

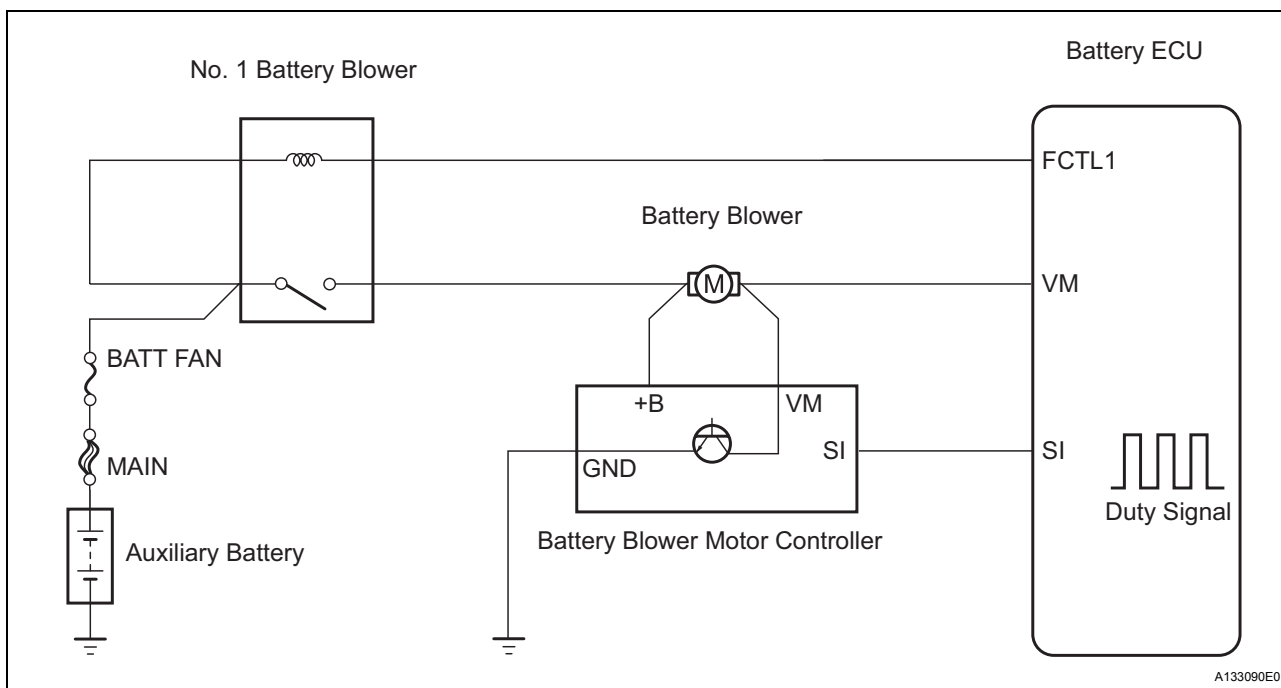
<b>DTC</b>	<b>P0A84</b>	<b>Hybrid Battery Pack Cooling Fan 1 Control Circuit Low</b>
<b>DTC</b>	<b>P0A85</b>	<b>Hybrid Battery Pack Cooling Fan 1 Control Circuit High</b>

**DESCRIPTION**

The blower motor controller regulates the voltage of the battery blower. The blower motor controller has fins made of aluminum. The exhaust air from the HV battery assembly that flows through the quarter vent duct cools the blower motor controller, which is installed in the quarter vent duct.

The current flows from the FCTL1 terminal of the battery ECU to the relay coil of the No. 1 battery blower relay and as the contact point of the relay closes, the power is supplied to the battery blower.

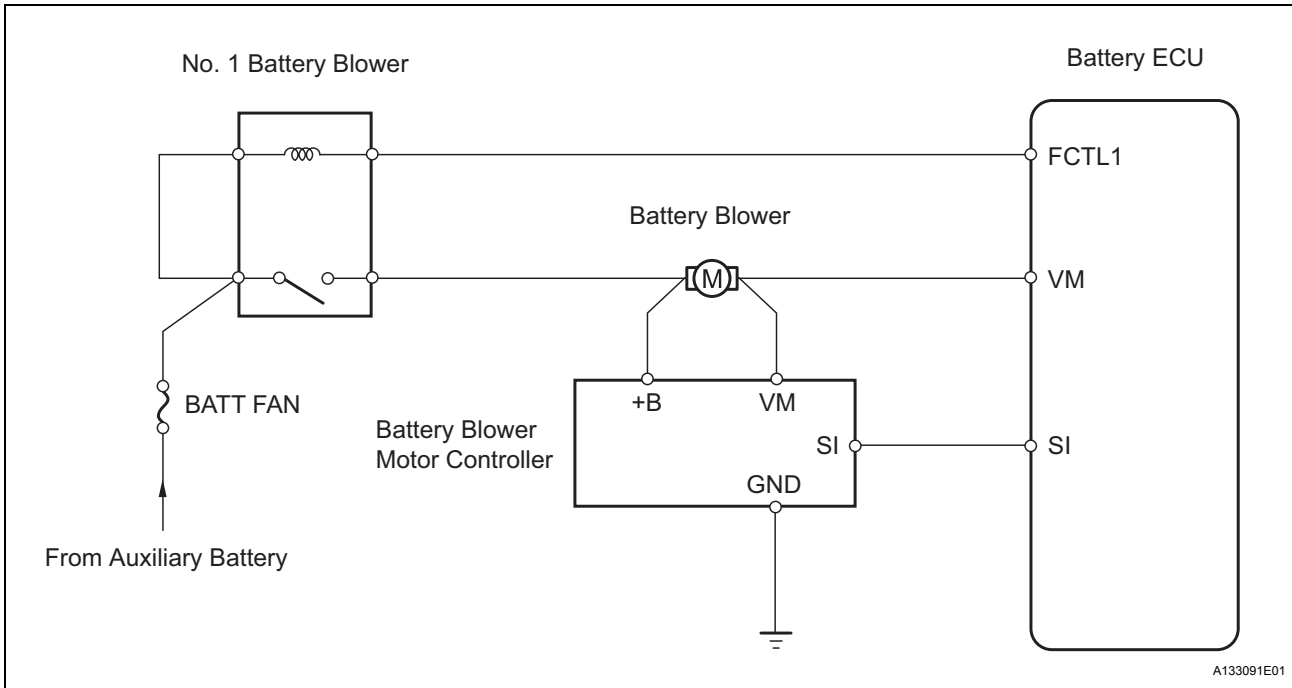
When a fan actuation signal is transmitted from the battery ECU, the blower motor controller adjusts voltage (VM) which is applied to the battery blower in order to get the requested fan speed. The adjusted voltage is also transmitted to the VM terminal of the battery ECU in the form of a monitoring signal. The blower motor controller corrects the voltage at the blower motor by monitoring voltage at the +B terminal of the battery blower.



**HB**

DTC No.	DTC Detection Condition	Trouble Area
P0A84	Battery blower voltage is lower than malfunction threshold at constant vehicle speed	<ul style="list-style-type: none"> <li>• Wire harness or connector</li> <li>• BATT FAN fuse</li> <li>• No. 1 battery blower relay</li> <li>• Battery blower</li> <li>• Quarter vent duct (battery blower motor controller)</li> <li>• Battery ECU</li> </ul>
P0A85	Battery blower voltage is higher than malfunction threshold at constant vehicle speed	<ul style="list-style-type: none"> <li>• Wire harness or connector</li> <li>• BATT FAN fuse</li> <li>• No. 1 battery blower relay</li> <li>• Battery blower</li> <li>• Quarter vent duct (battery blower motor controller)</li> <li>• Battery ECU</li> </ul>

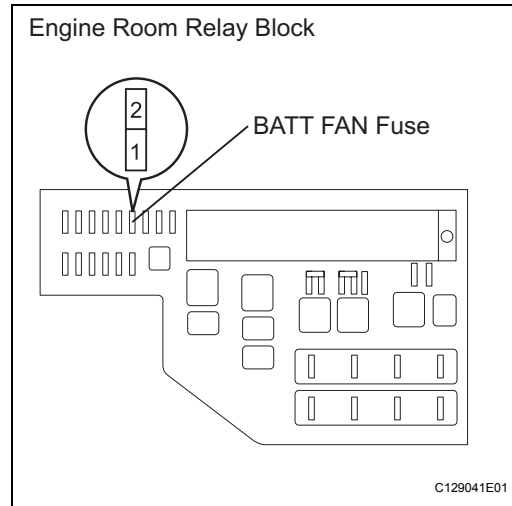
**WIRING DIAGRAM**



**INSPECTION PROCEDURE**

**1 CHECK FUSE (BATT FAN)**

**HB**



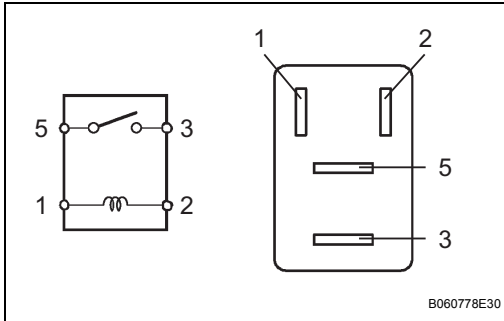
- (a) Remove the BATT FAN fuse from the engine room relay block.
- (b) Measure the resistance of the BATT FAN fuse.  
**Standard resistance:**  
**Below 1 Ω**
- (c) Reinstall the BATT FAN fuse.

**NG**

**Go to step 14**

**OK**

**2 INSPECT NO. 1 BATTERY BLOWER RELAY**



- (a) Remove the No. 1 battery blower relay.
- (b) Measure the resistance of the terminals of the relay.

**Standard resistance**

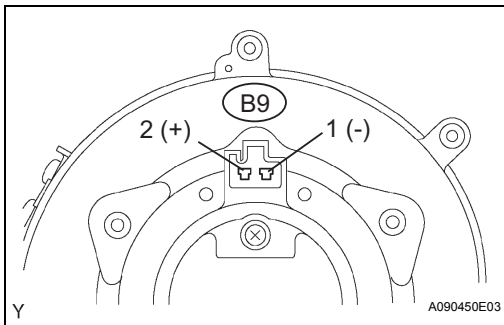
Tester Connection	Specified Condition
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (Apply battery voltage to terminals 1 and 2)

- (c) Reinstall the No. 1 battery blower relay.

**NG** → **REPLACE NO. 1 BATTERY BLOWER RELAY**

**OK**

**3 INSPECT BATTERY BLOWER**



- (a) Disconnect the B9 battery blower connector.
- (b) Connect the positive terminal of the battery to terminal 2 of the battery blower connector, and the negative battery terminal to terminal 1 of the connector.
- (c) Check that the blower fan rotates when voltage is applied.

**OK:**  
**Blower fan rotates**

**NG** → **REPLACE BATTERY BLOWER**

**OK**

**HB**

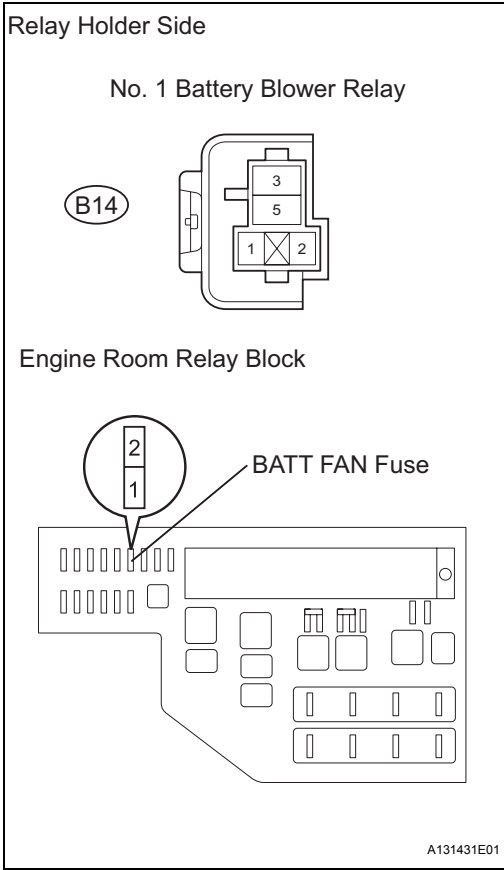
**4 CHECK BATTERY BLOWER MOTOR CONTROLLER**

- (a) Check the battery blower motor controller (see page [HB-159](#)).

**NG** → **REPLACE QUARTER VENT DUCT (BATTERY BLOWER MOTOR CONTROLLER)**

**OK**

**5 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATT FAN FUSE)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Remove the BATT FAN fuse from the engine room relay block.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B14-1 and 3 - BATT FAN fuse terminal 2	Below 1 Ω

**NOTICE:**

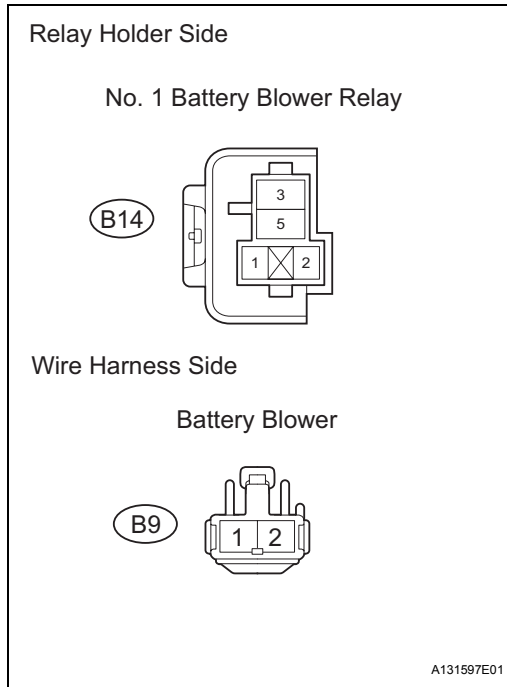
**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

- (d) Reinstall the No. 1 battery blower relay.
- (e) Reinstall the BATT FAN fuse.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR**

**HB** OK

**6 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATTERY BLOWER)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Disconnect the B9 battery blower connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B14-5 - B9-2	Below 1 Ω

**NOTICE:**

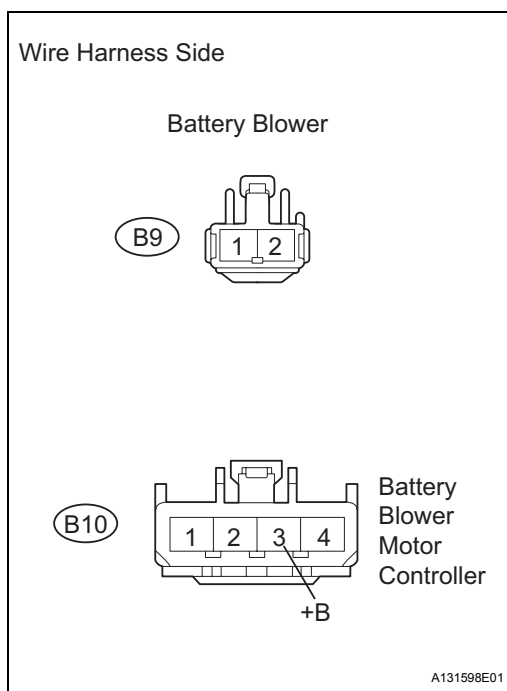
**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

- (d) Reinstall the No. 1 battery blower relay.
- (e) Reconnect the battery blower connector.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR**

**OK**

**7 CHECK WIRE HARNESS (BATTERY BLOWER - BATTERY BLOWER MOTOR CONTROLLER)**



- (a) Disconnect the B9 battery blower connector.
- (b) Disconnect the B10 battery blower motor controller connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

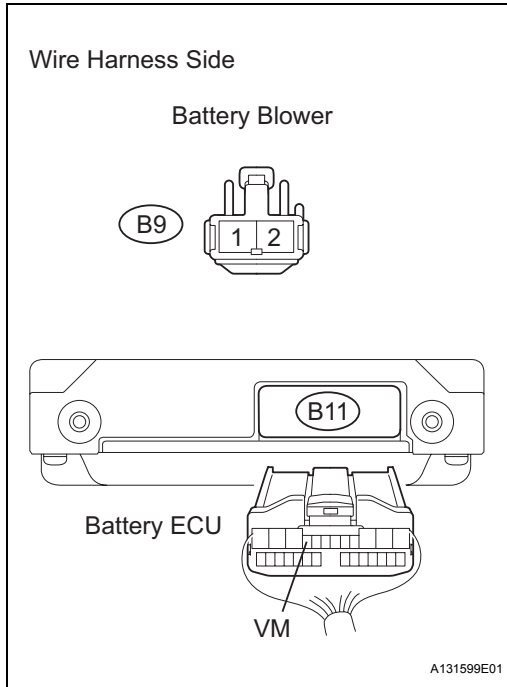
Tester Connection	Specified Condition
B9-2 - B10-3 (+B)	Below 1 Ω

- (d) Reconnect the battery blower connector.
- (e) Reconnect the battery blower motor controller connector.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

**8 CHECK WIRE HARNESS (BATTERY BLOWER - BATTERY ECU)**



- (a) Disconnect the B9 battery blower connector.
- (b) Disconnect the B11 battery ECU connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B9-1 - B11-9 (VM)	Below 1 Ω
B9-1 or B11-9 (VM) - Body ground	10 kΩ or higher

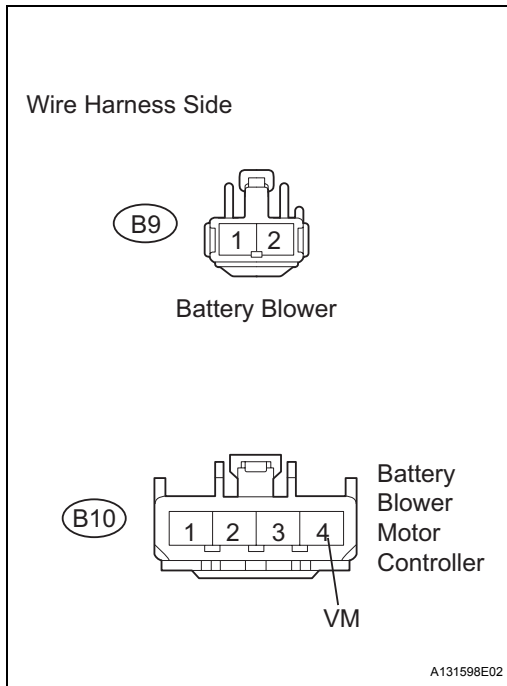
- (d) Reconnect the battery blower connector.
- (e) Reconnect the battery ECU connector.

**NG** REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

**9 CHECK WIRE HARNESS (BATTERY BLOWER - BATTERY BLOWER MOTOR CONTROLLER)**

HB



- (a) Disconnect the B9 battery blower connector.
- (b) Disconnect the B10 battery blower motor controller connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

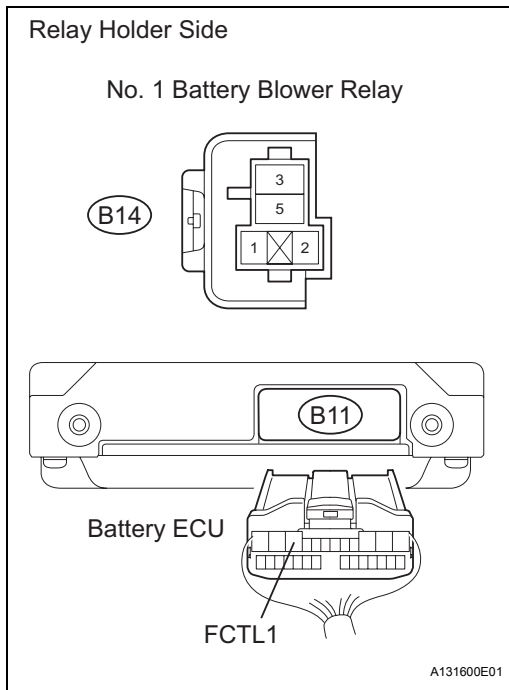
Tester Connection	Specified Condition
B9-1 - B10-4 (VM)	Below 1 Ω
B9-1 or B10-4 (VM) - Body ground	10 kΩ or higher

- (d) Reconnect the battery blower connector.
- (e) Reconnect the battery blower motor controller connector.

**NG** REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

**10 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATTERY ECU)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Disconnect the B11 battery ECU connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B14-2 - B11-10 (FCTL1)	Below 1 Ω
B14-2 or B11-10 (FCTL1) - Body ground	10 kΩ or higher

**NOTICE:**

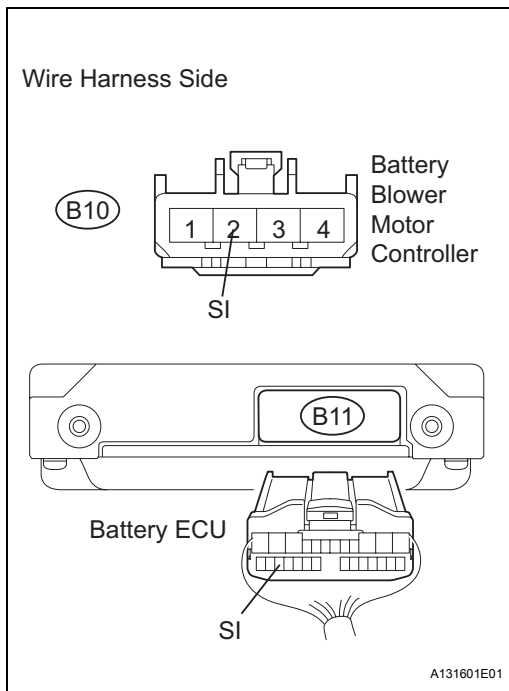
**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

- (d) Reinstall the No. 1 battery blower relay.
- (e) Reconnect the battery ECU connector.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

**11 CHECK WIRE HARNESS (BATTERY BLOWER MOTOR CONTROLLER - BATTERY ECU)**



- (a) Disconnect the B10 battery blower motor controller connector.
- (b) Disconnect the B11 battery ECU connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B10-2 (SI) - B11-24 (SI)	Below 1 Ω
B10-2 (SI) or B11-24 (SI) - Body ground	10 kΩ or higher

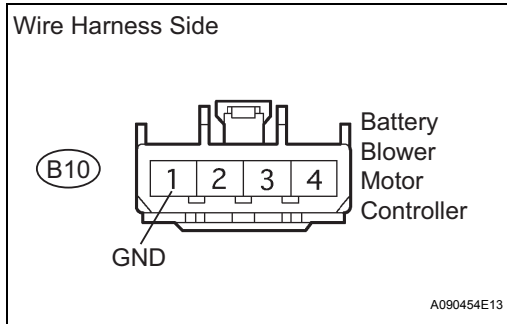
- (d) Reconnect the battery blower motor controller connector.
- (e) Reconnect the battery ECU connector.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR**

**HB**

OK

**12 CHECK WIRE HARNESS (BATTERY BLOWER MOTOR CONTROLLER - BODY GROUND)**



- (a) Disconnect the B10 battery blower motor controller connector.
- (b) Measure the resistance of the wire harness side connector.

**Standard resistance**

Tester Connection	Specified Condition
B10-1 (GND) - Body ground	Below 1 Ω

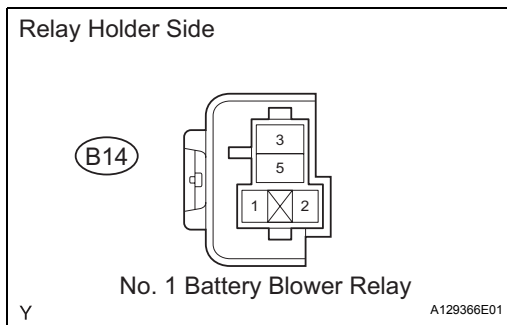
- (c) Reconnect the battery blower motor controller connector.

NG

**REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

**13 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B14-1 - B14-3	Below 1 Ω

**NOTICE:**

**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

- (c) Reinstall the No. 1 battery blower relay.

NG

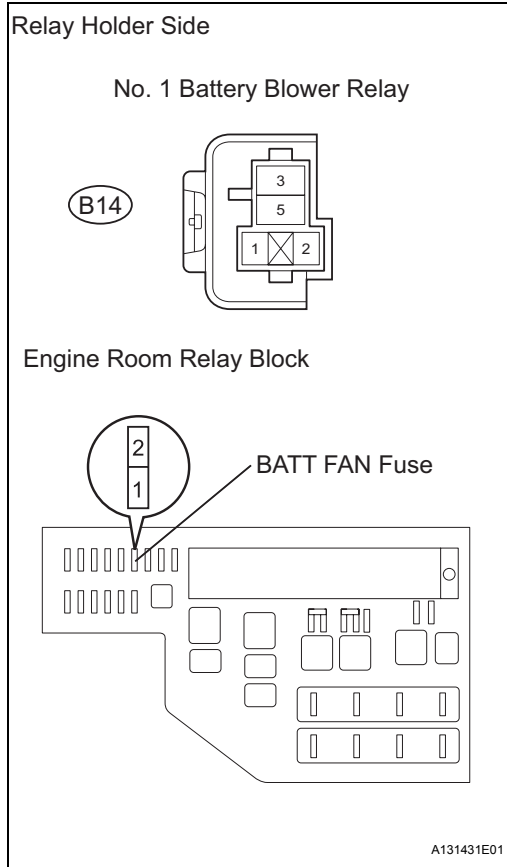
**REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

**REPLACE BATTERY ECU**



**14 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATT FAN FUSE)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Remove the BATT FAN fuse from the engine room relay block.
- (c) Measure the resistance of the wire harness side connector.

**Standard resistance**

Tester Connection	Specified Condition
B14-3 or BATT FAN fuse terminal 2 - Body ground	10 kΩ or higher

**NOTICE:**

**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

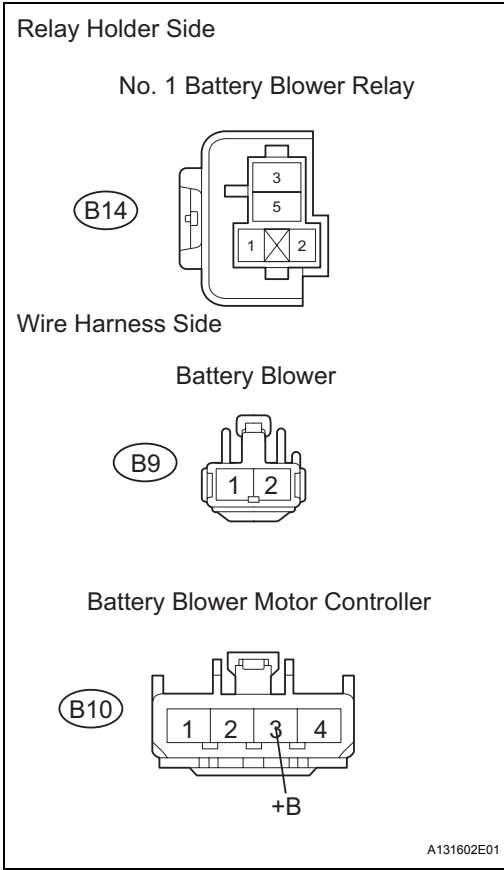
- (d) Reinstall the No. 1 battery blower relay.
- (e) Reinstall the BATT FAN fuse.

**NG REPAIR OR REPLACE HARNESS AND CONNECTOR AND REPLACE FUSE (BATT FAN)**

**OK**

**HB**

**15 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATTERY BLOWER)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Disconnect the B9 battery blower connector.
- (c) Disconnect the B10 battery blower motor controller connector.
- (d) Measure the resistance of the wire harness side connector.

**Standard resistance**

Tester Connection	Specified Condition
B14-5, B9-2 or B10-3 (+B) - Body ground	10 kΩ or higher

**NOTICE:**

**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

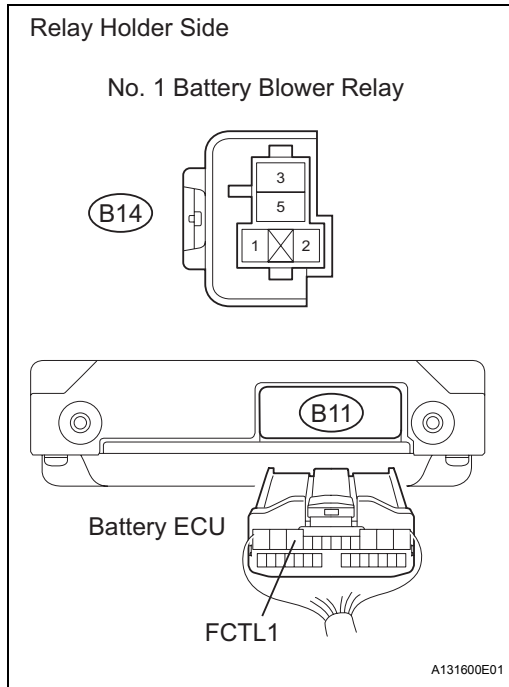
- (e) Reinstall the No. 1 battery blower relay.
- (f) Reconnect the battery blower connector.
- (g) Reconnect the battery blower motor controller connector.

**NG**

**REPAIR OR REPLACE HARNESS AND CONNECTOR AND REPLACE FUSE (BATT FAN)**

**HB** OK

**16 CHECK WIRE HARNESS (NO. 1 BATTERY BLOWER RELAY - BATTERY ECU)**



- (a) Remove the B14 No. 1 battery blower relay.
- (b) Disconnect the B11 battery ECU connector.
- (c) Measure the resistance of the wire harness side connectors.

**Standard resistance**

Tester Connection	Specified Condition
B14-1, B14-3 or B11-10 (FCTL1) - Body ground	10 kΩ or higher

**NOTICE:**

**When taking a measurement with a tester, do not apply excessive force to the tester probe to avoid damaging the holder.**

- (d) Reinstall the No. 1 battery blower relay.
- (e) Reconnect the battery ECU connector.

**NG** → **REPAIR OR REPLACE HARNESS AND CONNECTOR AND REPLACE FUSE (BATT FAN)**

**OK**

**17 CHECK BATTERY BLOWER MOTOR CONTROLLER**

- (a) Check the battery blower motor controller (see page [HB-159](#)).

**NG** → **REPLACE QUARTER VENT DUCT (BATTERY BLOWER MOTOR CONTROLLER)**

**HB**

**OK**

**REPLACE BATTERY ECU**