

# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

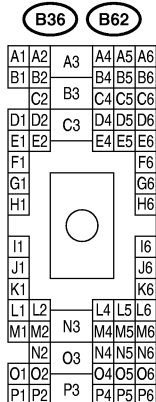
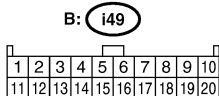
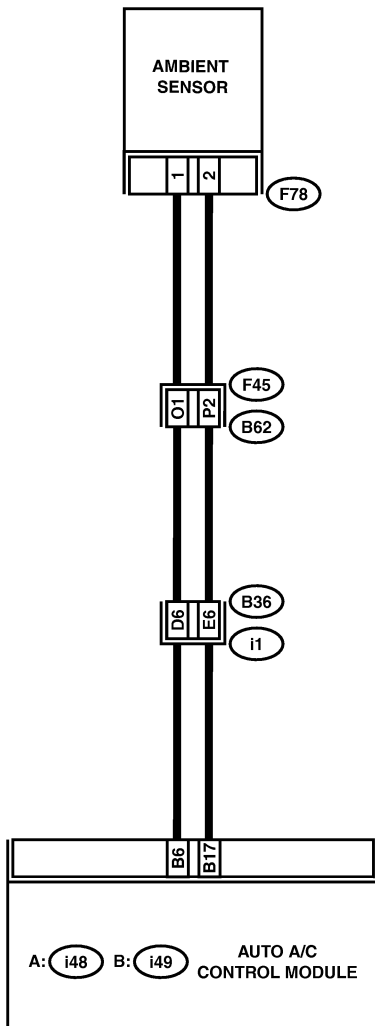
## 8. Diagnostic Procedure with Trouble Code S001509

### A: TROUBLE CODE 21 OR -21 (AMBIENT SENSOR) S001509F41

**TROUBLE SYMPTOM:**

Fan speed, outlets and inlets are not switched when AUTO or ECON switch is ON.

**WIRING DIAGRAM:**



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No.	Step	Check	Yes	No
1	<b>CHECK AMBIENT SENSOR.</b> 1) Turn ignition switch to OFF. 2) Disconnect connector from ambient sensor. 3) Measure resistance between connector terminals of ambient sensor. <i>Terminals:</i> <i>No. 1 — No. 2</i>	Is the resistance approx. 2.2 k $\Omega$ at 25°C (77°F)?	Go to step 2.	Replace ambient sensor.
2	<b>CHECK INPUT SIGNALS FOR AMBIENT SENSOR.</b> 1) Turn ignition ON. 2) Measure voltage between (F78) connector terminals. <i>Connector &amp; terminal:</i> <i>(F78) No. 1 — No. 2</i>	Is the voltage approx. 4.5 V?	Go to step 6.	Go to step 3.
3	<b>CHECK OUTPUT SIGNALS FROM A/C CONTROL MODULE.</b> 1) Turn ignition switch to OFF. 2) Pull out A/C control panel. 3) Disconnect connector from ambient sensor. 4) Turn ignition switch to ON. 5) Measure voltage between connector terminals of A/C control module. <i>Connector &amp; terminal:</i> <i>(i49) No. 6 — No. 17</i>	Is the voltage approx. 4.5 V?	Go to step 6.	Go to step 4.
4	<b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND AMBIENT SENSOR.</b> 1) Turn ignition switch to OFF. 2) Disconnect connectors from A/C control module. 3) Measure resistance of harness between A/C control module and ambient sensor. <i>Connector &amp; terminal:</i> <i>(F78) No. 1 — (i49) No. 6</i>	Is the resistance less than 1 $\Omega$ ?	Go to step 5.	Repair open circuit in harness between A/C control module and ambient sensor.
5	<b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND AMBIENT SENSOR.</b> Measure resistance of harness between A/C control module and ambient sensor. <i>Connector &amp; terminal:</i> <i>(F78) No. 2 — (i49) No. 17</i>	Is the resistance less than 1 $\Omega$ ?	Go to step 6.	Repair open circuit in harness between A/C control module and ambient sensor.
6	<b>CHECK POOR CONTACT.</b> Check poor contact in A/C control module.	Is there poor contact in A/C control module?	Repair poor contact in A/C control module.	Contact with SOA (distributor) service.

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### **B: TROUBLE CODE 22 OR -22 (IN-VEHICLE SENSOR)** S001509F42

#### **TROUBLE SYMPTOM:**

When turning AUTO switch to ON, blower fan speed, outlet port and inlet port is not changed.

If trouble code 22 or -22 appears on the display, replace the A/C control module. The in-vehicle sensor is built into the A/C control module and cannot be replaced as a single unit.

# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

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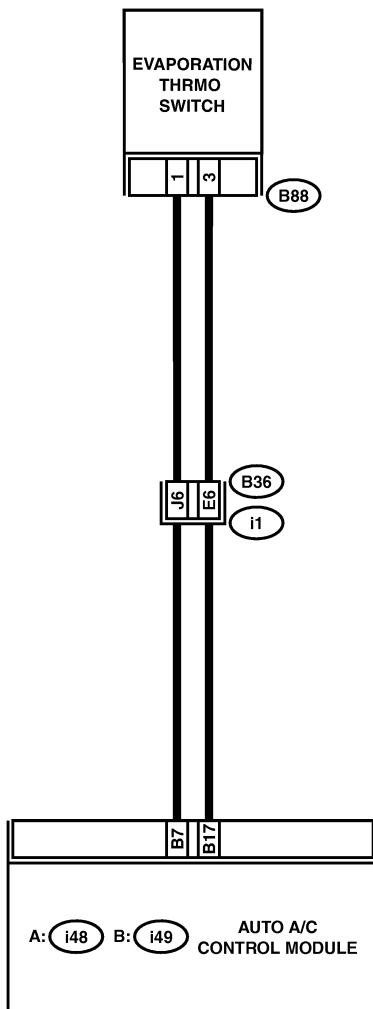
MEMO:

# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

## C: TROUBLE CODE 24 OR -24 (EVAPORATOR SENSOR) S001509F43

WIRING DIAGRAM:



B88

1
2
3

B: i49

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

B36

A1	A2	A3	A4	A5	A6
B1	B2	B3	B4	B5	B6
C1	C2	C3	C4	C5	C6
D1	D2	D3	D4	D5	D6
E1	E2	E3	E4	E5	E6
F1	F2	F3	F4	F5	F6
G1	G2	G3	G4	G5	G6
H1	H2	H3	H4	H5	H6
I1	I2	I3	I4	I5	I6
J1	J2	J3	J4	J5	J6
K1	K2	K3	K4	K5	K6
L1	L2	L3	L4	L5	L6
M1	M2	M3	M4	M5	M6
N1	N2	N3	N4	N5	N6
O1	O2	O3	O4	O5	O6
P1	P2	P3	P4	P5	P6

B4M2376

# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<p><b>CHECK EVAPORATOR SENSOR.</b></p> <p>1) Turn ignition switch to OFF. 2) Remove glove box. 3) Disconnect connector from evaporator sensor. 4) Measure resistance between connector terminals of evaporator sensor.</p> <p><b>Terminals:</b> <b>No. 1 — No. 3</b></p>	Is the resistance approx. 1.8 — 2.0 k $\Omega$ at 20°C (68°F)?	Go to step 2.	Replace evaporator sensor.
2	<p><b>CHECK INPUT SIGNALS FOR EVAPORATOR SENSOR.</b></p> <p>1) Turn ignition switch to "ON". 2) Measure voltage between (B88) connector terminal and chassis ground.</p> <p><b>Connector &amp; terminal</b> <b>(B88) No. 1 (+) — Chassis ground (-):</b></p>	Is the voltage approx. 4.5 V?	Go to step 3.	Replace evaporator sensor.
3	<p><b>CHECK OUTPUT SIGNALS FROM A/C CONTROL MODULE.</b></p> <p>1) Turn ignition switch to OFF. 2) Pull out A/C control module. 3) Turn ignition switch to "ON". 4) Measure voltage between A/C control module connector terminals.</p> <p><b>Connector &amp; terminal:</b> <b>(i49) No. 7 — No. 17</b></p>	Is the voltage approx. 4.5 V?	Go to step 4.	Go to step 6.
4	<p><b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND EVAPORATOR SENSOR.</b></p> <p>1) Turn ignition switch to OFF. 2) Disconnect connectors from A/C control module. 3) Measure resistance of harness between A/C control module and evaporator sensor.</p> <p><b>Connector &amp; terminal:</b> <b>(B88) No. 1 — (i49) No. 7</b></p>	Is the resistance less than 1 $\Omega$ ?	Go to step 5.	Repair open circuit in harness between A/C control module and evaporator sensor.
5	<p><b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND EVAPORATOR SENSOR.</b></p> <p>Measure resistance of harness between A/C control module and evaporator sensor.</p> <p><b>Connector &amp; terminal:</b> <b>(B88) No. 3 — (i49) No. 17</b></p>	Is the resistance less than 1 $\Omega$ ?	Go to step 6.	Repair open circuit in harness between A/C control module and evaporator sensor.
6	<p><b>CHECK POOR CONTACT.</b></p> <p>Check poor contact in A/C control module.</p>	Is there poor contact in A/C control module?	Repair poor contact in A/C control module.	Contact with SOA (distributor) service.

## DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

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### D: TROUBLE CODE 25 OR -25 (SUNLOAD SENSOR) S001509F44

#### TROUBLE SYMPTOM:

- Sensor identified that sunlight is at maximum. Then, A/C system is controlled to COOL side.
- Sensor identified that sunlight is at minimum. Then, A/C system is controlled to HOT side.

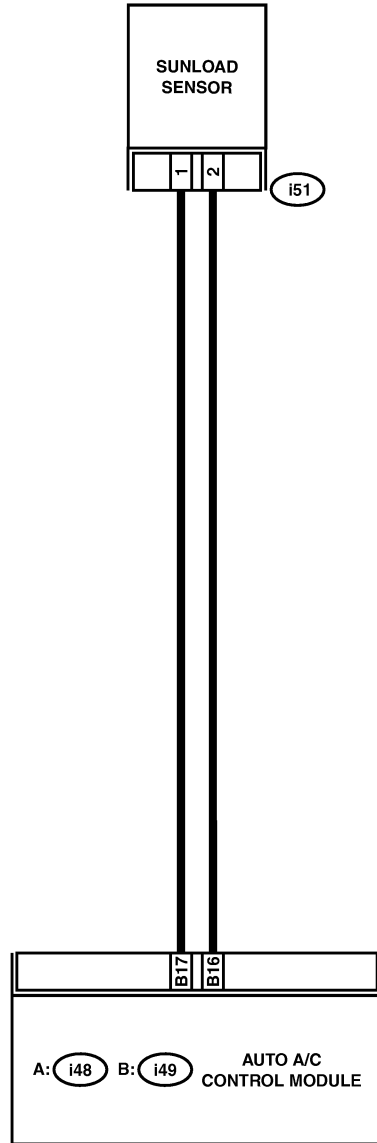
#### NOTE:

When the sunload sensor is checked inside the passenger compartment or in the shade, code "25" may appear on the indicator. Always check the sunload sensor in a place where it senses direct sunlight.

# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

## WIRING DIAGRAM:



i51

1 2

B: i49

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

B4M2377



# DIAGNOSTIC PROCEDURE WITH TROUBLE CODE

HVAC System (Auto A/C) (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK SUNLOAD SENSOR.</b> 1) Turn ignition switch to OFF. 2) Remove sunload sensor. <Ref. to AC-44, REMOVAL, Sun-load Sensor (Auto A/C).> 3) Measure resistance between sunload sensor terminals. <b>Terminals:</b> <b>No. 2 — No. 1</b>	Is the resistance less than 1 $\Omega$ ?	Go to step 2.	Replace sunload sensor.
2	<b>CHECK SUNLOAD SENSOR.</b> Make sure that there is no resistance in the reverse side terminals. <b>Terminals:</b> <b>No. 1 — No. 2</b>	Is the resistance more than 1 M $\Omega$ ?	Go to step 3.	Replace sunload sensor.
3	<b>CHECK INPUT VOLTAGE TO SUNLOAD SENSOR.</b> 1) Turn ignition switch to ON. 2) Measure input voltage to sunload sensor. <b>Connector &amp; terminal:</b> <b>(i51) No. 2 — No. 1</b>	Is the voltage approx. 4.5 V?	Go to step 6.	Go to step 4.
4	<b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND SUNLOAD SENSOR.</b> 1) Turn ignition switch to OFF. 2) Disconnect connectors from A/C control module. 3) Measure resistance of harness between A/C control module and sunload sensor. <b>Connector &amp; terminal:</b> <b>(i51) No. 2 — (i49) No. 16</b>	Is the resistance less than 1 $\Omega$ ?	Go to step 5.	Repair open circuit in harness between A/C control module and sunload sensor.
5	<b>CHECK HARNESS CONNECTOR BETWEEN A/C CONTROL MODULE AND SUNLOAD SENSOR.</b> Measure resistance of harness between A/C control module and sunload sensor. <b>Connector &amp; terminal:</b> <b>(i51) No. 1 — (i49) No. 17</b>	Is the resistance less than 1 $\Omega$ ?	Go to step 6.	Repair open circuit in harness between A/C control module and sunload sensor.
6	<b>CHECK POOR CONTACT.</b> Check poor contact in A/C control module.	Is there poor contact in A/C control module?	Repair poor contact in A/C control module.	Contact with SOA (distributor) service.