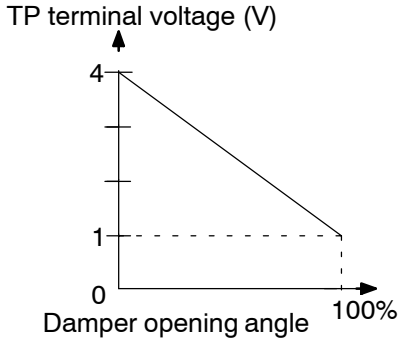
DTC	B1431/31	AIR MIX DAMPER POSITION SENSOR CIRCUIT (PASSENGER SIDE)

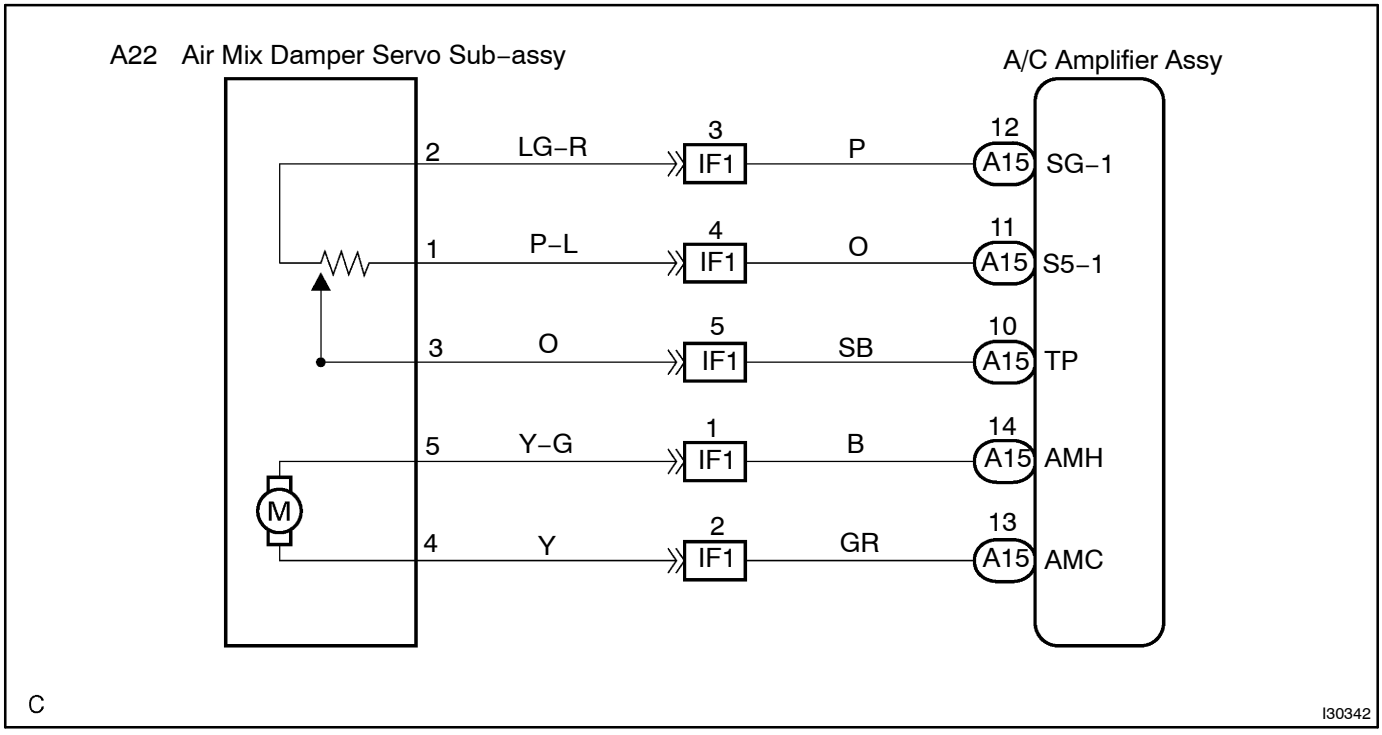
CIRCUIT DESCRIPTION



This sensor detects the position of the air mix damper servo sub–assy and sends the appropriate signals to the A/C amplifier assy. The position sensor is built into the air mix servo sub–assy.

DTC No.	Detection Item	Trouble Area
B1431/31	Short to ground or power source circuit in air mix damper position sensor circuit.	• Air mix damper position sensor. • Harness or connector between air mix damper servo sub–assy and A/C amplifier assy. • A/C amplifier assy

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:
In case of using the intelligent tester II, start the inspection from step 1, and in case of not using the intelligent tester II, start from step 2.

1 READ VALUE ON INTELLIGENT TESTER II

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

A C:

Item	Measurement Item/Display (Range)	Normal Condition	Diagnostic Note
Air mix damper position (P side) (A/M Damp Pos–P)	Air mix damper position (Passenger side) /min.:–5% max.:105%	Changes depending on the set temperature	–
Air mix damper target position (P side) (A/M Damp Targ–P)	Air mix damper target position (Passenger side) /min.:–5% max.:105%	Changes depending on the set temperature	–

Result:

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

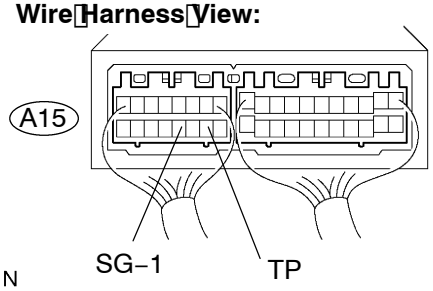
B → **REPLACE AIRCONDITIONER AMPLIFIER ASSY**

C → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–435)**

A

2 INSPECT AIRCONDITIONER AMPLIFIER ASSY(TP, SG–1)

A/C Amplifier Connector Wire Harness View:



(a) Remove the A/C amplifier assy with connectors still connected.
(b) Turn the ignition switch to the ON position.
(c) Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A15–10 (TP) – A15–12 (SG–1)	MAX. COOL	3.5 to 4.5 V
A15–10 (TP) – A15–12 (SG–1)	MAX. WARM	0.5 to 1.8 V

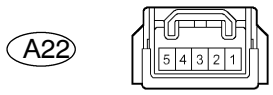
HINT:
As the set temperature increases, the voltage decreases gradually without interruption.

OK → **REPLACE AIRCONDITIONER AMPLIFIER ASSY**

NG

3 INSPECT AIRMIX DAMPER SERVO SUB–ASSY

Air Mix Damper Servo Sub–assy Connector Wire Harness View:



I30157

(a) Remove the air mix damper servo sub–assy.

(b) Measure resistance between terminals 1 and 2 of air mix damper servo sub–assy connector.

Standard:

Tester connection	Condition	Specified condition
A22–1 – A22–2	Always	4.2 to 7.8 kΩ

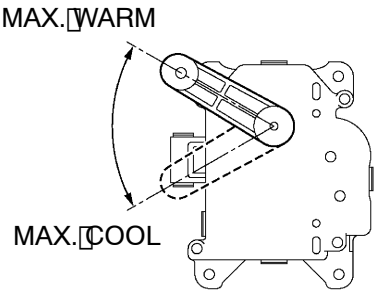
(c) While operating air mix damper servo sub–assy as shown in the procedure on page 05–466, measure resistance between terminals 1 and 3 of air mix damper servo sub–assy.

Standard:

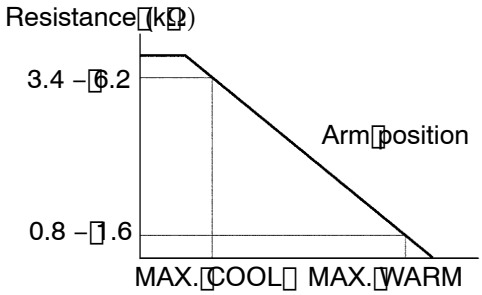
Tester connection	Condition	Specified condition
A22–1 – A22–3	MAX. COOL	3.4 to 6.2 kΩ
A22–1 – A22–3	MAX. WARM	0.8 to 1.6 kΩ

HINT:

As the air mix damper servo sub–assy moves from cool side to warm side, the resistance decreases gradually without interruption.



I41036



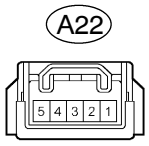
I30161

NG → **REPLACE AIRMIX DAMPER SERVO SUB–ASSY**

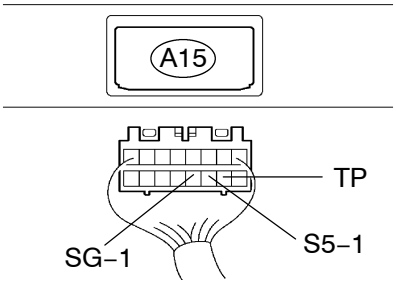
OK

4	CHECK HARNESS AND CONNECTOR(AIR MIX DAMPER SERVO SUB–ASSY – A/C AMPLIFIER ASSY)

Air Mix Damper Servo Sub–assy Wire Harness View:



A/C Amplifier Connector Wire Harness View:



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

Standard:

Tester connection	Condition	Specified condition
A15–11 (S5–1) – A22–1	Always	Below 1 Ω
A15–12 (SG–1) – A22–2	Always	Below 1 Ω
A15–10 (TP) – A22–3	Always	Below 1 Ω
A15–11 (S5–1) – Body ground	Always	10 kΩ or higher
A15–12 (SG–1) – Body ground	Always	10 kΩ or higher
A15–10 (TP) – Body ground	Always	10 kΩ or higher

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

OK

REPLACE AIRCONDITIONER AMPLIFIER ASSY