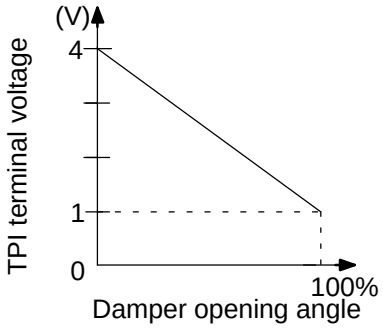
DI1CB–03

DTC	B1431/31	Air Mix Damper Position Sensor Circuit

DTC	B1441/41	Air Mix Damper Position Sensor Circuit

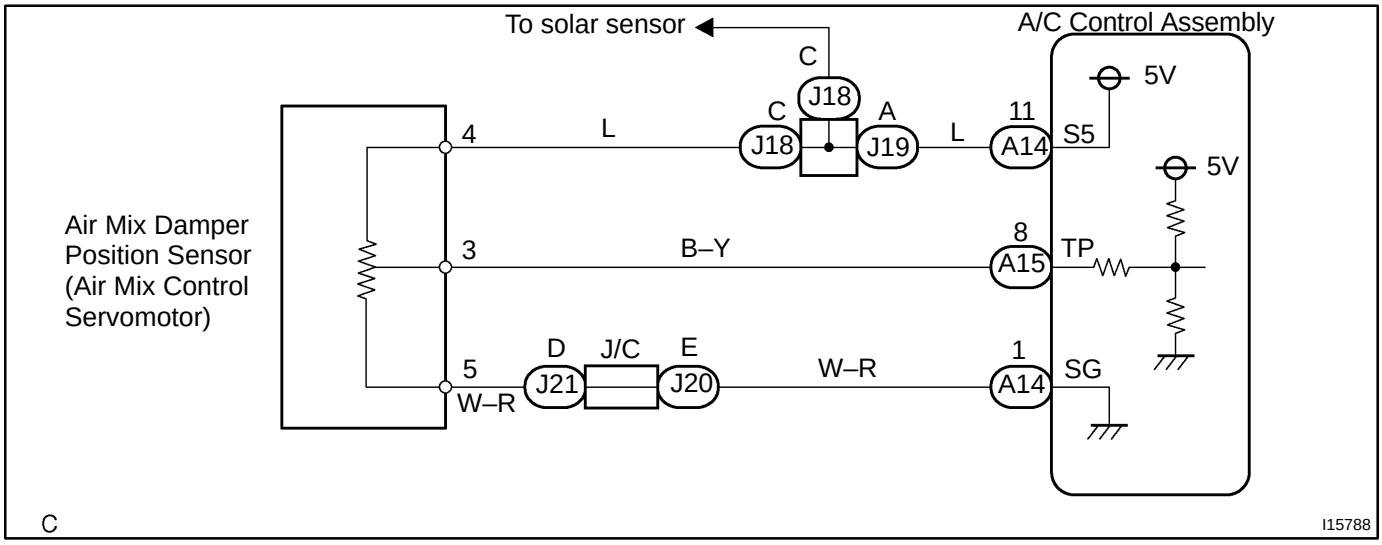
CIRCUIT DESCRIPTION



This sensor detects the position of the air mix damper and sends the appropriate signals to the A/C control assembly. The position sensor is built into the air mix control servomotor.

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 of connector between air mix control servomotor and A/C control assembly. ●A/C control assembly.
B1441/41	Air mix damper position sensor value does not change even if ECM operates air mix control servomotor.	

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

In case of using the hand–held tester, start the inspection from step1 and in case of not using the hand–held tester, start from step2.

1	**Check air mix damper position using hand–held tester.**

PREPARATION:

Connect the hand–held tester to the DLC3.

CHECK:

Check the current position of air mix damper and the target position of air mix damper.

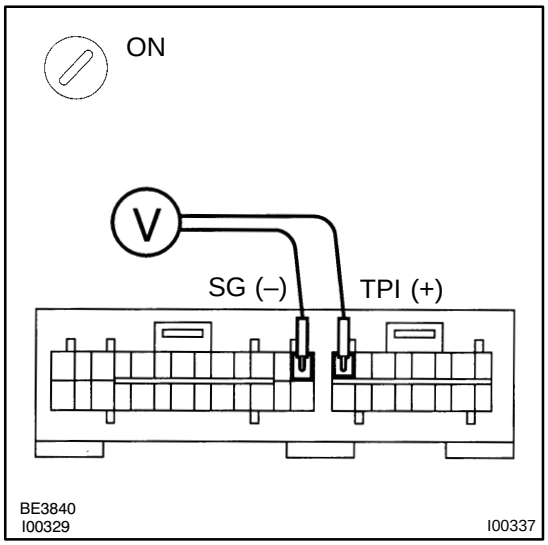
OK:

The current position and target position are almost similar.

OK → **Check and replace A/C control assembly.**

NG

2	**Check voltage between terminals TP and SG of A/C control assembly connector.**



PREPARATION:

(a) Remove A/C control assembly with connectors still connected (See page BO–79).

(b) Turn ignition switch ON.

CHECK:

Change the set temperature to activate the air mix damper, and measure the voltage between terminals TP and SG of A/C control assembly connector each time when the set temperature is changed.

OK:

Set Temperature	Voltage
Max. cool	3.5 – 4.5 V
Max. hot	0.5 – 1.8 V

HINT:

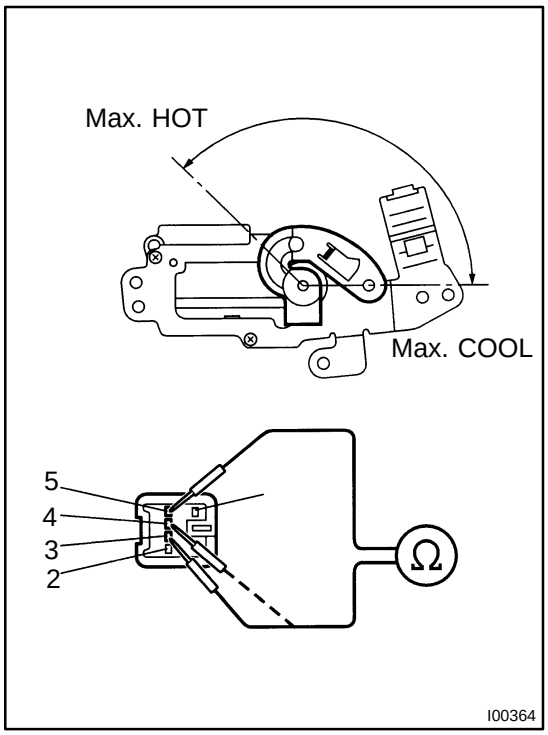
As the set temperature increases, the voltage decreases gradually without interruption.

NG → **Go to step 3.**

OK

Proceed to next circuit inspection shown on matrix chart (See page DI–711). However, if DTC B1431/31 or B1441/41 is displayed, check and replace A/C control assembly.

3	Check air mix damper position sensor.



PREPARATION:

(a) Remove air mix control servomotor (See page AC–74).

(b) Disconnect air mix control servomotor connector.

CHECK:

Measure resistance between terminals 4 and 5 of air mix control servomotor connector.

OK:

Resistance : 4.8 – 7.2 kΩ

CHECK:

While operating air mix control servomotor as shown in the procedure on page DI–738, measure resistance between terminals 3 and 5 of air mix control servomotor connector.

OK:

Position	Resistance
Max. cool	3.8 – 5.8 kΩ
Max. hot	0.95 – 1.45 kΩ

HINT:

As the air mix control servomotor moves from cool side to hot side, the resistance decreases gradually without interruption.

NG → **Replace air mix control servomotor.**

OK

4	Check harness and connector between A/C control assembly and air mix control servomotor (See page IN–31).

NG → **Repair or replace harness or connector.**

OK

Check and replace A/C control assembly.