DTC	B1442/42	Air Inlet Damper Control Servo Motor Circuit

DESCRIPTION

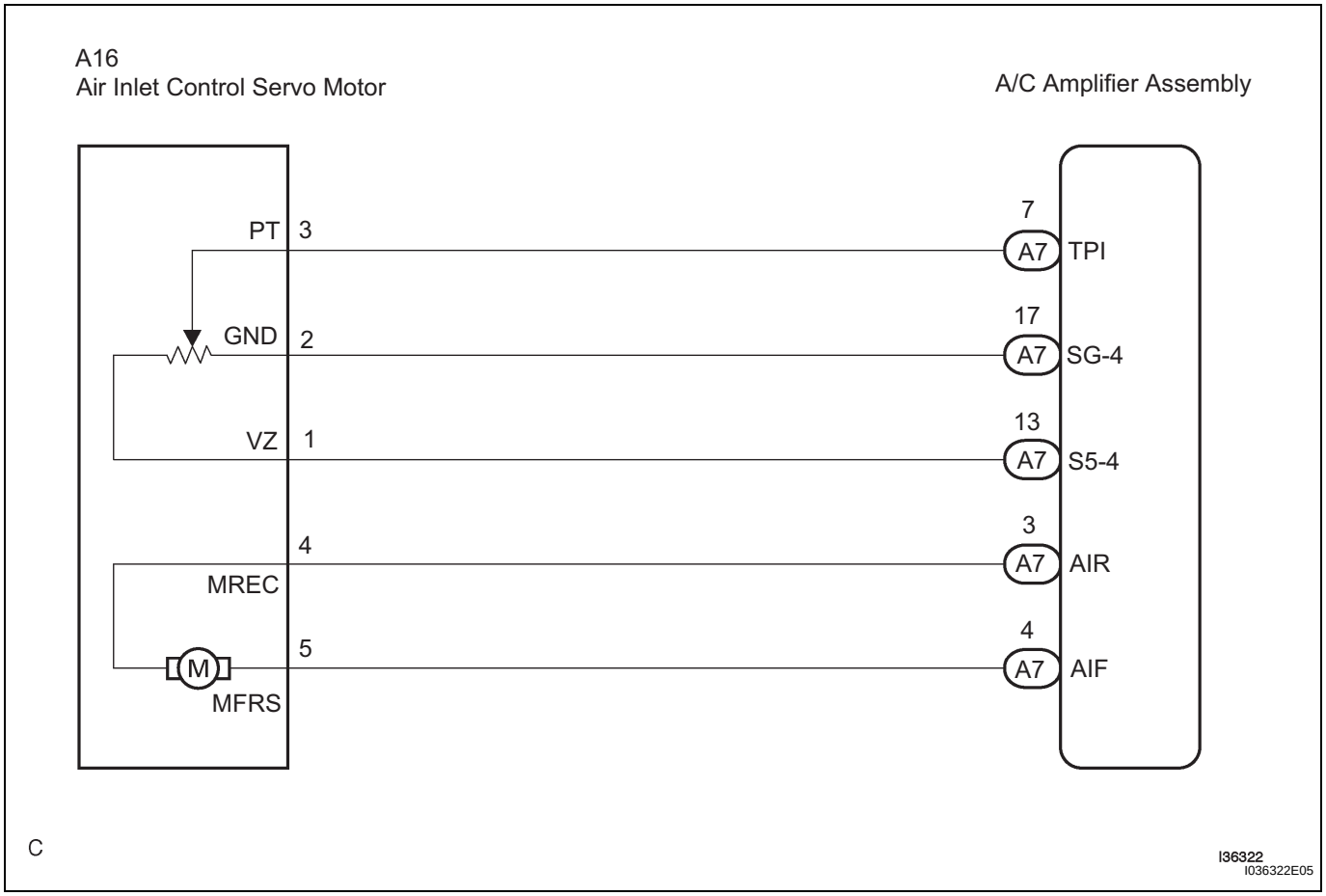
The air inlet control servomotor is controlled by the A/C amplifier assembly and moves the air inlet control servo motor to the desired position.

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

DTC No.	DTC Detecting Condition	Trouble Area
B1442/42	Air inlet damper position sensor value does not change even if air conditioning amplifier assembly operates air inlet control servo motor.	• Air inlet control servo motor • Harness or connector between air inlet control servo motor and A/C amplifier assembly • A/C amplifier assembly

AC

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/I DAMP POS	Air inlet damper position / min.: -14% max.: 113.5%	Damper is at "RECIRCULATION": -9% Damper is at "HALF-RECIRCULATION": 35 to 75% Damper is at "FRESH": 109%	Open in the circuit: 50.0%
A/I DAMP TARG	Air inlet damper target position / min.: -14% max.: 113.5%		

OK:

When the target position is at the "RECIRCULATION" (-9%), the actual opening angle is 19.0% or less.
When the target position is at the "FRESH" (109%), 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) Remove the glove box to see and check the recirculation damper operation.
(b) Connect the intelligent tester to the DLC3.
(c) Turn the ignition switch ON and push the intelligent tester main switch on.
(d) Select the item below in the ACTIVE TEST and then check that the damper operates.

ACTIVE TEST / AIR CONDITIONER

Item	Test Details / Display (Range)	Diagnostic Note
A/I DAMP-LINEAR	Air inlet damper position (linear) / min.: -14% max.: 113.5%	-

OK:

Lever turns from "RECIRCULATION" side to "FRESH" side smoothly.
Lever turns from "FRESH" side to "RECIRCULATION" side smoothly.

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

(a) Remove the glove box to see and check the recirculation damper operation.
(b) Set the actuator check mode (See page AC-11).
(c) Press the UPDr switch in order and check the operation of recirculation damper.

Display Code	Recirculation damper position
0	FRESH (109%)
1	FRESH (109%)
2	R/F (50%)
3	RECIRCULATION (-9%)
4	FRESH (109%)
5	FRESH (109%)
6	FRESH (109%)
7	FRESH (109%)
8	FRESH (109%)
9	FRESH (109%)

OK:
Recirculation damper 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

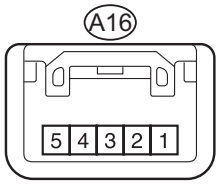
B → PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

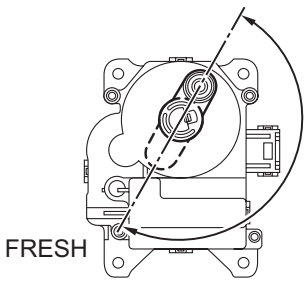
C → REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY

A

4	**INSPECT AIR INLET CONTROL SERVO MOTOR**

Air Inlet Control Servo Motor Connector Front View:





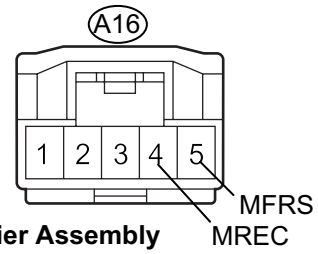
(a) Remove the damper air inlet control servo motor.
(b) Disconnect the connector from the air inlet control servo motor.
(c) Connect the positive (+) lead from the battery to terminal 5 and negative (-) lead to terminal 4 then check that the lever turns to "FRESH" position smoothly.
OK:
Lever turns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

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

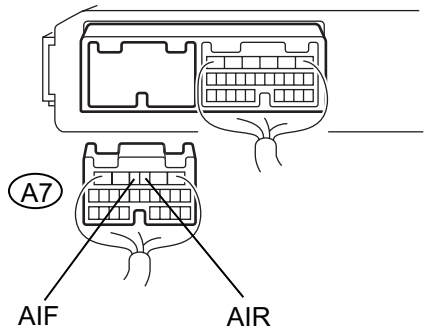
OK

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

Air Inlet 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
A7-3 (AIR) - A16-4 (MREC)	Always	Below 1 Ω
A7-4 (AIF) - A16-5 (MFRS)	Always	Below 1 Ω
A7-3 (AIR) - Body ground	Always	10 kΩ or higher
A7-4 (AIF) - Body ground	Always	10 kΩ or higher

AC

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

OK

REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY