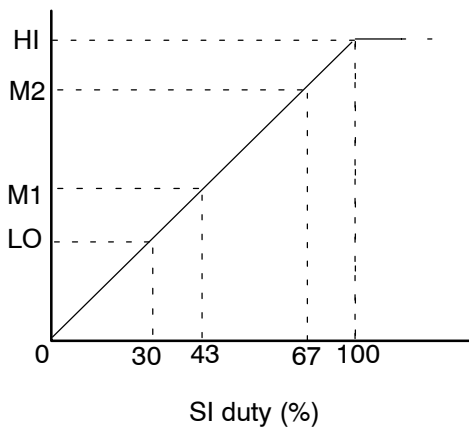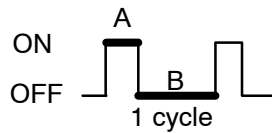# BLOWER MOTOR CIRCUIT

Blower Level

$$\text{Duty Ratio} = \frac{A}{A + B} \times 100 \ (\%)$$
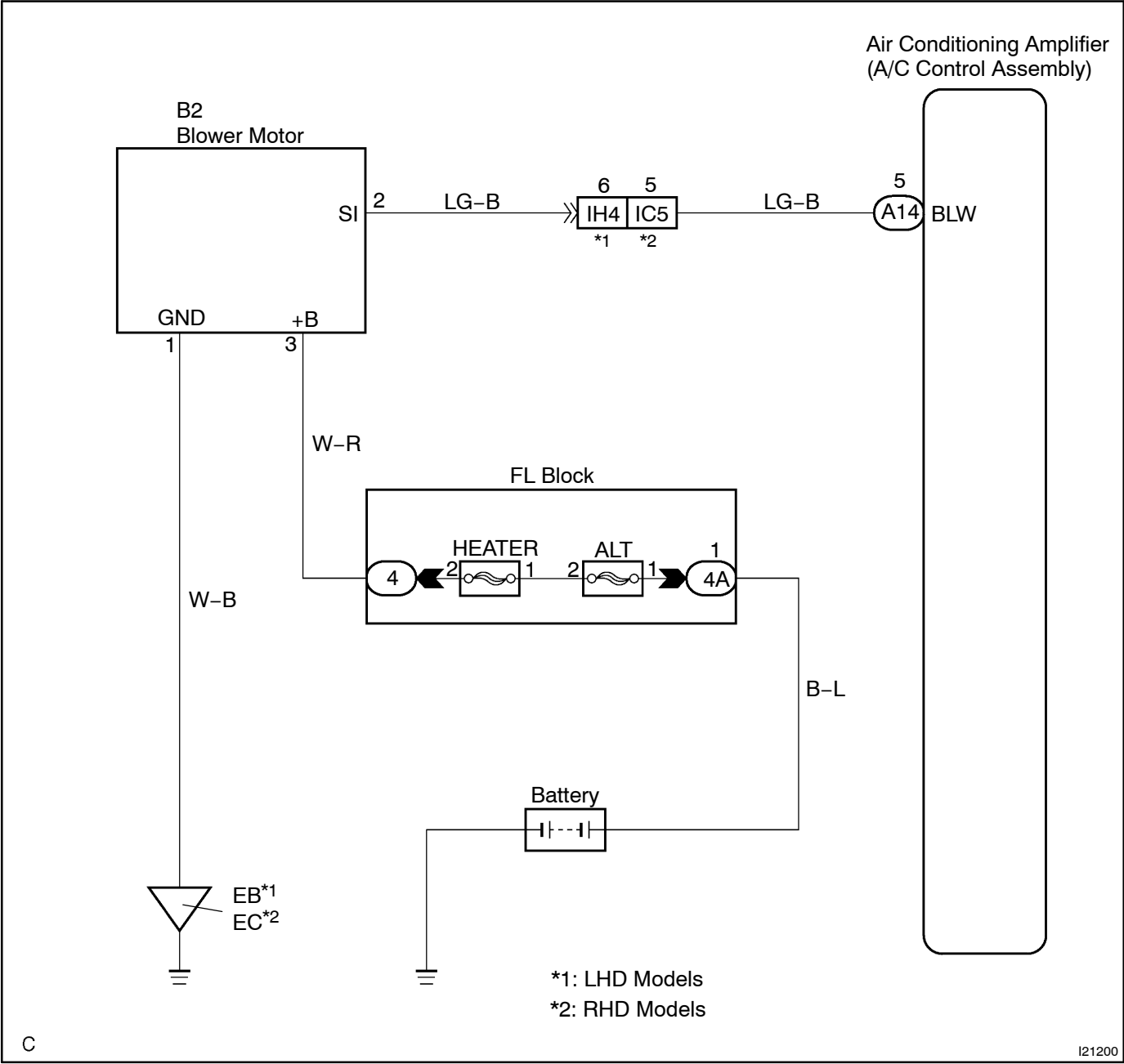
CIRCUIT DESCRIPTION

The blower motor is operated by signals from the A/C amplifier assy. Blower motor speed signals are transmitted by changes in the duty ratio.

Duty Ratio

The duty ratio is the ratio of the period of continuity in one cycle. For example, if A is the period of continuity in one cycle, B is the period of non−continuity.

The blower motor controller controls the blower motor speed.

WIRING DIAGRAM

Air Conditioning Amplifier
(A/C Control Assembly)

B2
Blower Motor

SI 2 — LG–B — 6 IH4 | 5 IC5 — LG–B — A14 BLW
        *1   *2

5

GND 1   +B 3

W–R

FL Block

HEATER   ALT   1
4 2 ⟶ 1 2 ⟶ 1 4A

W–B   B–L

Battery

EB*1
EC*2

*1: LHD Models
*2: RHD Models

C

I21200

INSPECTION PROCEDURE

1	READ VALUE ON INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.

(b) Turn the ignition switch to the ON position 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.

DATA LIST / AIR CONDITIONER:

Item	Measure Item/Display (Range)	Normal Condition	Diagnostic Note
Blower motor speed level (Blower Level)	Blower motor speed level / min.: 0 level max.: 31 level	Increases in the range between 0 and 31 as the speed increase	–

OK:

The display is as specified in the normal condition.

> NG REPLACE AIR CONDITIONING AMPLIFIER (**SEE PAGE 55–16**)

OK

2	PERFORM ACTUATOR CHECK

(a) Set the actuator check mode (see page 05–774).

(b) Press the blower switch to set the step operation.

(c) Check the air flow level by hand.

| Display Code	Blower level
0	0
1	1
2	14
3	14
4	14
5	14
6	14
7	14
8	14
9	31

OK:

Blower level changes in accordance with each display code.

> NG Go to step 2

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (**SEE PAGE 55–16**)

3	INSPECT RADIO AND RECEIVER ASSY

(a) Turn the ignition switch to the ON position.
(b) Turn the radio and receiver assy on.
(c) Set the radio channels and register them.
(d) Turn the ignition switch off.
(e) Turn the ignition switch to the ON position.
(f) Turn the radio and receiver assy on.
(g) Check if the registered memory is deleted or not.
OK:
The registered memory is not deleted.

NG > **REPAIR OR REPLACE HARNESS OR CONNEC-TOR (DRIVER SIDE J/B – BATTERY)**

OK

4	INSPECT FUSE(HEATER)

Fusible Link Block

HEATER Fuse

P   I41170
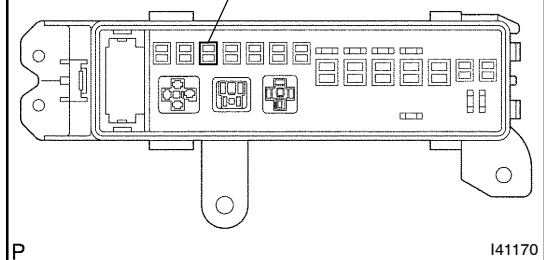
(a) Remove the HEATER fuse from the FL block.
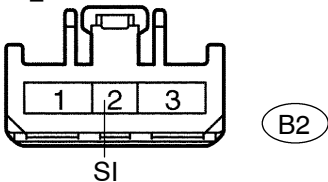(b) Measure the resistance according to the value(s) in the table below.
Standard:

Tester item	Condition	Specified condition
HEATER fuse	Always	Below 1 Ω

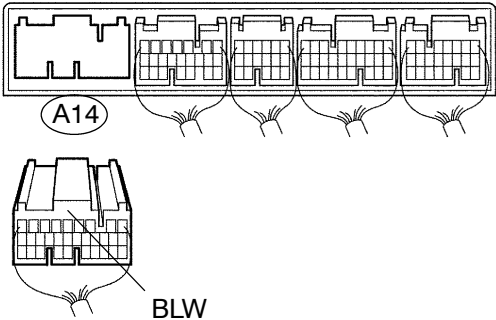NG > **CHECK FOR SHORT IN ALL HARNESSES AND COMPONENTS CONNECTED TO FAILURE FUSE**

OK

5	CHECK HARNESS AND CONNECTOR(BLOWER MOTOR – AIR CONDITIONING AMPLIFIER) (SEE PAGE 01–44)

**Blower Motor Connector
Wire Harness View:**

**Air Conditioning Amplifier Connector Wire
Harness View:**

P I36261 I36260   I36406

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

Standard:

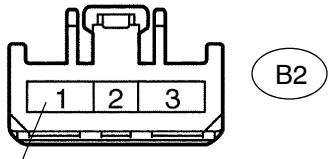| Tester connection	Condition	Specified condition
A14–5 (BLW) – B2–2 (SI)	Always	Below 1 Ω
A14–5 (BLW) – Body ground	Always	10 kΩ or higher

NG ▷ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ▽

6	CHECK HARNESS AND CONNECTOR(BLOWER MOTOR – BODY GROUND) (SEE PAGE 01–44)

**Blower Motor Connector
Front View:**

I36261   I41124

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

Standard:

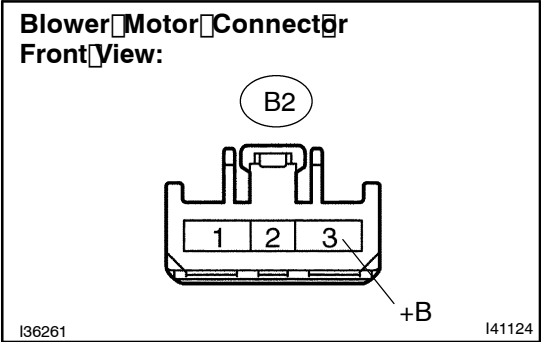| Tester connection	Condition	Specified condition
B2–1 (GND) – Body ground	Always	Below 1 Ω

NG ▷ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ▽

7	CHECK HARNESS AND CONNECTOR (BLOWER MOTOR – BATTERY) (SEE PAGE 01–44)

Blower Motor Connector Front View:

B2

1 2 3

+B

I36261   I41124

(a) Remove the blower motor.

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

Standard:

Tester connection	Condition	Specified condition
B2–3 (+B) – Body ground	Always	10 to 14 V

NG ▷ REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

8	INSPECT BLOWER MOTOR

Blower Motor Connector Front View:

B2

3 2 1

N   + −   I36355
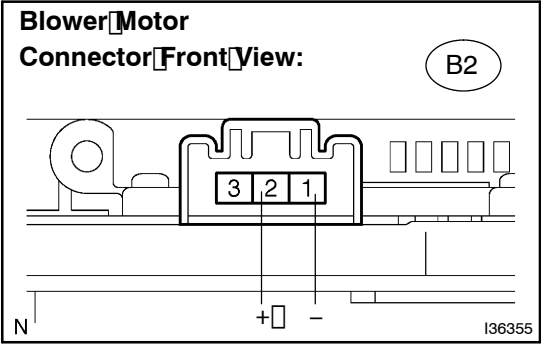
(a) Remove the blower motor.

(b) Connect positive (+) lead to terminal 2 of the blower motor connector and negative (−) lead to terminal 1.

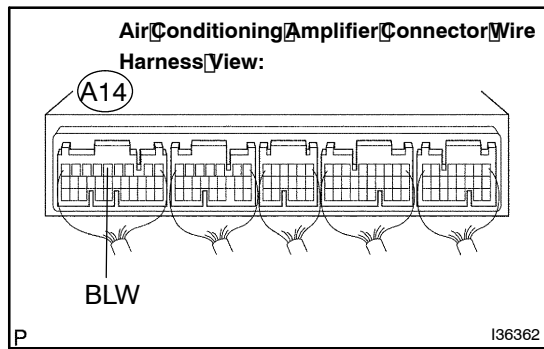**OK: Blower motor operates smoothly.**

NG ▷ REPLACE BLOWER MOTOR

OK

| 9 | INSPECT AIR CONDITIONING AMPLIFIER(BLW – BODY GROUND) |

Air Conditioning Amplifier Connector Wire Harness View:

A14

BLW

P   I36362

(a) Remove the A/C amplifier with connectors still connected.
(b) Turn the ignition switch to the ON position.
(c) Turn the blower switch on (Lo).

2V/
Division

GND

500m sec./ Division   I31456
P
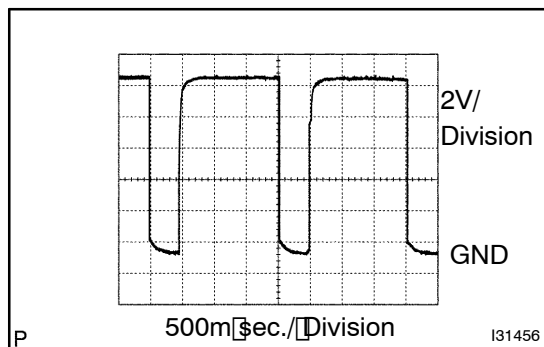
(d) Measure the waveform between terminal BLW (A14–5) of the A/C amplifier and body ground.
     OK:
     Waveform operate as shown in the illustration.
HINT:
Waveform varies with the blower level.

NG ⟩ **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–778)