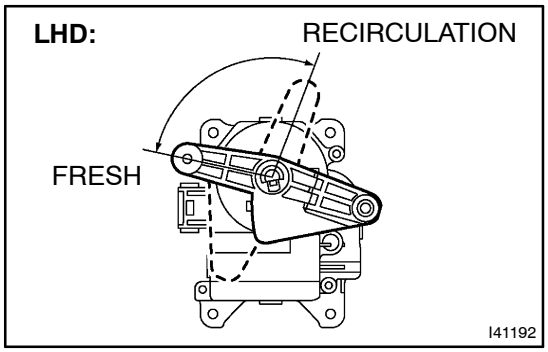
C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–52)**

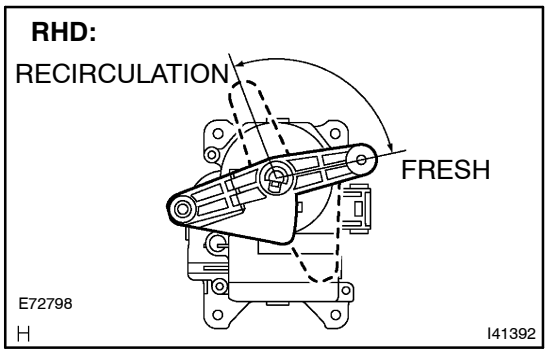
A

3 INSPECT AIR INLET CONTROL SERVOMOTOR

Air Inlet Control Servomotor Connector Front View:







(a) Remove the damper air inlet servomotor.
(b) Disconnect the connector from air inlet control servomotor.
(c) Connect the positive (+) lead from the battery to terminal 5 (4) and negative (–) lead to terminal 4 (5) then check that the lever turns to "FRESH" position smoothly.

HINT:
( ): RHD

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

Standard:

Tester connection	Condition	Specified condition
A17–3 (PT) – A17–2 (GND) (*1)	FRESH position	0.6 to 1.1 kΩ
A17–3 (PT) – A17–1 (GND) (*2)	FRESH position	0.6 to 1.1 kΩ

HINT:
*1: LHD
*2: RHD

(e) Connect the positive (+) lead from the battery to terminal 4 (5) and negative (–) lead to terminal 5 (4) then check that the lever turns to "RECIRCULATION" position smoothly.

HINT:
( ): RHD

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

Standard:

Tester connection	Condition	Specified condition
A17–3 (PT) – A17–2 (GND) (*1)	RECIRCULATION position	3.4 to 6.2 kΩ
A17–3 (PT) – A17–1 (GND) (*2)	RECIRCULATION position	3.4 to 6.2 kΩ

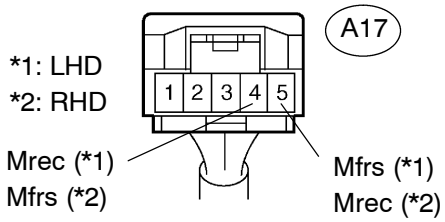
HINT:
*1: LHD
*2: RHD

NG → **REPLACE AIR INLET CONTROL SERVOMOTOR**

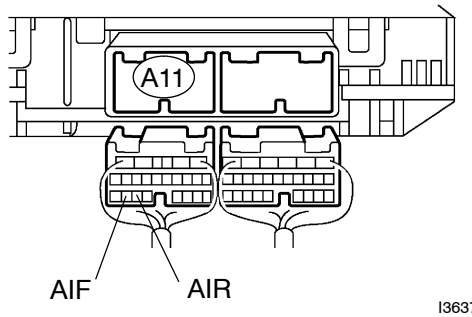
OK

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

Air Inlet Control Servomotor Connector Front View:



Air Conditioning Amplifier Connector Wire Harness View:



(a) Disconnect the connector from air inlet control servomotor.

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

Standard:

Tester connection	Condition	Specified condition
A11–22 (AIR) – A17–4 (Mrec) (*1)	Always	Below 1 Ω
A11–22 (AIR) – A17–5 (Mrec) (*2)	Always	Below 1 Ω
A11–23 (AIF) – A17–5 (Mfrs) (*1)	Always	Below 1 Ω
A11–23 (AIF) – A17–4 (Mfrs) (*2)	Always	Below 1 Ω
A11–22 (AIR) – Body ground	Always	10 kΩ or higher
A11–23 (AIF) – Body ground	Always	10 kΩ or higher

HINT:
*1: LHD
*2: RHD

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

OK →

REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–52)