

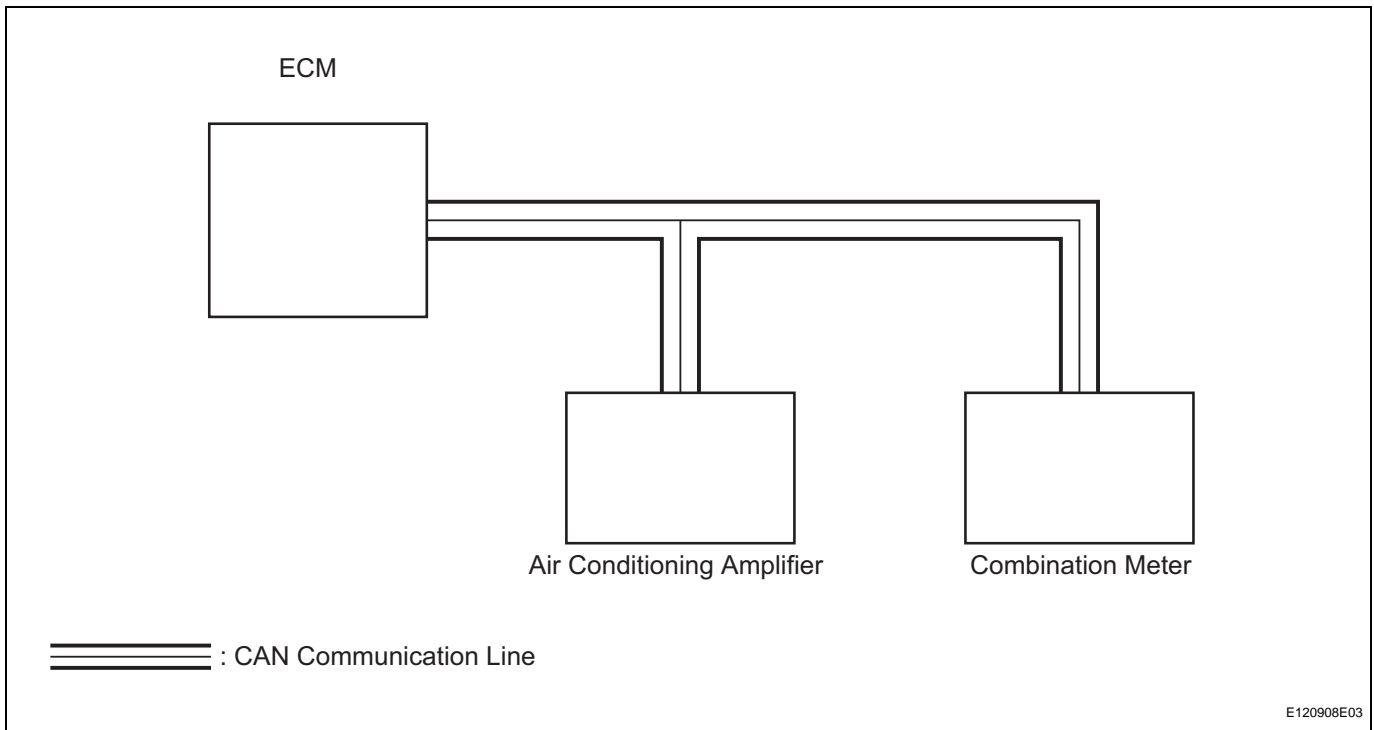
DTC	B1499/99	Multiplex Communication Circuit
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DESCRIPTION

The air conditioning amplifier communicates data with the ECM and combination meter through the CAN communication system.

DTC No.	DTC Detection Condition	Trouble Area
B1499/99	Open in CAN communication line	<ul style="list-style-type: none"> Air conditioning amplifier ECM Combination meter CAN communication line

WIRING DIAGRAM



AC

INSPECTION PROCEDURE

1	CHECK DTC
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- (a) Clear the DTC (see page [AC-127](#)).
- (b) Read the DTC (see page [AC-127](#)).

Result

Result	Proceed to
DTC (B1499/99) is output	A (see page CA-1)
DTC (B1499/99) is not output	B

B
SYSTEM IS OK

A

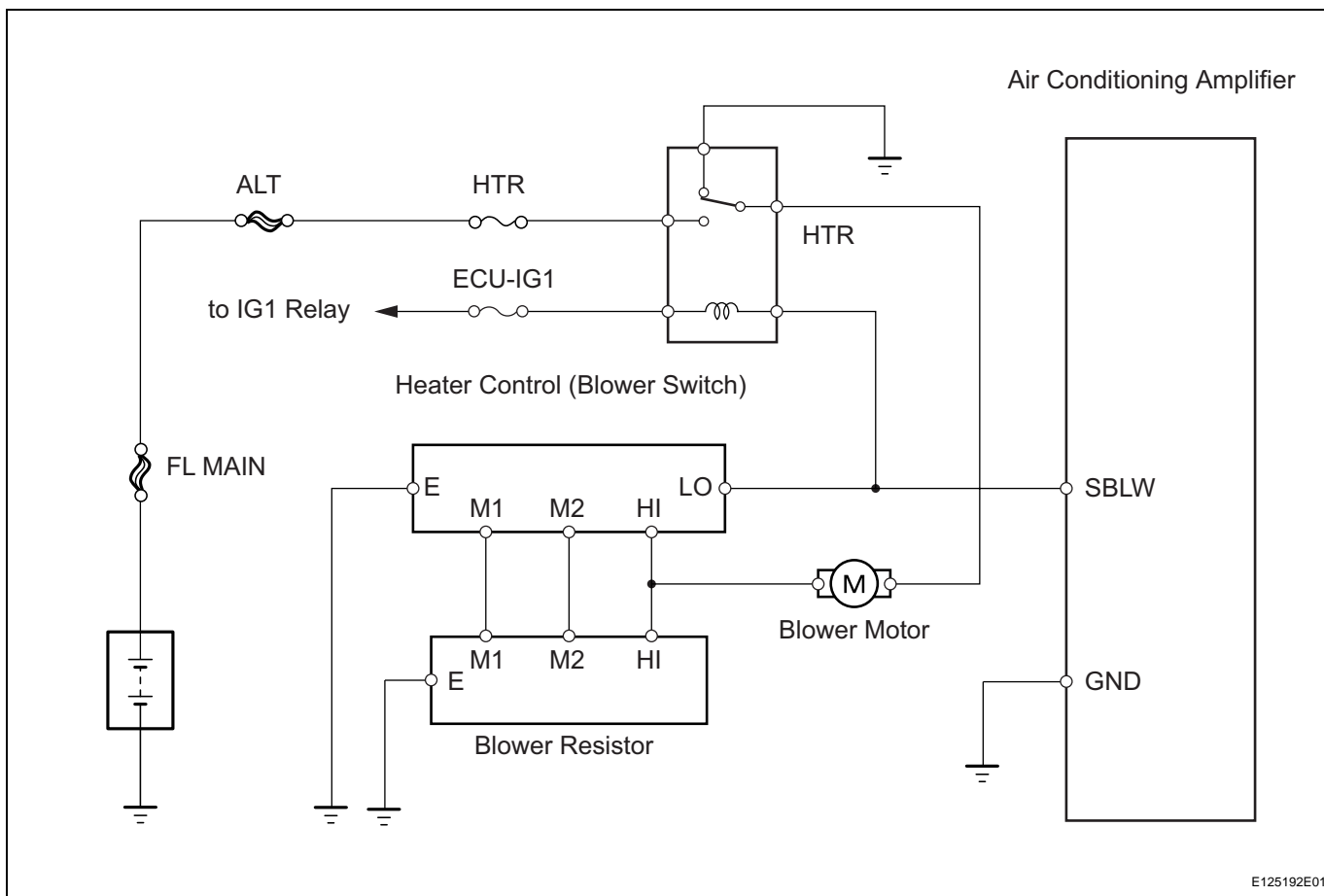
GO TO CAN COMMUNICATION SYSTEM

Blower Motor Circuit

DESCRIPTION

When the heater control (blower switch) is set to position 1 or higher, the contact of the HTR relay is closed, current flows to the blower motor, and the blower motor operates. The blower motor speed can be changed by exchanging the ground and the blower resistor circuit with the heater control (blower switch).

WIRING DIAGRAM



AC

INSPECTION PROCEDURE

1 INSPECT FUSE (HTR)

- Remove the HTR fuse from the engine room No. 2 relay block.
- Measure the resistance of the fuse.

Standard resistance:

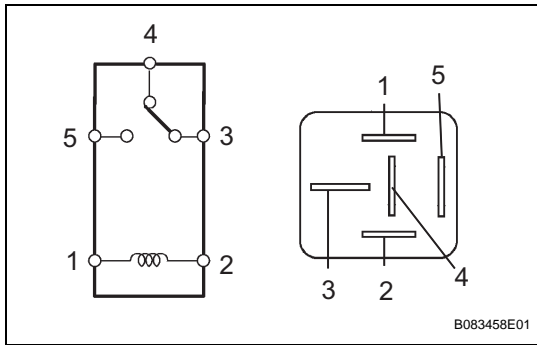
Below 1 Ω

NG

REPLACE FUSE

OK

2 INSPECT HEATER RELAY (Marking: HTR)



(a) Remove the heater relay from the instrument panel junction block.

(b) Measure the resistance of the relay.

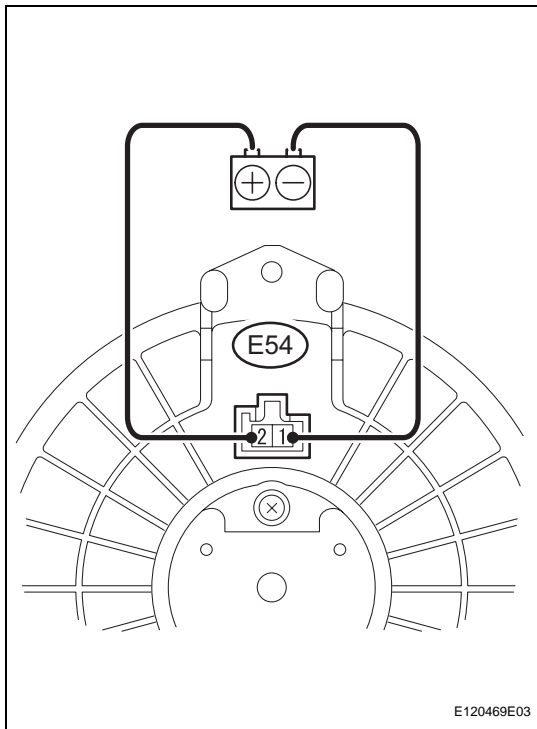
Standard resistance

Tester Connection	Specified Condition
3 - 4	Below 1 Ω
3 - 5	10 k Ω or higher
3 - 4	10 k Ω or higher (when battery voltage is applied to terminals 1 and 2)
3 - 5	Below 1 Ω (when battery voltage is applied to terminals 1 and 2)

NG → **REPLACE HEATER RELAY**

OK

3 INSPECT BLOWER MOTOR



(a) Disconnect the E54 motor connector.

(b) Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, then check that the blower motor operates smoothly.

OK:

The blower motor operates smoothly.

(c) Measure the current.

Standard current

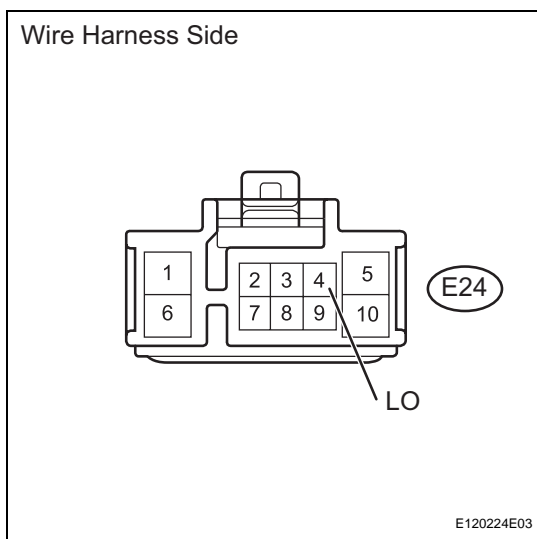
Tester Connection	Condition	Specified Condition
E54-1 - E54-2	Blower motor operates	1 to 3 A

NG → **REPLACE BLOWER MOTOR**

OK

AC

4 CHECK WIRE HARNESS (HEATER CONTROL (BLOWER SWITCH) - BATTERY)



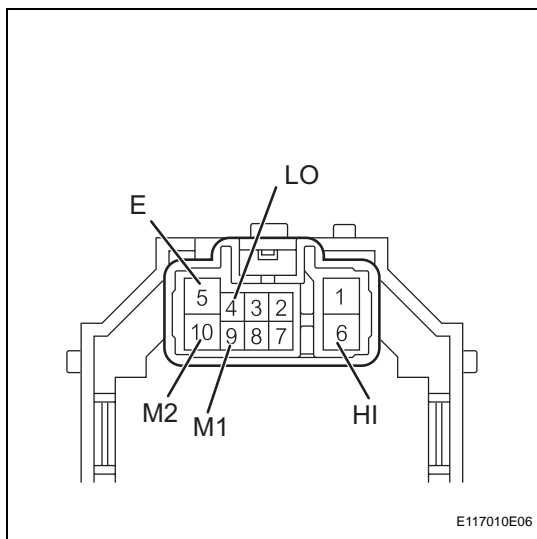
- (a) Disconnect the E24 heater control connector.
 - (b) Measure the voltage of the wire harness side connector.
- Standard voltage**

Tester Connection	Condition	Specified Condition
E24-4 (LO) - Body ground	Ignition switch ON	10 to 14 V

NG **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5 INSPECT HEATER CONTROL (BLOWER SWITCH)



- (a) Remove the heater control.
 - (b) Measure the resistance of the switch.
- Standard resistance**

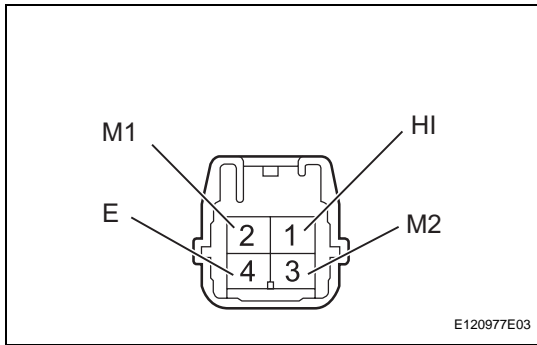
Tester Connection	Switch Position	Specified Condition
ALL - 5 (E)	0	10 k Ω or higher
4 (LO) - 5 (E)	1	Below 1 Ω
4 (LO) - 5 (E) - 9 (M1)	1 to 2	Below 1 Ω
4 (LO) - 5 (E) - 9 (M1)	2	Below 1 Ω
(LO) - (E) - 9 (M1) - 10 (M2)	2 to 3	Below 1 Ω
4 (LO) - 5 (E) - 10 (M2)	3	Below 1 Ω
4 (LO) - 5 (E) - 10 (M2) - 6(HI)	3 to 4	Below 1 Ω
4 (LO) - 5 (E) - 6 (HI)	4	Below 1 Ω

NG **REPLACE HEATER CONTROL**

OK

AC

6 INSPECT BLOWER RESISTOR



- (a) Remove the blower resistor.
- (b) Measure the resistance of the resistor.

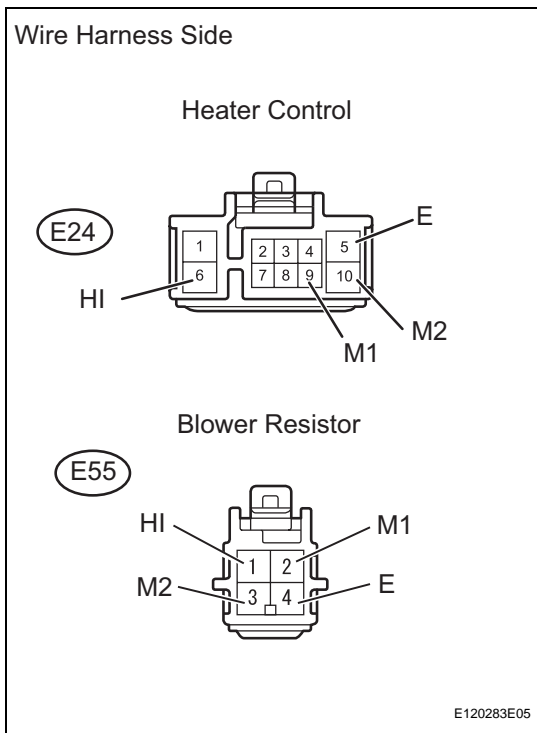
Standard resistance

Tester Connection	Specified Condition
E55-4 (E) - E55-1 (HI)	3.12 to 3.60 Ω
E55-4 (E) - E55-3 (M2)	1.45 to 1.67 Ω
E55-4 (E) - E55-2 (M1)	0.52 to 0.60 Ω

NG → **REPLACE BLOWER RESISTOR**

OK

7 CHECK WIRE HARNESS (HEATER CONTROL (BLOWER SWITCH) - BLOWER RESISTOR)



- (a) Disconnect the E24 heater control connector.
- (b) Disconnect the E55 blower resistor connector.
- (c) Measure the resistance of the wire harness side connectors.

Standard resistance

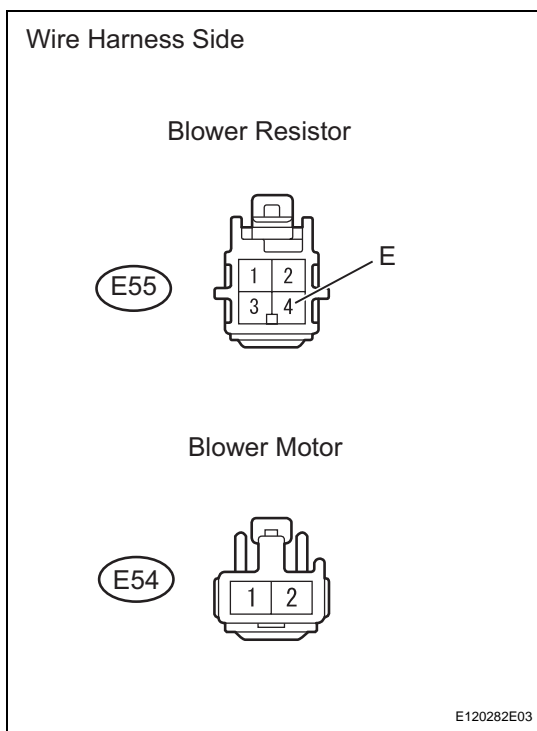
Tester Connection	Specified Condition
E24-6 (HI) - E55-1 (HI)	Below 1 Ω
E24-9 (M1) - E55-2 (M1)	Below 1 Ω
E24-10 (M2) - E55-3 (M2)	Below 1 Ω
E24-5 (E) - Body ground	Below 1 Ω
E55-4 (E) - Body ground	Below 1 Ω

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

OK

AC

8 CHECK WIRE HARNESS (BLOWER RESISTOR - BLOWER MOTOR)



- (a) Disconnect the E55 blower resistor connector.
- (b) Disconnect the E54 motor connector.
- (c) Measure the resistance of the wire harness side connectors.

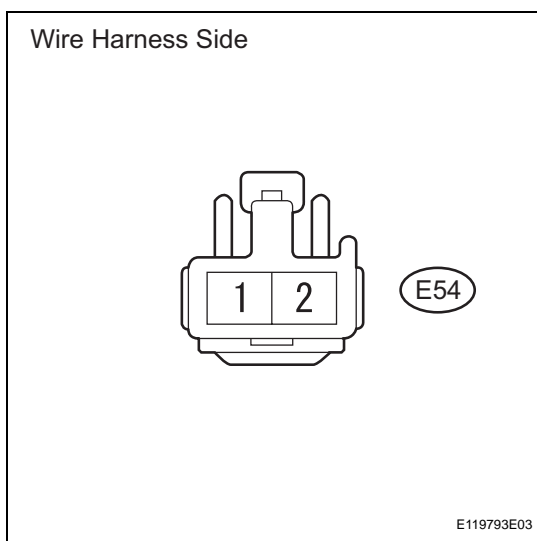
Standard resistance

Tester Connection	Specified Condition
E55-4 (E) - E54-1	Below 1 Ω

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

9 CHECK WIRE HARNESS (BLOWER MOTOR - BODY GROUND)



- (a) Disconnect the E54 motor connector.
- (b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
E54-2 - Body ground	Below 1 Ω

- (c) Measure the voltage of the wire harness side connector.

Standard voltage

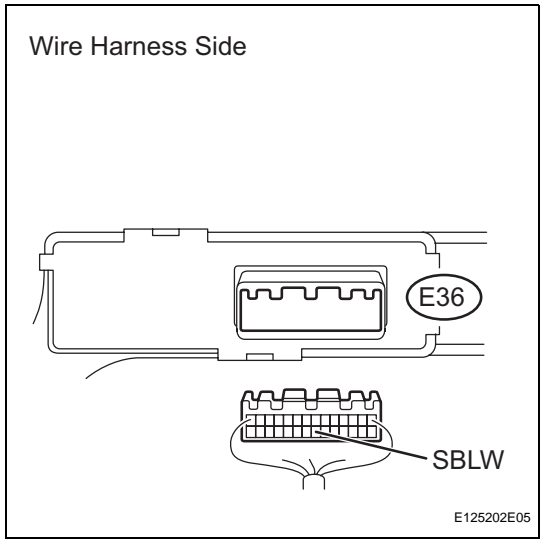
Tester Connection	Condition	Specified Condition
E54-2 - Body ground	Ignition switch ON Heater control (blower switch) 1	10 to 14 V

NG REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

AC

10 CHECK WIRE HARNESS (AIR CONDITIONING AMPLIFIER - BATTERY)



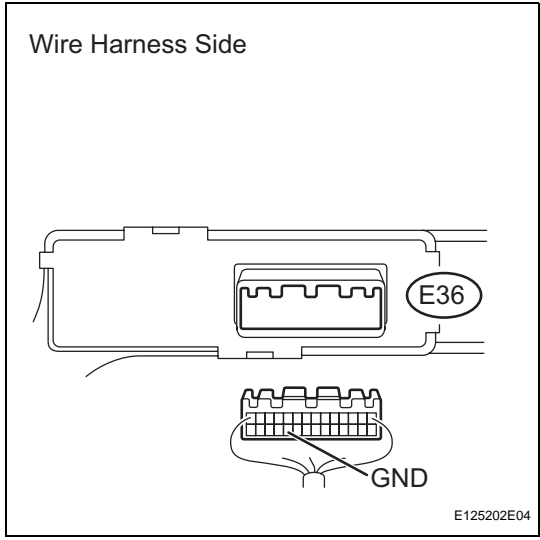
- (a) Disconnect the E36 amplifier connector.
 - (b) Measure the voltage of the wire harness side connector.
- Standard voltage**

Tester Connection	Condition	Specified Condition
E36-21 (SBLW) - Body ground	Ignition switch ON Heater control (blower switch) 0	10 to 14 V

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

OK

11 CHECK WIRE HARNESS (AIR CONDITIONING AMPLIFIER - BODY GROUND)



- (a) Disconnect the E36 amplifier connector.
 - (b) Measure the resistance of the wire harness side connector.
- Standard resistance**

Tester Connection	Specified Condition
E36-24 (GND) - Body ground	Below 1 Ω

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

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

AC