

## 8. Diagnostics Chart with Trouble Code by ABS Warning Light

### A: LIST OF TROUBLE CODE

Trouble code	Contents of diagnosis		Index No.
11	Start code ● Trouble code is shown after start code. ● Only start code is shown in normal condition.		—
21	Abnormal ABS sensor (Open circuit or input voltage too high)	Front right ABS sensor	<Ref. to 4-4 [T8B0].>
23		Front left ABS sensor	<Ref. to 4-4 [T8C0].>
25		Rear right ABS sensor	<Ref. to 4-4 [T8D0].>
27		Rear left ABS sensor	<Ref. to 4-4 [T8E0].>
22	Abnormal ABS sensor (Abnormal ABS sensor signal)	Front right ABS sensor	<Ref. to 4-4 [T8F0].>
24		Front left ABS sensor	<Ref. to 4-4 [T8G0].>
26		Rear right ABS sensor	<Ref. to 4-4 [T8H0].>
28		Rear left ABS sensor	<Ref. to 4-4 [T8I0].>
29		Any one of four	<Ref. to 4-4 [T8J0].>
31		Abnormal solenoid valve circuit(s) in ABS control module and hydraulic unit	Front right inlet valve
32	Front right outlet valve		<Ref. to 4-4 [T8O0].>
33	Front left inlet valve		<Ref. to 4-4 [T8L0].>
34	Front left outlet valve		<Ref. to 4-4 [T8P0].>
35	Rear right inlet valve		<Ref. to 4-4 [T8M0].>
36	Rear right outlet valve		<Ref. to 4-4 [T8Q0].>
37	Rear left inlet valve		<Ref. to 4-4 [T8N0].>
38	Rear left outlet valve		<Ref. to 4-4 [T8R0].>
41	Abnormal ABS control module		<Ref. to 4-4 [T8S0].>
42	Source voltage is abnormal.		<Ref. to 4-4 [T8T0].>
44	A combination of AT control abnormal		<Ref. to 4-4 [T8U0].>
51	Abnormal valve relay		<Ref. to 4-4 [T8V0].>
52	Abnormal motor and/or motor relay		<Ref. to 4-4 [T8W0].>
54	Abnormal stop light switch		<Ref. to 4-4 [T8X0].>
56	Abnormal G sensor output voltage		<Ref. to 4-4 [T8Y0].>

**B: TROUBLE CODE 21 (FRONT RH)**

**C: TROUBLE CODE 23 (FRONT LH)**

**D: TROUBLE CODE 25 (REAR RH)**

**E: TROUBLE CODE 27 (REAR LH)**

— ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) —

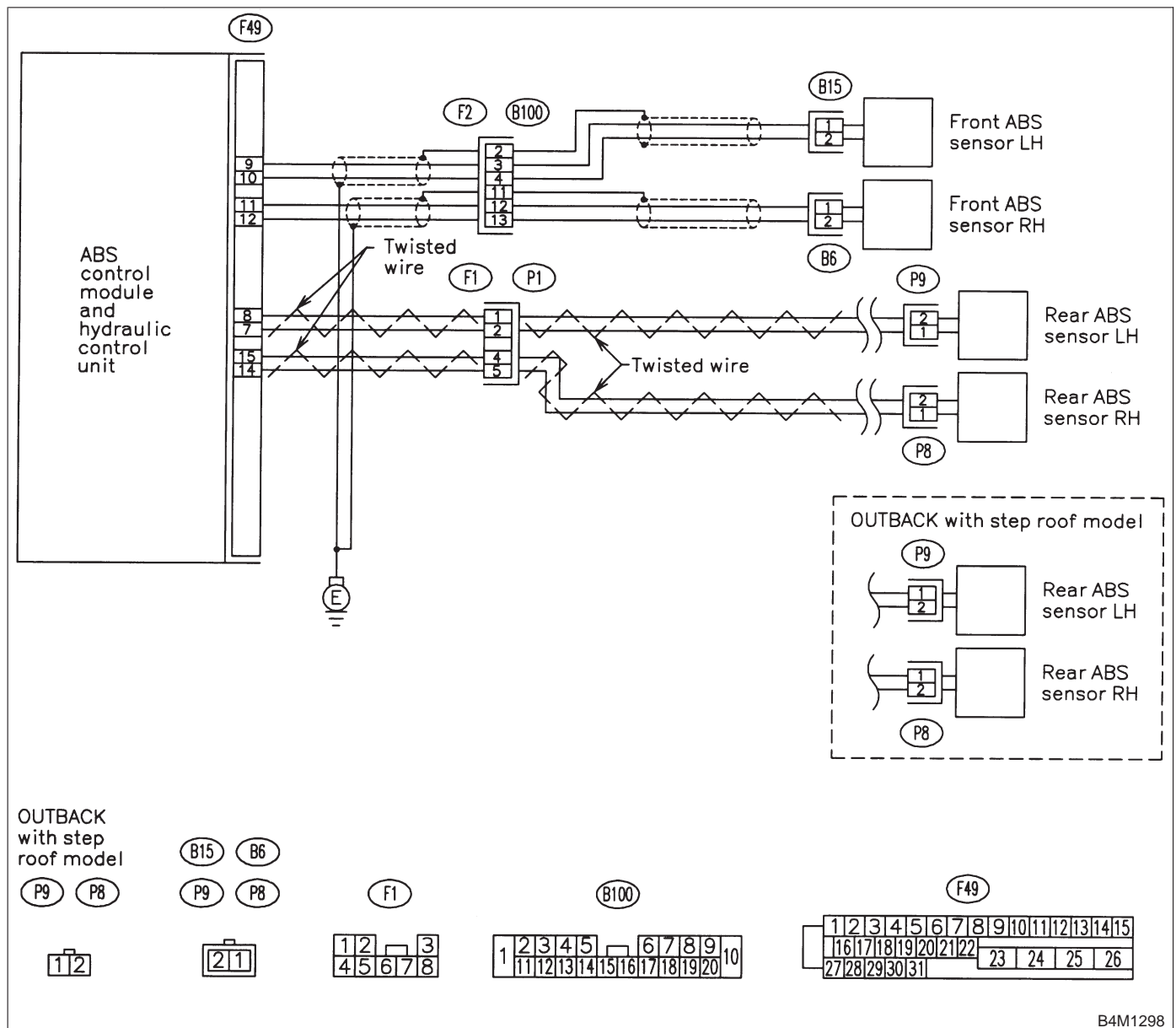
**DIAGNOSIS:**

- Faulty ABS sensor (Broken wire, input voltage too high)
- Faulty harness connector

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



## 8E1 : CHECK ABS SENSOR.

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABS sensor.
- 3) Measure resistance of ABS sensor connector terminals.

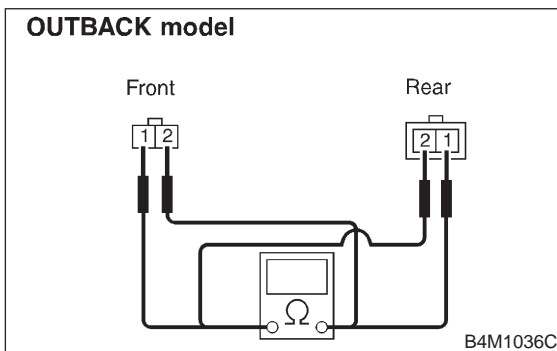
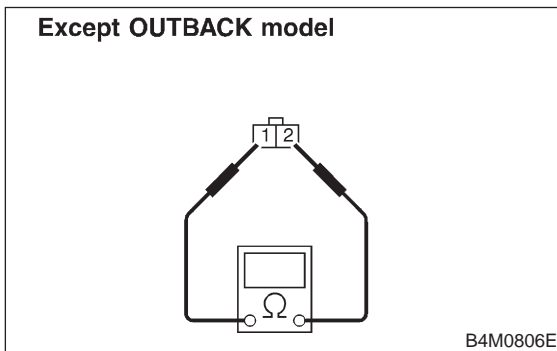
### Terminal

Front RH No. 1 — No. 2:

Front LH No. 1 — No. 2:

Rear RH No. 1 — No. 2:

Rear LH No. 1 — No. 2:



**CHECK** : Is the resistance between 0.8 and 1.2 kΩ?

**YES** : Go to step 8E2.

**NO** : Replace ABS sensor.

## 8E2 : CHECK BATTERY SHORT OF ABS SENSOR.

- 1) Disconnect connector from ABSCM&H/U.
- 2) Measure voltage between ABS sensor and chassis ground.

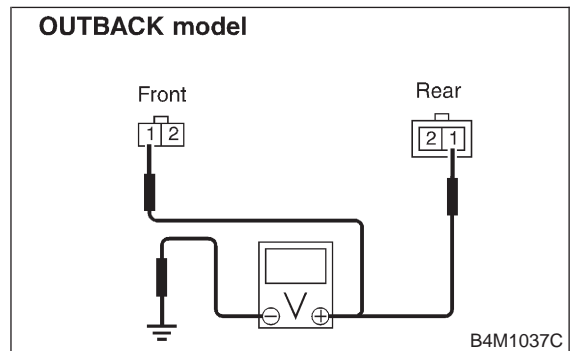
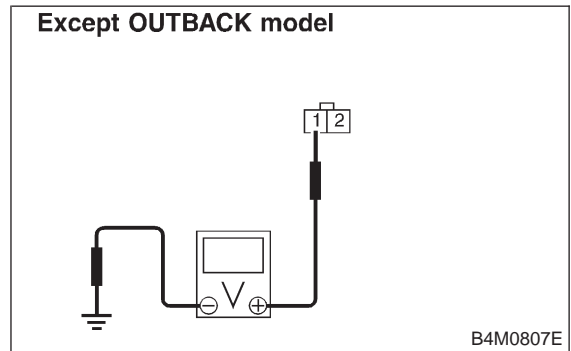
### Terminal

Front RH No. 1 (+) — Chassis ground (-):

Front LH No. 1 (+) — Chassis ground (-):

Rear RH No. 1 (+) — Chassis ground (-):

Rear LH No. 1 (+) — Chassis ground (-):



**CHECK** : Is the voltage less than 1 V?

**YES** : Go to step 8E3.

**NO** : Replace ABS sensor.

## 4-4 [T8E3]

## BRAKES

### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8E3 : CHECK BATTERY SHORT OF ABS SENSOR.

- 1) Turn ignition switch to ON.
- 2) Measure voltage between ABS sensor and chassis ground.

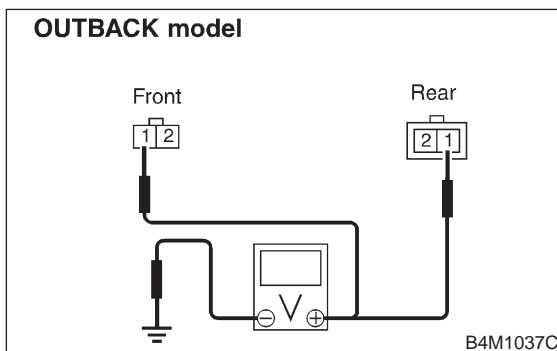
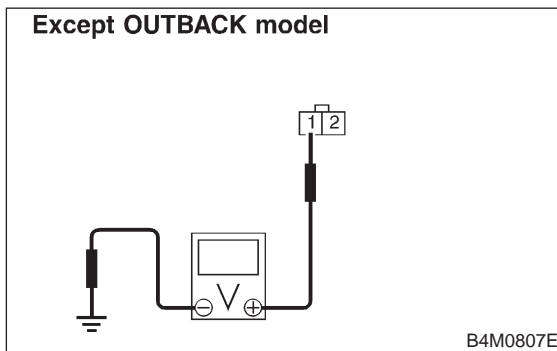
#### Terminal

**Front RH No. 1 (+) — Chassis ground (-):**

**Front LH No. 1 (+) — Chassis ground (-):**

**Rear RH No. 1 (+) — Chassis ground (-):**

**Rear LH No. 1 (+) — Chassis ground (-):**



**CHECK** : Is the voltage less than 1 V?

**YES** : Go to step 8E4.

**NO** : Replace ABS sensor.

#### 8E4 : CHECK HARNESS/CONNECTOR BETWEEN ABSCM&H/U AND ABS SENSOR.

- 1) Turn ignition switch to OFF.
- 2) Connect connector to ABS sensor.
- 3) Measure resistance between ABSCM&H/U connector terminals.

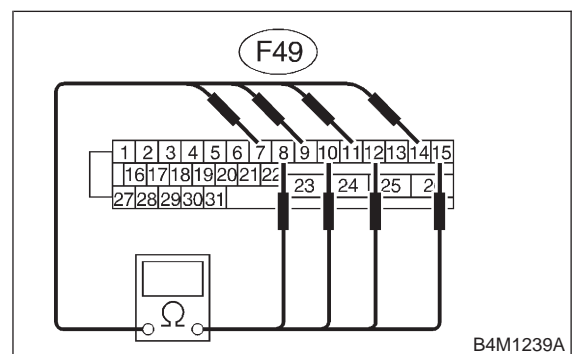
#### Connector & terminal

**Trouble code 21 / (F49) No. 11 — No. 12:**

**Trouble code 23 / (F49) No. 9 — No. 10:**

**Trouble code 25 / (F49) No. 14 — No. 15:**

**Trouble code 27 / (F49) No. 7 — No. 8:**



**CHECK** : Is the resistance between 0.8 and 1.2 kΩ?

**YES** : Go to step 8E5.

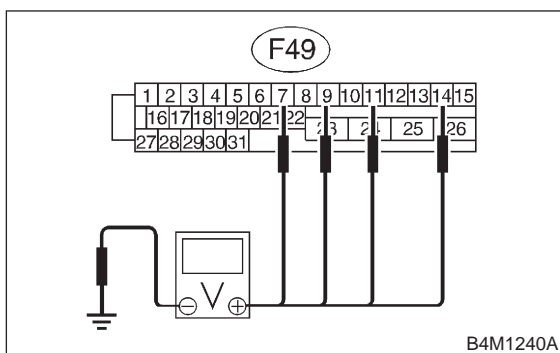
**NO** : Repair harness/connector between ABSCM&H/U and ABS sensor.

**8E5 : CHECK BATTERY SHORT OF HARNESS.**

Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

- Trouble code 21 / (F49) No. 11 (+) — Chassis ground (-):
- Trouble code 23 / (F49) No. 9 (+) — Chassis ground (-):
- Trouble code 25 / (F49) No. 14 (+) — Chassis ground (-):
- Trouble code 27 / (F49) No. 7 (+) — Chassis ground (-):



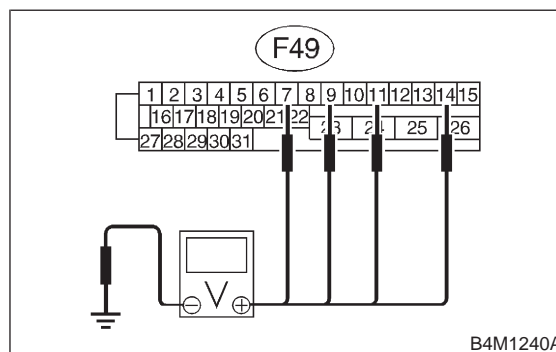
- CHECK** : Is the voltage less than 1 V?
- YES** : Go to step 8E6.
- NO** : Repair harness between ABSCM&H/U and ABS sensor.

**8E6 : CHECK BATTERY SHORT OF HARNESS.**

- 1) Turn ignition switch to ON.
- 2) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

- Trouble code 21 / (F49) No. 11 (+) — Chassis ground (-):
- Trouble code 23 / (F49) No. 9 (+) — Chassis ground (-):
- Trouble code 25 / (F49) No. 14 (+) — Chassis ground (-):
- Trouble code 27 / (F49) No. 7 (+) — Chassis ground (-):



- CHECK** : Is the voltage less than 1 V?
- YES** : Go to step 8E7.
- NO** : Repair harness between ABSCM&H/U and ABS sensor.

**8E7 : CHECK INSTALLATION OF ABS SENSOR.**

**Tightening torque:**

**32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)**

- CHECK** : Are the ABS sensor installation bolts tightened securely?
- YES** : Go to step 8E8.
- NO** : Tighten ABS sensor installation bolts securely.

## 4-4 [T8E8]

## BRAKES

### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8E8 : CHECK INSTALLATION OF TONE WHEEL.

##### Tightening torque:

$13 \pm 3 \text{ N}\cdot\text{m}$  ( $1.3 \pm 0.3 \text{ kg}\cdot\text{m}$ ,  $9.4 \pm 2.2 \text{ ft}\cdot\text{lb}$ )

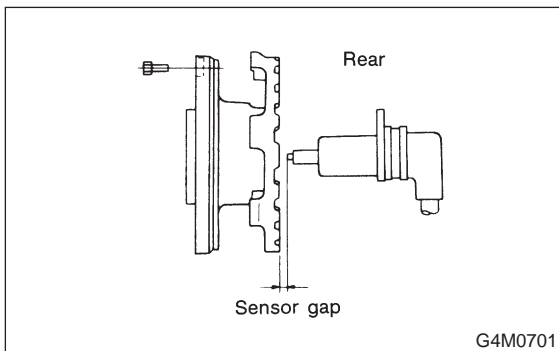
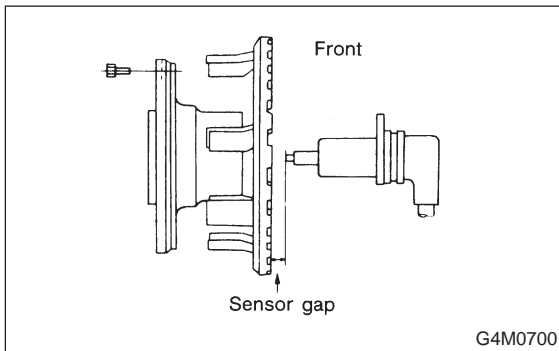
**CHECK** : Are the tone wheel installation bolts tightened securely?

**YES** : Go to step 8E9.

**NO** : Tighten tone wheel installation bolts securely.

#### 8E9 : CHECK ABS SENSOR GAP.

Measure tone wheel-to-pole piece gap over entire perimeter of the wheel.



Specifications	Front wheel	Rear wheel
	0.9 — 1.4 mm (0.035 — 0.055 in)	0.7 — 1.2 mm (0.028 — 0.047 in)

**CHECK** : Is the gap within the specifications?

**YES** : Go to step 8E10.

**NO** : Adjust the gap.

##### NOTE:

Adjust the gap using spacers (Part No. 26755AA000). If spacers cannot correct the gap, replace worn sensor or worn tone wheel.

#### 8E10 : CHECK HUB RUNOUT.

Measure hub runout.

**CHECK** : Is the runout less than 0.05 mm (0.0020 in)?

**YES** : Go to step 8E11.

**NO** : Repair hub.

#### 8E11 : CHECK GROUND SHORT OF ABS SENSOR.

- 1) Turn ignition switch to ON.
- 2) Measure resistance between ABS sensor and chassis ground.

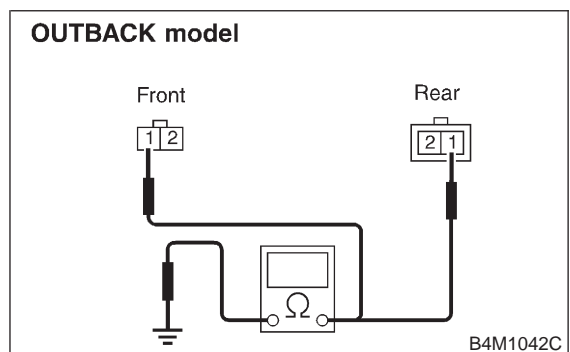
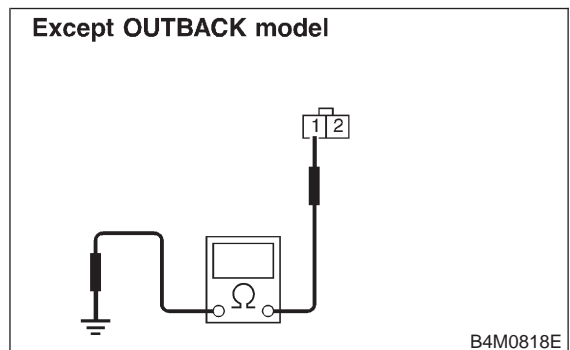
##### Terminal

Front RH No. 1 — Chassis ground:

Front LH No. 1 — Chassis ground:

Rear RH No. 1 — Chassis ground:

Rear LH No. 1 — Chassis ground:



**CHECK** : Is the resistance more than 1 MΩ?

**YES** : Go to step 8E12.

**NO** : Replace ABS sensor and ABSCM&H/U.

**8E12 : CHECK GROUND SHORT OF HARNESS.**

- 1) Turn ignition switch to OFF.
- 2) Connect connector to ABS sensor.
- 3) Measure resistance between ABSCM&H/U connector terminal and chassis ground.

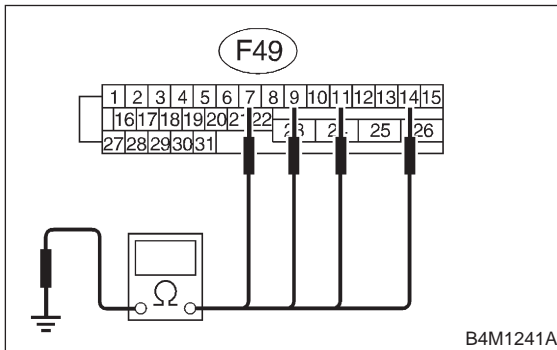
**Connector & terminal**

**Trouble code 21 / (F49) No. 11 — Chassis ground:**

**Trouble code 23 / (F49) No. 9 — Chassis ground:**

**Trouble code 25 / (F49) No. 14 — Chassis ground:**

**Trouble code 27 / (F49) No. 7 — Chassis ground:**



- CHECK** : *Is the resistance more than 1 MΩ?*
- YES** : Go to step **8E13**.
- NO** : Repair harness between ABSCM&H/U and ABS sensor.  
Replace ABSCM&H/U.

**8E13 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : *Is there poor contact in connectors between ABSCM&H/U and ABS sensor? <Ref. to FOREWORD [T3C1].>*
- YES** : Repair connector.
- NO** : Go to step **8E14**.

**8E14 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
- YES** : Replace ABSCM&H/U.
- NO** : Go to step **8E15**.

**8E15 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.

**NOTE:**

Check harness and connectors between ABSCM&H/U and ABS sensor.

**F: TROUBLE CODE 22 (FRONT RH)**

**G: TROUBLE CODE 24 (FRONT LH)**

**H: TROUBLE CODE 26 (REAR RH)**

**I: TROUBLE CODE 28 (REAR LH)**

— **ABNORMAL ABS SENSOR (ABNORMAL ABS SENSOR SIGNAL)** —

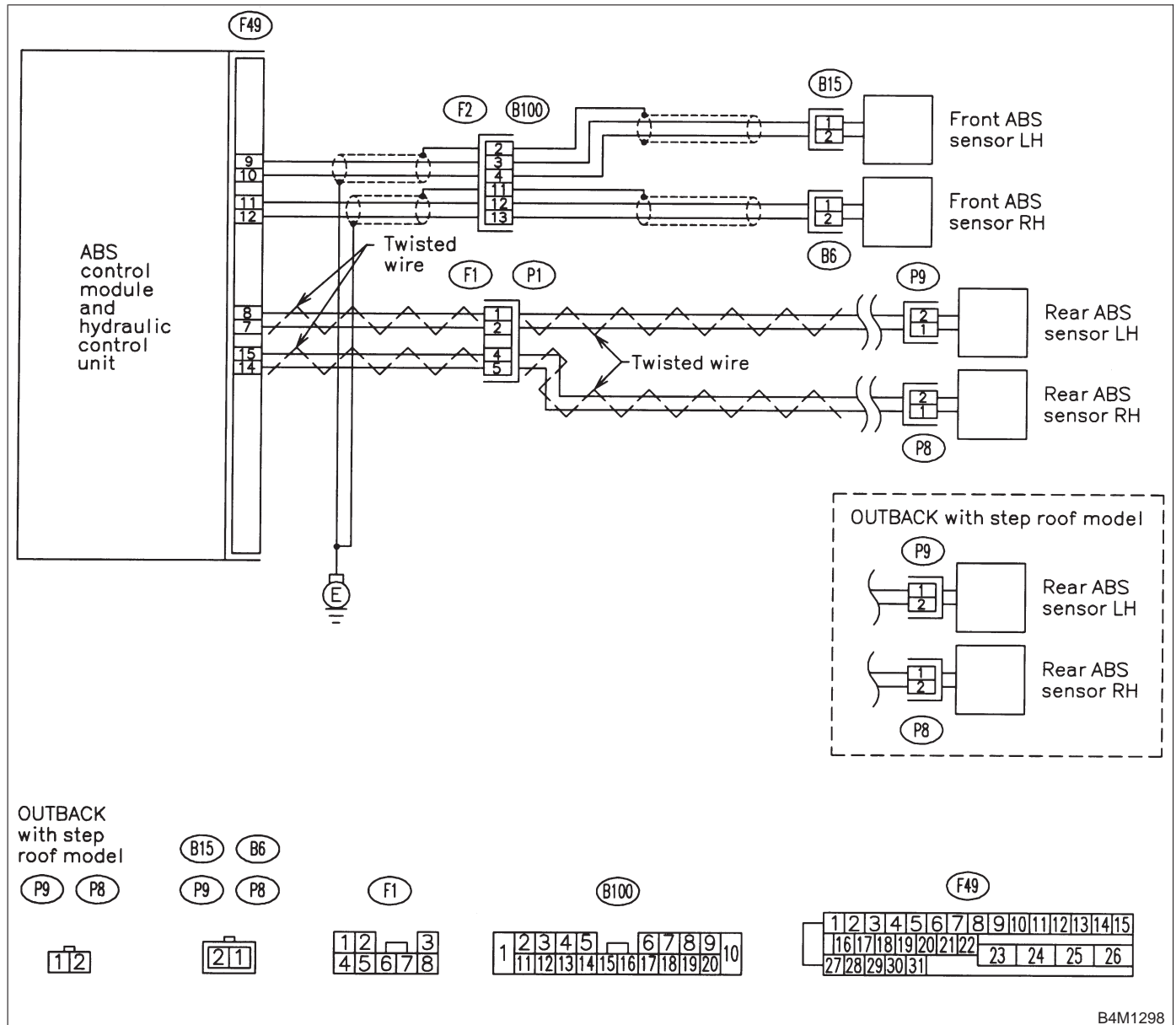
**DIAGNOSIS:**

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty harness/connector

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**





**811 : CHECK INSTALLATION OF ABS SENSOR.**

**Tightening torque:**

**32±10 N·m (3.3±1.0 kg·m, 24±7 ft·lb)**

- CHECK** : Are the ABS sensor installation bolts tightened securely?
- YES** : Go to step 812.
- NO** : Tighten ABS sensor installation bolts securely.

**812 : CHECK INSTALLATION OF TONE WHEEL.**

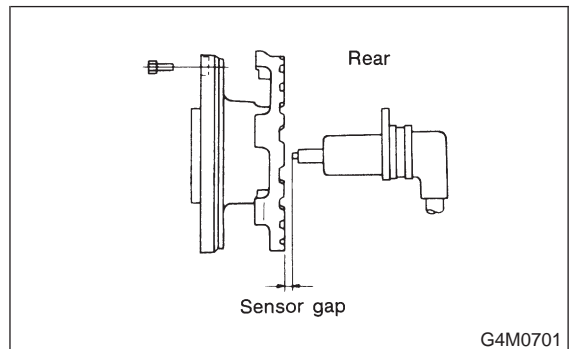
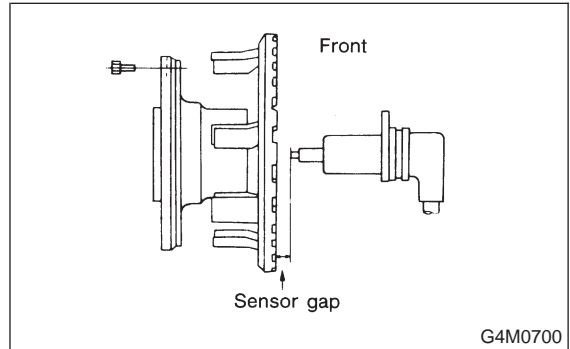
**Tightening torque:**

**13±3 N·m (1.3±0.3 kg·m, 9.4±2.2 ft·lb)**

- CHECK** : Are the tone wheel installation bolts tightened securely?
- YES** : Go to step 813.
- NO** : Tighten tone wheel installation bolts securely.

**813 : CHECK ABS SENSOR GAP.**

Measure tone wheel to pole piece gap over entire perimeter of the wheel.



	Front wheel	Rear wheel
Specifications	0.9 — 1.4 mm (0.035 — 0.055 in)	0.7 — 1.2 mm (0.028 — 0.047 in)

- CHECK** : Is the gap within the specifications?
- YES** : Go to step 814.
- NO** : Adjust the gap.

**NOTE:**

Adjust the gap using spacer (Part No. 26755AA000). If spacers cannot correct the gap, replace worn sensor or worn tone wheel.

**814 : CHECK OSCILLOSCOPE.**

- CHECK** : Is an oscilloscope available?
- YES** : Go to step 815.
- NO** : Go to step 816.

**8I5 : CHECK ABS SENSOR SIGNAL.**

- 1) Raise all four wheels of ground.
- 2) Turn ignition switch OFF.
- 3) Connect the oscilloscope to the connector (B100) or connector (F1).
- 4) Turn ignition switch ON.
- 5) Rotate wheels and measure voltage at specified frequency.

**NOTE:**

When this inspection is completed, the ABS control module sometimes stores the trouble code 29.

**Connector & terminal**

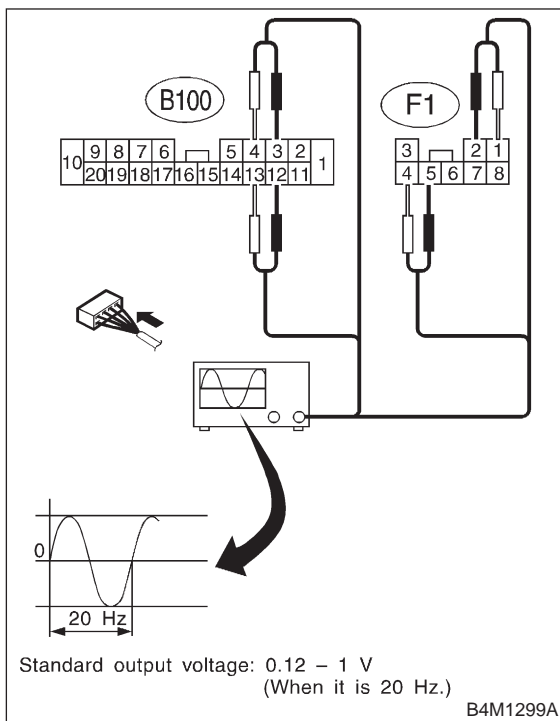
**Trouble code 22 / (B100) No. 12 (+) — No. 13 (-):**

**Trouble code 24 / (B100) No. 3 (+) — No. 4 (-):**

**Trouble code 26 / (F1) No. 5 (+) — No. 4 (-):**

**Trouble code 28 / (F1) No. 2 (+) — No. 1 (-):**

**Specified voltage: 0.12 — 1 V (When it is 20 Hz.)**



**CHECK** : *Is oscilloscope pattern smooth, as shown in figure?*

**YES** : Go to step 8I9.

**NO** : Go to step 8I6.

**8I6 : CHECK CONTAMINATION OF ABS SENSOR OR TONE WHEEL.**

Remove disc rotor or drum from hub in accordance with trouble code.

**CHECK** : *Is the ABS sensor pole piece or the tone wheel contaminated by dirt or other foreign matter?*

**YES** : Thoroughly remove dirt or other foreign matter.

**NO** : Go to step 8I7.

**8I7 : CHECK DAMAGE OF ABS SENSOR OR TONE WHEEL.**

**CHECK** : *Are there broken or damaged in the ABS sensor pole piece or the tone wheel?*

**YES** : Replace ABS sensor or tone wheel.

**NO** : Go to step 8I8.

**8I8 : CHECK HUB RUNOUT.**

Measure hub runout.

**CHECK** : *Is the runout less than 0.05 mm (0.0020 in)?*

**YES** : Go to step 8I9.

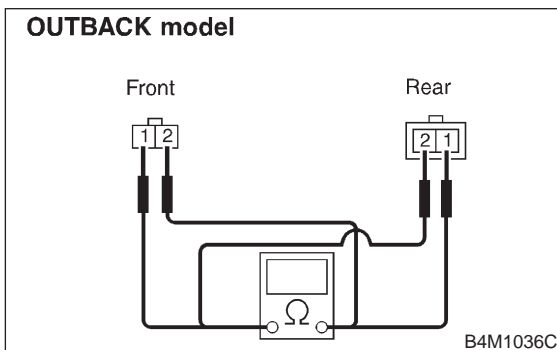
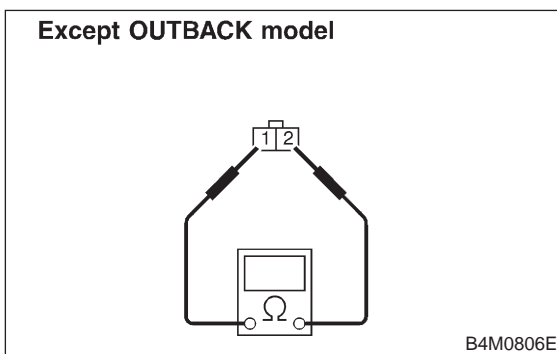
**NO** : Repair hub.

**819 : CHECK RESISTANCE OF ABS SENSOR.**

- 1) Turn ignition switch OFF.
- 2) Disconnect connector from ABS sensor.
- 3) Measure resistance between ABS sensor connector terminals.

**Terminal**

- Front RH No. 1 — No. 2:**
- Front LH No. 1 — No. 2:**
- Rear RH No. 1 — No. 2:**
- Rear LH No. 1 — No. 2:**



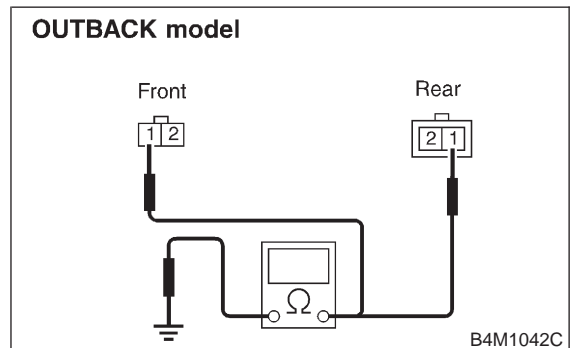
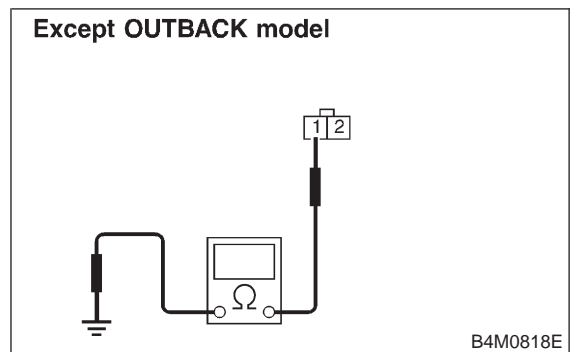
- CHECK** : Is the resistance between 0.8 and 1.2 kΩ?
- YES** : Go to step 8110.
- NO** : Replace ABS sensor.

**8110 : CHECK GROUND SHORT OF ABS SENSOR.**

Measure resistance between ABS sensor and chassis ground.

**Terminal**

- Front RH No. 1 — Chassis ground:**
- Front LH No. 1 — Chassis ground:**
- Rear RH No. 1 — Chassis ground:**
- Rear LH No. 1 — Chassis ground:**



- CHECK** : Is the resistance more than 1 MΩ?
- YES** : Go to step 8111.
- NO** : Replace ABS sensor.

## 4-4 [T8I11]

## BRAKES

### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8I11 : CHECK HARNESS/CONNECTOR BETWEEN ABSCM&H/U AND ABS SENSOR.

- 1) Connect connector to ABS sensor.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Measure resistance at ABSCM&H/U connector terminals.

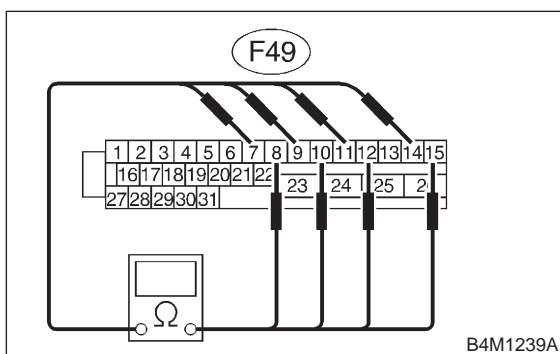
##### Connector & terminal

**Trouble code 22 / (F49) No. 11 — No. 12:**

**Trouble code 24 / (F49) No. 9 — No. 10:**

**Trouble code 26 / (F49) No. 14 — No. 15:**

**Trouble code 28 / (F49) No. 7 — No. 8:**



- CHECK** : Is the resistance between 0.8 and 1.2 k $\Omega$ ?
- YES** : Go to step 8I12.
- NO** : Repair harness/connector between ABSCM&H/U and ABS sensor.

#### 8I12 : CHECK GROUND SHORT OF HARNESS.

Measure resistance between ABSCM&H/U connector and chassis ground.

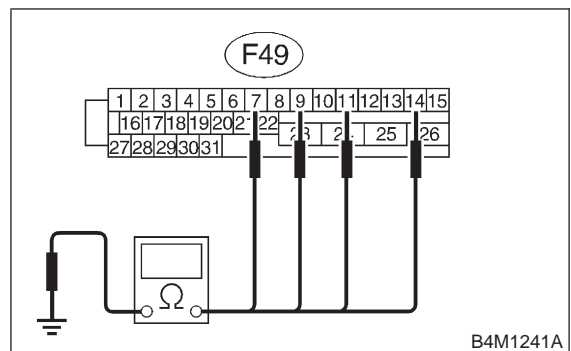
##### Connector & terminal

**Trouble code 22 / (F49) No. 11 — Chassis ground:**

**Trouble code 24 / (F49) No. 9 — Chassis ground:**

**Trouble code 26 / (F49) No. 14 — Chassis ground:**

**Trouble code 28 / (F49) No. 7 — Chassis ground:**



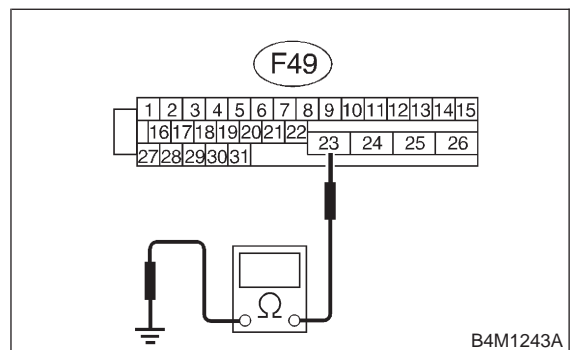
- CHECK** : Is the resistance more than 1 M $\Omega$ ?
- YES** : Go to step 8I13.
- NO** : Repair harness/connector between ABSCM&H/U and ABS sensor.

#### 8I13 : CHECK GROUND CIRCUIT OF ABSCM&H/U.

Measure resistance between ABSCM&H/U and chassis ground.

##### Connector & terminal

**(F49) No. 23 — GND:**



- CHECK** : Is the resistance less than 0.5  $\Omega$ ?
- YES** : Go to step 8I14.
- NO** : Repair ABSCM&H/U ground harness.

**8I14 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : *Is there poor contact in connectors between ABSCM&H/U and ABS sensor? <Ref. to FOREWORD [T3C1].>*
- YES** : Repair connector.
- NO** : Go to step 8I15.

**8I15 : CHECK SOURCES OF SIGNAL NOISE.**

- CHECK** : *Is the car telephone or the wireless transmitter properly installed?*
- YES** : Go to step 8I16.
- NO** : Properly install the car telephone or the wireless transmitter.

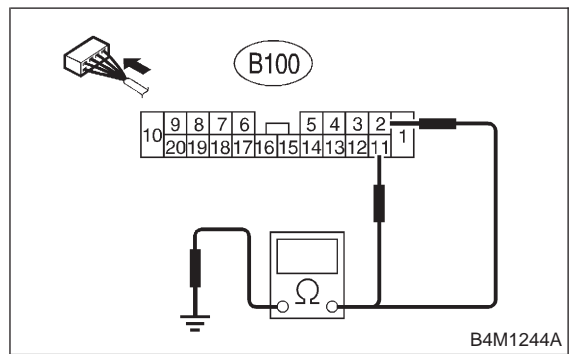
**8I16 : CHECK SOURCES OF SIGNAL NOISE.**

- CHECK** : *Are noise sources (such as an antenna) installed near the sensor harness?*
- YES** : Install the noise sources apart from the sensor harness.
- NO** : Go to step 8I17.

**8I17 : CHECK SHIELD CIRCUIT.**

- 1) Connect all connectors.
- 2) Measure resistance between shield connector and chassis ground.

**Connector & terminal**  
**Trouble code 22 / (B100) No. 11 — Chassis ground:**  
**Trouble code 24 / (B100) No. 2 — Chassis ground:**  
**Trouble code 26 / Go to step 8I18.**  
**Trouble code 28 / Go to step 8I18.**



- CHECK** : *Is the resistance less than 0.5 Ω?*
- YES** : Go to step 8I18.
- NO** : Repair shield harness.

**8I18 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
  - 2) Erase the memory.
  - 3) Perform inspection mode.
  - 4) Read out the trouble code.
- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
  - YES** : Replace ABSCM&H/U.
  - NO** : Go to step 8I19.

**8I19 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary noise interference.

**J: TROUBLE CODE 29**

— ABNORMAL ABS SENSOR SIGNAL (ANY ONE OF FOUR) —

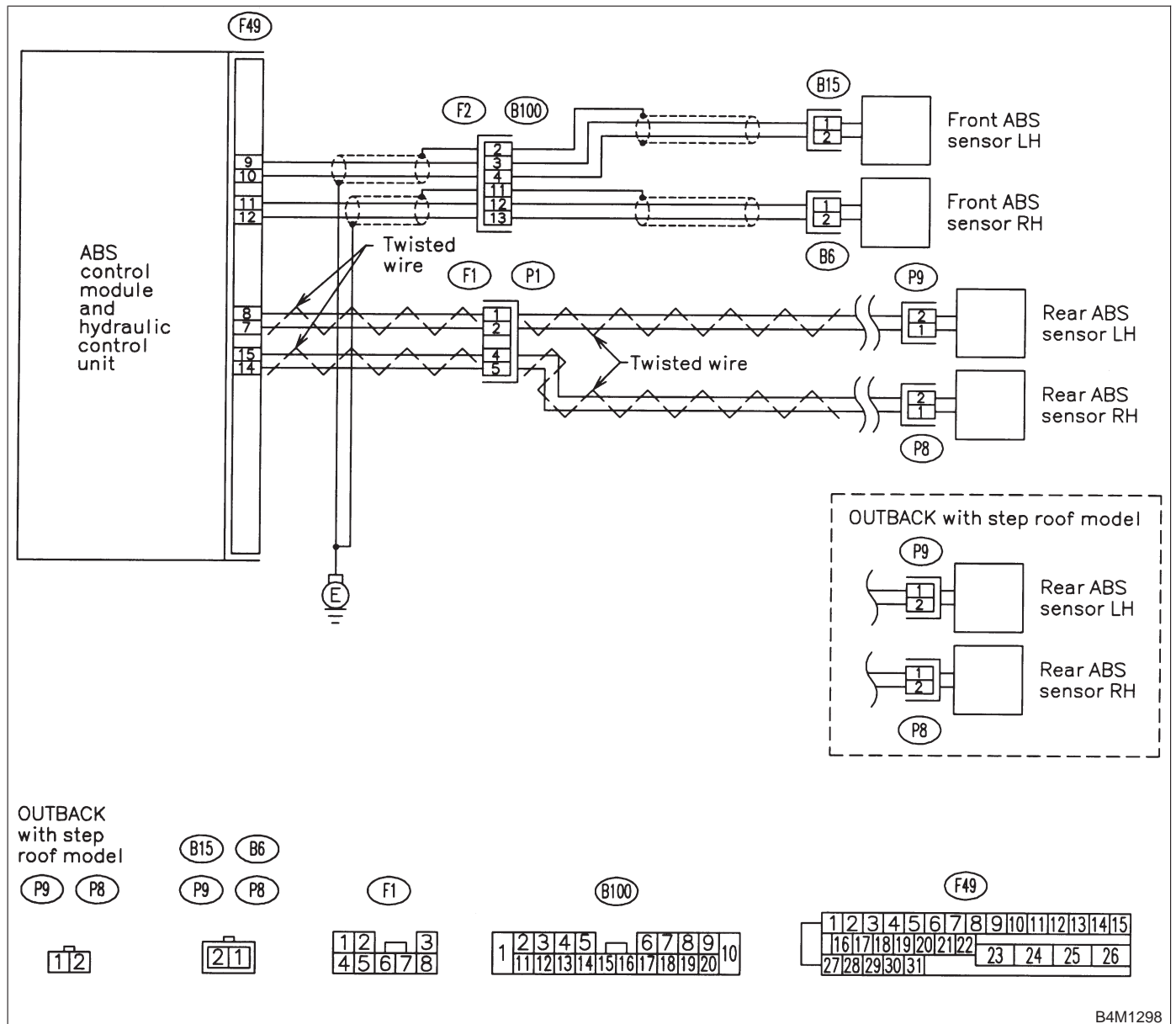
**DIAGNOSIS:**

- Faulty ABS sensor signal (noise, irregular signal, etc.)
- Faulty tone wheel
- Wheels turning freely for a long time

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



# BRAKES

[T8J7] 4-4

## 8. Diagnostics Chart with Trouble Code by ABS Warning Light

### 8J1 : CHECK IF THE WHEELS HAVE TURNED FREELY FOR A LONG TIME.

**CHECK** : Check if the wheels have been turned freely for more than one minute, such as when the vehicle is jacked-up, under full-lock cornering or when tire is not in contact with road surface.

**YES** : The ABS is normal. Erase the trouble code.

**NOTE:**

When the wheels turn freely for a long time, such as when the vehicle is towed or jacked-up, or when steering wheel is continuously turned all the way, this trouble code may sometimes occur.

**NO** : Go to step 8J2.

### 8J2 : CHECK TIRE SPECIFICATIONS.

**CHECK** : Are the tire specifications correct?

**YES** : Go to step 8J3.

**NO** : Replace tire.

### 8J3 : CHECK WEAR OF TIRE.

**CHECK** : Is the tire worn excessively?

**YES** : Replace tire.

**NO** : Go to step 8J4.

### 8J4 : CHECK TIRE PRESSURE.

**CHECK** : Is the tire pressure correct?

**YES** : Go to step 8J5.

**NO** : Adjust tire pressure.

### 8J5 : CHECK INSTALLATION OF ABS SENSOR.

**Tightening torque:**

$32 \pm 10 \text{ N}\cdot\text{m}$  ( $3.3 \pm 1.0 \text{ kg}\cdot\text{m}$ ,  $24 \pm 7 \text{ ft}\cdot\text{lb}$ )

**CHECK** : Are the ABS sensor installation bolts tightened securely?

**YES** : Go to step 8J6.

**NO** : Tighten ABS sensor installation bolts securely.

### 8J6 : CHECK INSTALLATION OF TONE WHEEL.

**Tightening torque:**

$13 \pm 3 \text{ N}\cdot\text{m}$  ( $1.3 \pm 0.3 \text{ kg}\cdot\text{m}$ ,  $9.4 \pm 2.2 \text{ ft}\cdot\text{lb}$ )

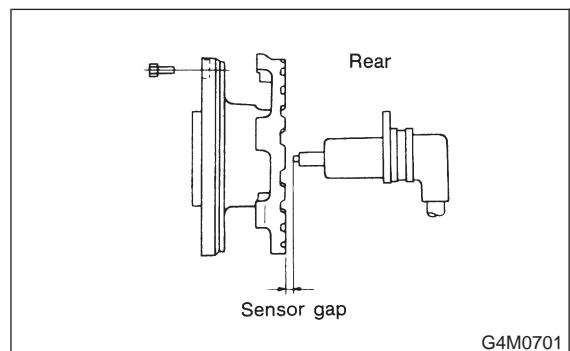
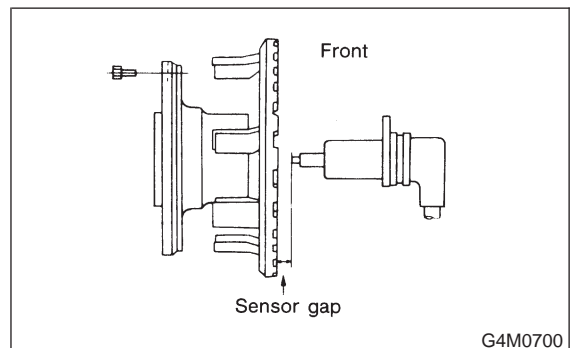
**CHECK** : Are the tone wheel installation bolts tightened securely?

**YES** : Go to step 8J7.

**NO** : Tighten tone wheel installation bolts securely.

### 8J7 : CHECK ABS SENSOR GAP.

Measure tone wheel to pole piece gap over entire perimeter of the wheel.



	Front wheel	Rear wheel
Specifications	0.9 — 1.4 mm (0.035 — 0.055 in)	0.7 — 1.2 mm (0.028 — 0.047 in)

**CHECK** : Is the gap within the specifications?

**YES** : Go to step 8J8.

**NO** : Adjust the gap.

**NOTE:**

Adjust the gap using spacer (Part No. 26755AA000). If spacers cannot correct the gap, replace worn sensor or worn tone wheel.

**8J8 : CHECK OSCILLOSCOPE.**

- CHECK** : *Is an oscilloscope available?*
- YES** : Go to step **8J9**.
- NO** : Go to step **8J10**.

**8J9 : CHECK ABS SENSOR SIGNAL.**

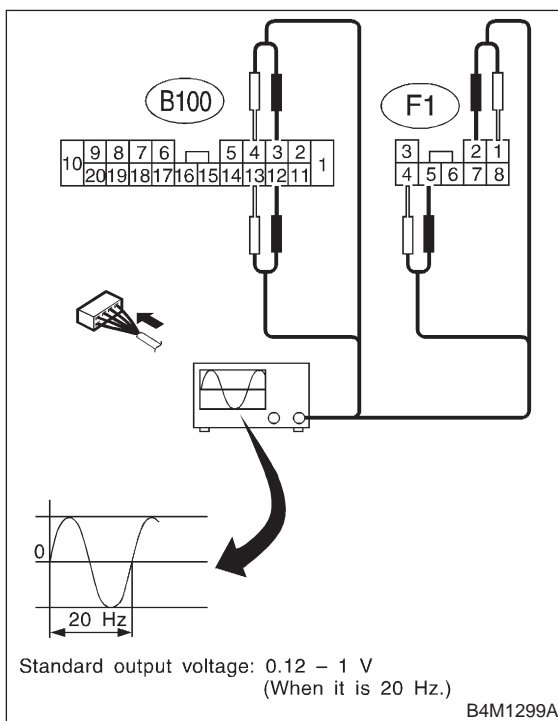
- 1) Raise all four wheels of ground.
- 2) Turn ignition switch OFF.
- 3) Connect the oscilloscope to the connector (B100) or connector (F1).
- 4) Turn ignition switch ON.
- 5) Rotate wheels and measure voltage at specified frequency.

**NOTE:**

When this inspection is completed, the ABS control module sometimes stores the trouble code 29.

**Connector & terminal**

- (B100) No. 12 (+) — No. 13 (-) (Front RH):**
- (B100) No. 3 (+) — No. 4 (-) (Front LH):**
- (F1) No. 5 (+) — No. 4 (-) (Rear RH):**
- (F1) No. 2 (+) — No. 1 (-) (Rear LH):**
- Specified voltage: 0.12 — 1 V (When it is 20 Hz.)**



- CHECK** : *Is oscilloscope pattern smooth, as shown in figure?*
- YES** : Go to step **8J13**.
- NO** : Go to step **8J10**.

**8J10 : CHECK CONTAMINATION OF ABS SENSOR OR TONE WHEEL.**

Remove disc rotor from hub.

- CHECK** : *Is the ABS sensor pole piece or the tone wheel contaminated by dirt or other foreign matter?*
- YES** : Thoroughly remove dirt or other foreign matter.
- NO** : Go to step **8J11**.

**8J11 : CHECK DAMAGE OF ABS SENSOR OR TONE WHEEL.**

- CHECK** : *Are there broken or damaged teeth in the ABS sensor pole piece or the tone wheel?*
- YES** : Replace ABS sensor or tone wheel.
- NO** : Go to step **8J12**.

**8J12 : CHECK HUB RUNOUT.**

Measure hub runout.

- CHECK** : *Is the runout less than 0.05 mm (0.0020 in)?*
- YES** : Go to step **8J13**.
- NO** : Repair hub.

**8J13 : CHECK ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Connect all connectors.
- 3) Erase the memory.
- 4) Perform inspection mode.
- 5) Read out the trouble code.

- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
- YES** : Replace ABSCM&H/U.
- NO** : Go to step **8J14**.

**8J14 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.



## **BRAKES**

[T8J14] **4-4**

8. Diagnostics Chart with Trouble Code by ABS Warning Light

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**MEMO:**

**K: TROUBLE CODE 31 (FRONT RH)**

**L: TROUBLE CODE 33 (FRONT LH)**

**M: TROUBLE CODE 35 (REAR RH)**

**N: TROUBLE CODE 37 (REAR LH)**

— ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U —

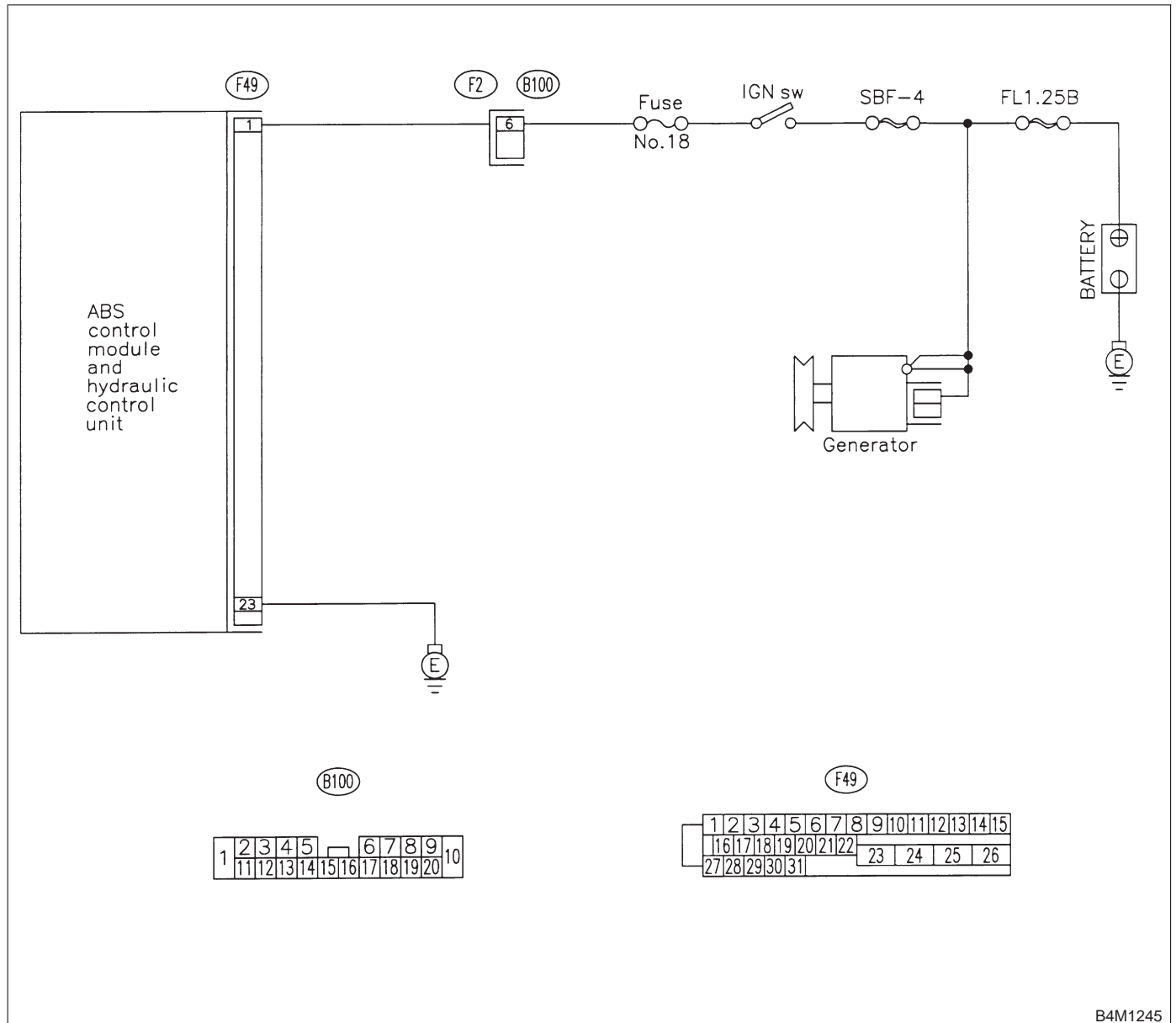
**DIAGNOSIS:**

- Faulty harness/connector
- Faulty inlet solenoid valve in ABSCM&H/U

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**

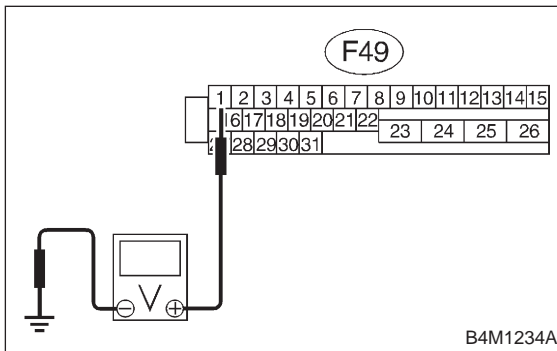


**8N1 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Disconnect connector from ABSCM&H/U.
- 2) Run the engine at idle.
- 3) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 1 (+) — Chassis ground (-):**



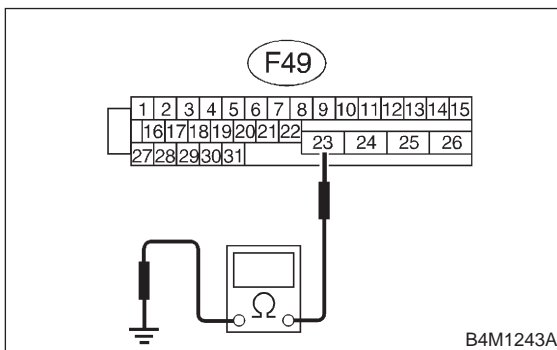
- CHECK** : **Is the voltage between 10 V and 15 V?**
- YES** : Go to step **8N2**.
- NO** : Repair harness connector between battery, ignition switch and ABSCM&H/U.

**8N2 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 23 — Chassis ground:**



- CHECK** : **Is the resistance less than 0.5 Ω?**
- YES** : Go to step **8N3**.
- NO** : Repair ABSCM&H/U ground harness.

**8N3 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : **Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>**

**YES** : Repair connector.

**NO** : Go to step **8N4**.

**8N4 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

- CHECK** : **Is the same trouble code as in the current diagnosis still being output?**

**YES** : Replace ABSCM&H/U.

**NO** : Go to step **8N5**.

**8N5 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : **Are other trouble codes being output?**

**YES** : Proceed with the diagnosis corresponding to the trouble code.

**NO** : A temporary poor contact.

**O: TROUBLE CODE 32 (FRONT RH)**

**P: TROUBLE CODE 34 (FRONT LH)**

**Q: TROUBLE CODE 36 (REAR RH)**

**R: TROUBLE CODE 38 (REAR LH)**

— ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U —

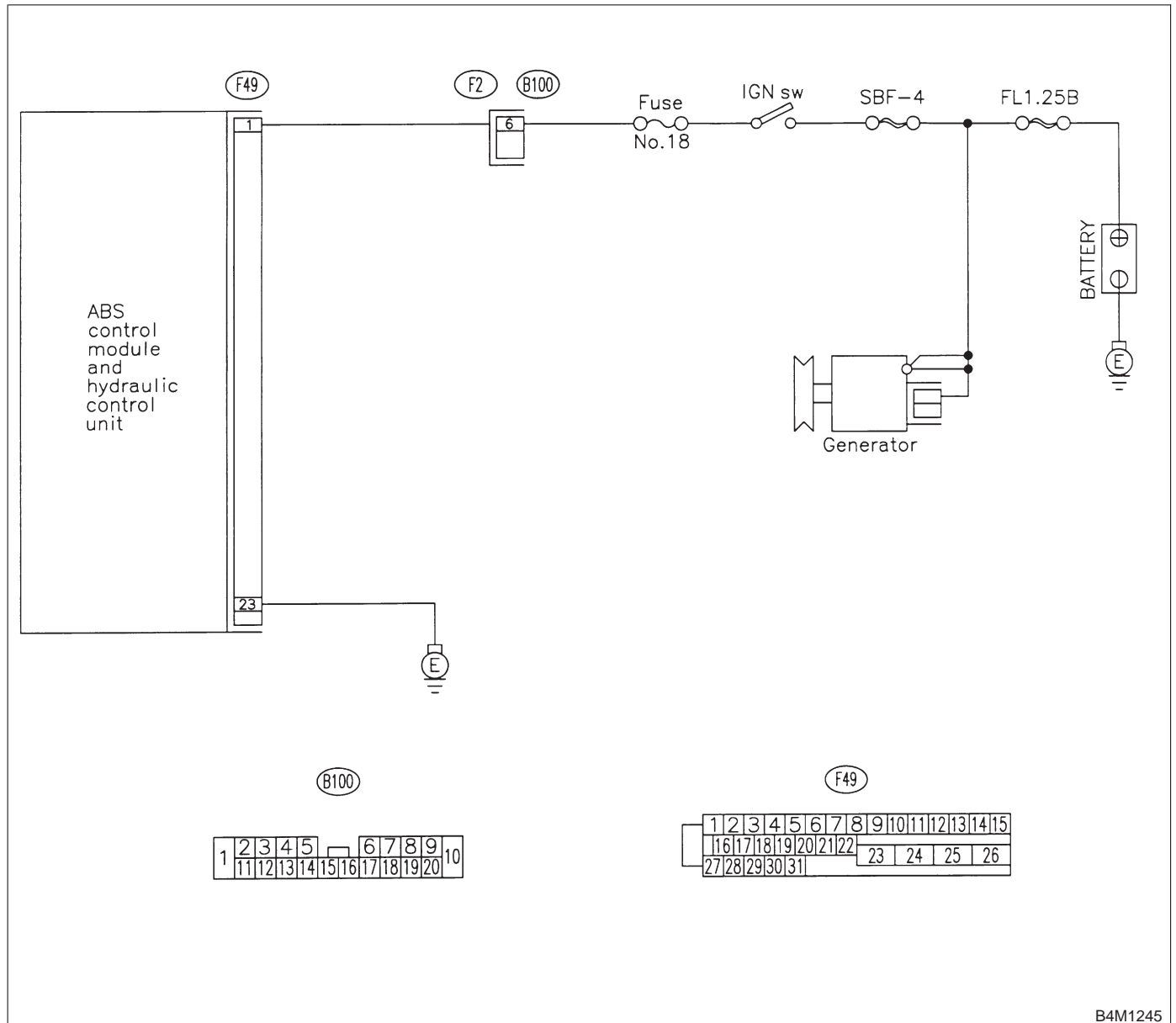
**DIAGNOSIS:**

- Faulty harness/connector
- Faulty outlet solenoid valve in ABSCM&H/U

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**

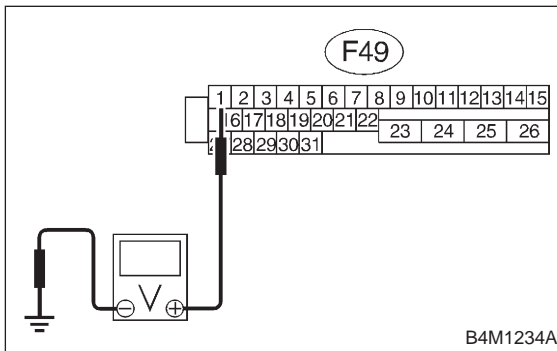


**8R1 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Disconnect connector from ABSCM&H/U.
- 2) Run the engine at idle.
- 3) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 1 (+) — Chassis ground (-):**



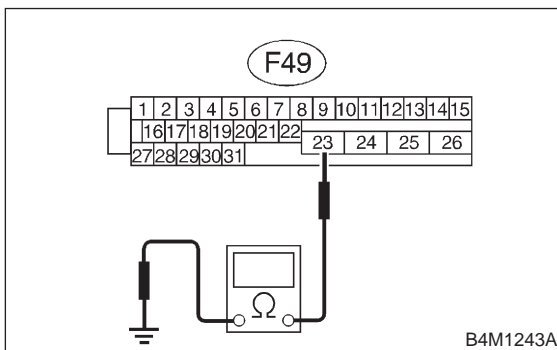
- CHECK** : **Is the voltage between 10 V and 15 V?**
- YES** : Go to step **8R2**.
- NO** : Repair harness connector between battery, ignition switch and ABSCM&H/U.

**8R2 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 23 — Chassis ground:**



- CHECK** : **Is the resistance less than 0.5 Ω?**
- YES** : Go to step **8R3**.
- NO** : Repair ABSCM&H/U ground harness.

**8R3 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : **Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>**

**YES** : Repair connector.

**NO** : Go to step **8R4**.

**8R4 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

- CHECK** : **Is the same trouble code as in the current diagnosis still being output?**

**YES** : Replace ABSCM&H/U.

**NO** : Go to step **8R5**.

**8R5 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : **Are other trouble codes being output?**

**YES** : Proceed with the diagnosis corresponding to the trouble code.

**NO** : A temporary poor contact.

**S: TROUBLE CODE 41**

— ABNORMAL ABS CONTROL MODULE —

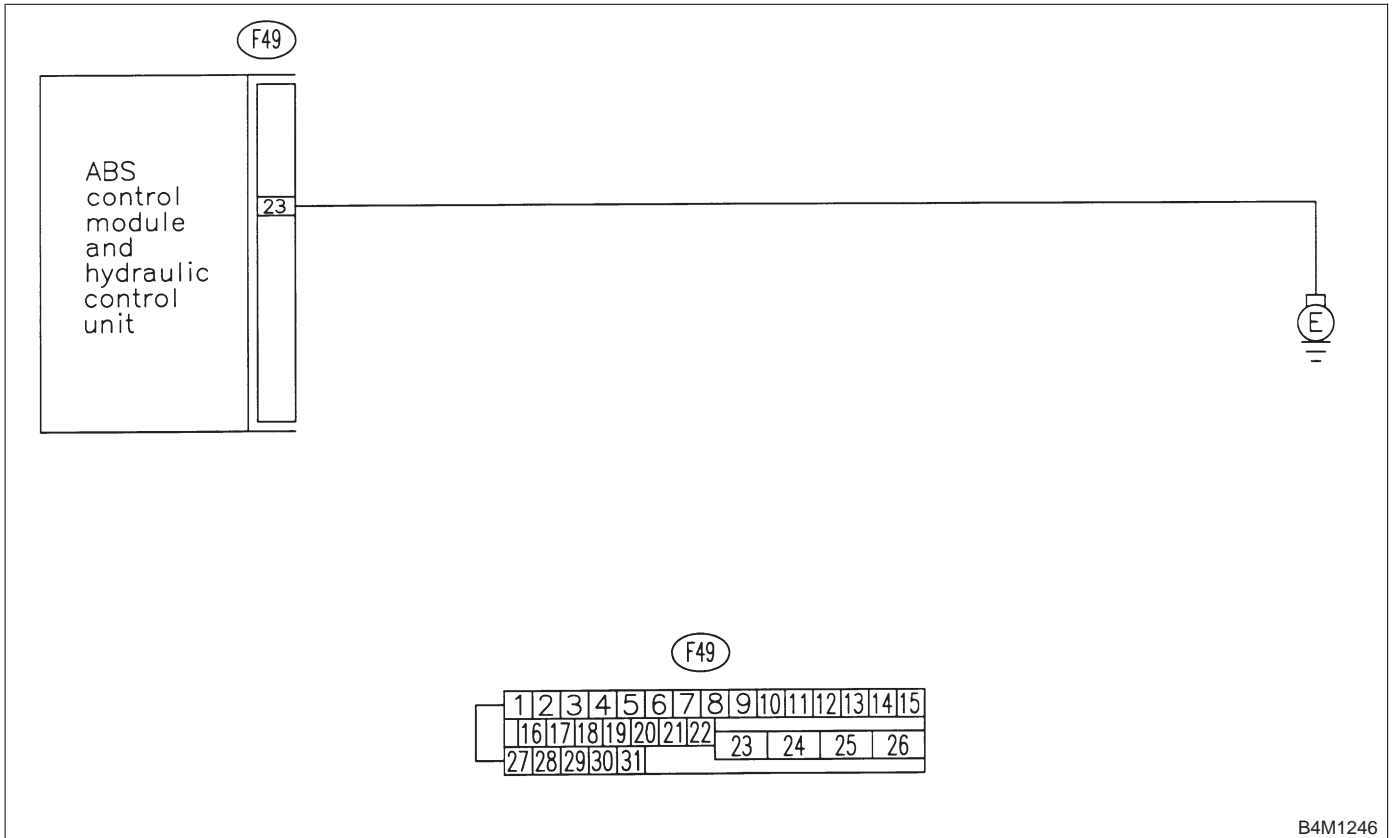
**DIAGNOSIS:**

- Faulty ABSCM&H/U.

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



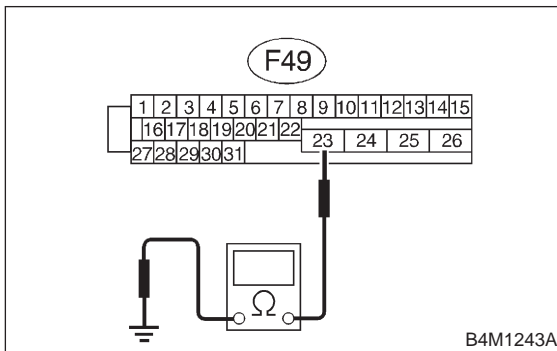
B4M1246

**8S1 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Measure resistance between ABSCM&H/U and chassis ground.

**Connector & terminal**

**(F49) No. 23 — Chassis ground:**



- CHECK** : *Is the resistance less than 0.5 Ω?*
- YES** : Go to step **8S2**.
- NO** : Repair ABSCM&H/U ground harness.

**8S2 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : *Is there poor contact in connectors between battery, ignition switch and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>*
- YES** : Repair connector.
- NO** : Go to step **8S3**.

**8S3 : CHECK SOURCES OF SIGNAL NOISE.**

- CHECK** : *Is the car telephone or the wireless transmitter properly installed?*
- YES** : Go to step **8S4**.
- NO** : Properly install the car telephone or the wireless transmitter.

**8S4 : CHECK SOURCES OF SIGNAL NOISE.**

- CHECK** : *Are noise sources (such as an antenna) installed near the sensor harness?*
- YES** : Install the noise sources apart from the sensor harness.
- NO** : Go to step **8S5**.

**8S5 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
  - 2) Erase the memory.
  - 3) Perform inspection mode.
  - 4) Read out the trouble code.
- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
  - YES** : Replace ABSCM&H/U.
  - NO** : Go to step **8S6**.

**8S6 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.

**T: TROUBLE CODE 42**

— SOURCE VOLTAGE IS ABNORMAL. —

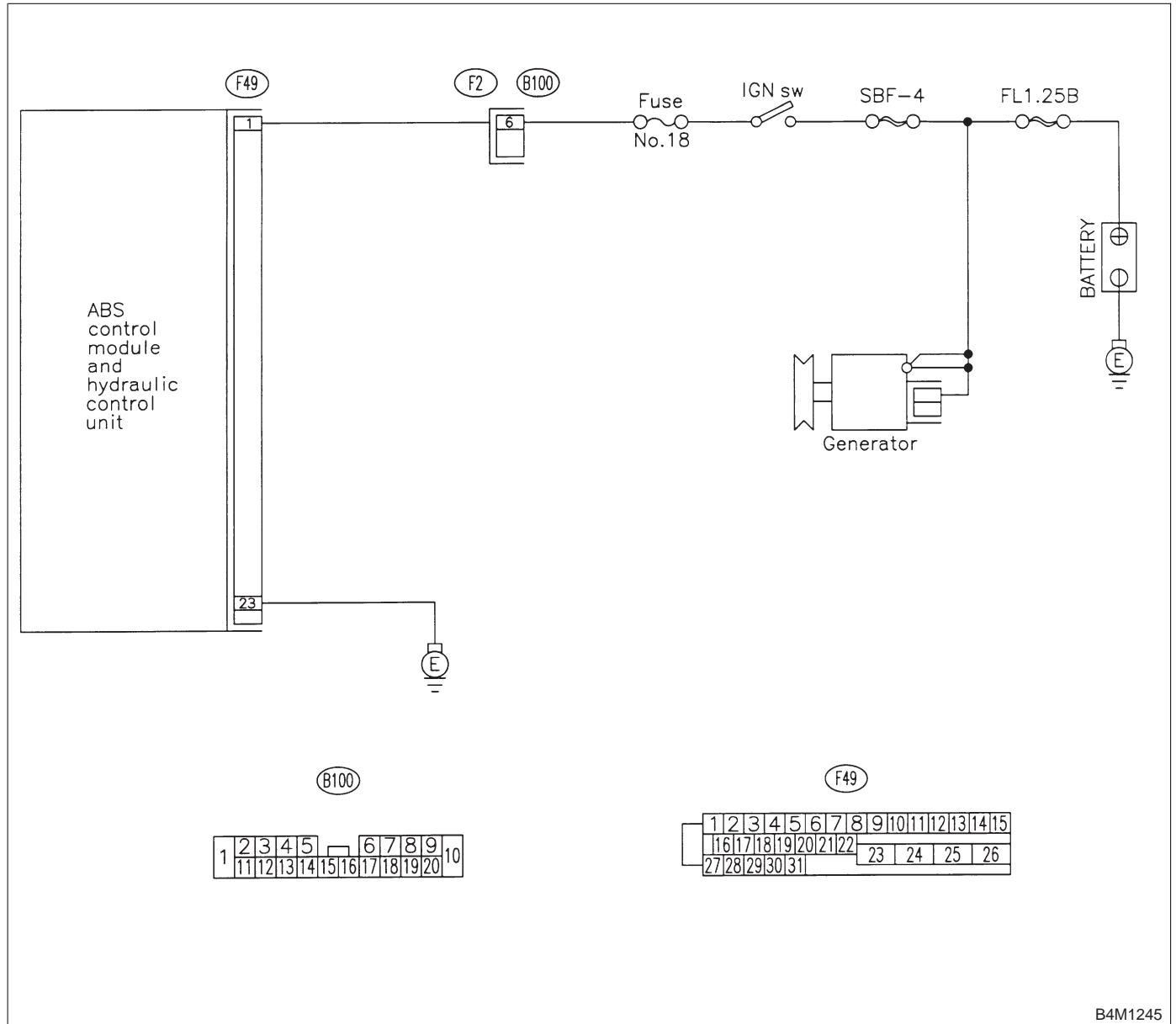
**DIAGNOSIS:**

- Power source voltage of the ABSCM&H/U is low or high.

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



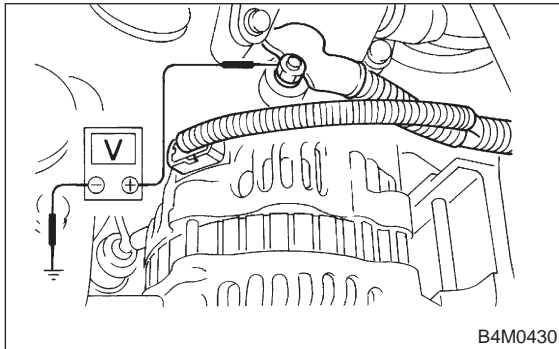


**8T1 : CHECK GENERATOR.**

- 1) Start engine.
- 2) Idling after warm-up.
- 3) Measure voltage between generator B terminal and chassis ground.

**Terminal**

**Generator B terminal — Chassis ground:**



B4M0430

- CHECK** : **Is the voltage between 10 V and 17 V?**
- YES** : Go to step **8T2**.
- NO** : Repair generator.

**8T2 : CHECK BATTERY TERMINAL.**

Turn ignition switch to OFF.

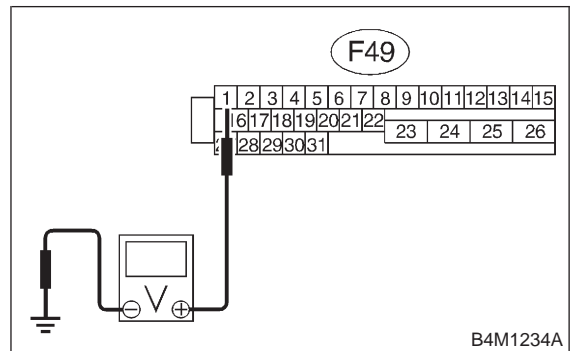
- CHECK** : **Are the positive and negative battery terminals tightly clamped?**
- YES** : Go to step **8T3**.
- NO** : Tighten the clamp of terminal.

**8T3 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Disconnect connector from ABSCM&H/U.
- 2) Run the engine at idle.
- 3) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 1 (+) — Chassis ground (-):**



B4M1234A

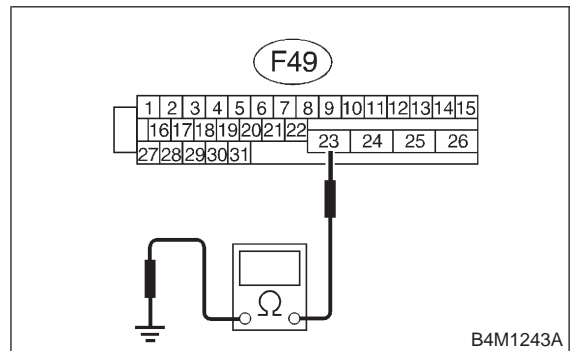
- CHECK** : **Is the voltage between 10 V and 17 V?**
- YES** : Go to step **8T4**.
- NO** : Repair harness connector between battery, ignition switch and ABSCM&H/U.

**8T4 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 23 — Chassis ground:**



B4M1243A

- CHECK** : **Is the resistance less than 0.5 Ω?**
- YES** : Go to step **8T5**.
- NO** : Repair ABSCM&H/U ground harness.

**8T5 : CHECK POOR CONTACT IN CONNECTORS.**

**CHECK** : *Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>*

**YES** : Repair connector.

**NO** : Go to step **8T6**.

**8T6 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

**CHECK** : *Is the same trouble code as in the current diagnosis still being output?*

**YES** : Replace ABSCM&H/U.

**NO** : Go to step **8T7**.

**8T7 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

**CHECK** : *Are other trouble codes being output?*

**YES** : Proceed with the diagnosis corresponding to the trouble code.

**NO** : A temporary poor contact.

# BRAKES

[T8T7] 4-4

8. Diagnostics Chart with Trouble Code by ABS Warning Light

---

MEMO:

**U: TROUBLE CODE 44**

— A COMBINATION OF AT CONTROL ABNORMAL —

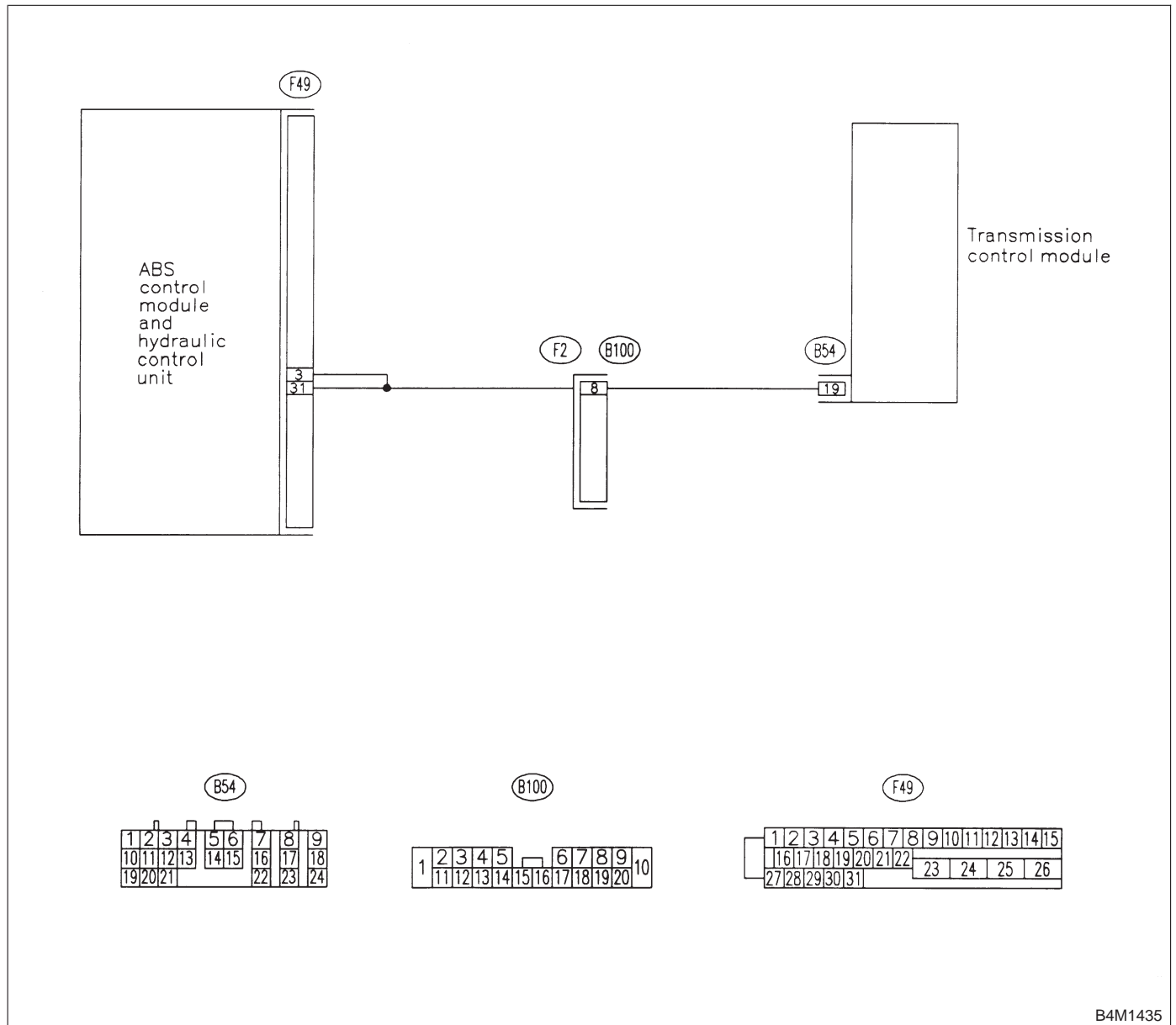
**DIAGNOSIS:**

- Combination of AT control faults

**TROUBLE SYMPTOM:**

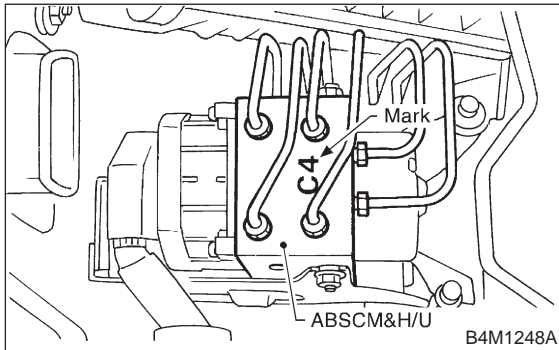
- ABS does not operate.

**WIRING DIAGRAM:**



**8U1 : CHECK SPECIFICATIONS OF THE ABSCM&H/U.**

Check specifications of the mark to the ABSCM&H/U.



Mark	Model
C5	AWD AT
C6	AWD MT

**CHECK** : Is an ABSCM&H/U for AT model installed on a MT model?

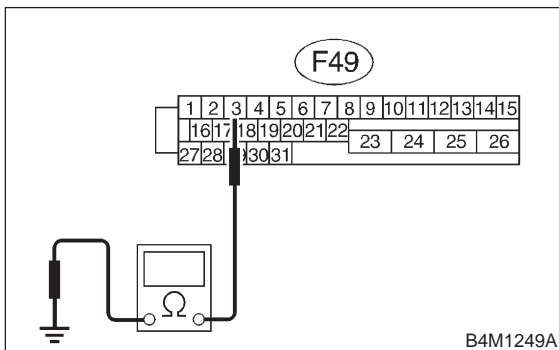
**YES** : Replace ABSCM&H/U. <Ref. to 4-4 [W15A0].>

**NO** : Go to step 8U2.

**8U2 : CHECK GROUND SHORT OF HARNESS.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect two connectors from TCM.
- 3) Disconnect connector from ABSCM&H/U.
- 4) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal (F49) No. 3 — Chassis ground:**



**CHECK** : Is the resistance more than 1 MΩ?

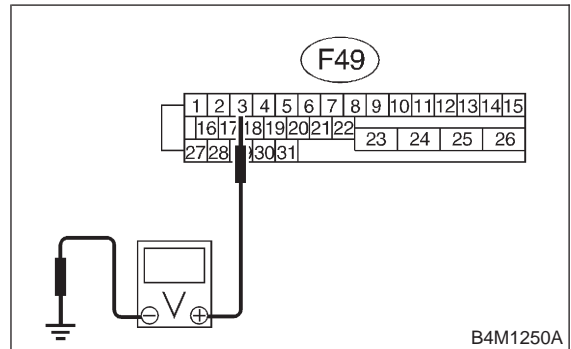
**YES** : Go to step 8U3.

**NO** : Repair harness between TCM and ABSCM&H/U.

**8U3 : CHECK BATTERY SHORT OF HARNESS.**

Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal (F49) No. 3 (+) — Chassis ground (-):**



**CHECK** : Is the voltage less than 1 V?

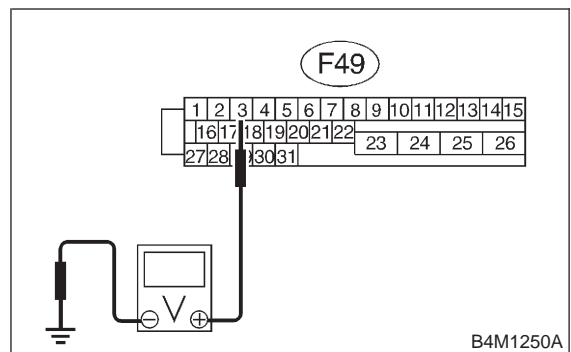
**YES** : Go to step 8U4.

**NO** : Repair harness between TCM and ABSCM&H/U.

**8U4 : CHECK BATTERY SHORT OF HARNESS.**

- 1) Turn ignition switch to ON.
- 2) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal (F49) No. 3 (+) — Chassis ground (-):**



**CHECK** : Is the voltage less than 1 V?

**YES** : Go to step 8U5.

**NO** : Repair harness between TCM and ABSCM&H/U.

## 4-4 [T8U5]

## BRAKES

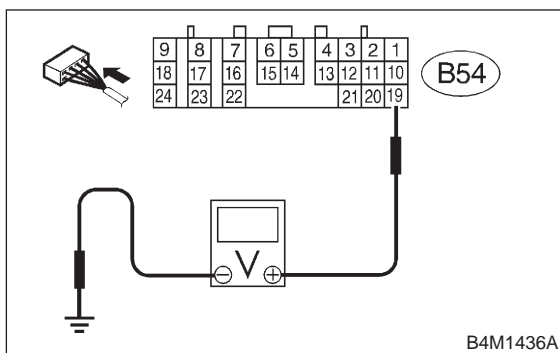
### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8U5 : CHECK TCM.

- 1) Turn ignition switch to OFF.
- 2) Connect all connectors to TCM.
- 3) Turn ignition switch to ON.
- 4) Measure voltage between TCM connector terminal and chassis ground.

##### Connector & terminal

**(B54) No. 19 (+) — Chassis ground (-):**



- CHECK** : Is the voltage between 10 V and 15 V?  
**YES** : Go to step 8U7.  
**NO** : Go to step 8U6.

#### 8U6 : CHECK AT.

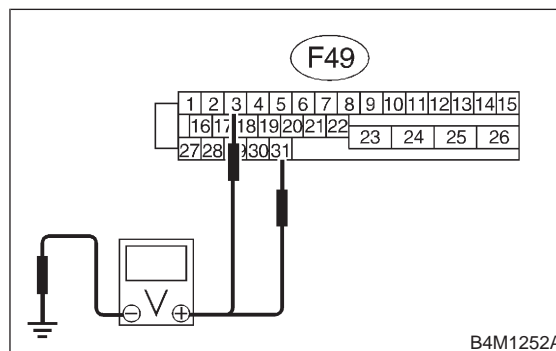
- CHECK** : Is the AT functioning normally?  
**YES** : Replace TCM. <Ref. to 3-2 [W22A0].>  
**NO** : Repair AT. <Ref. to 3-2 [T6A0].>

#### 8U7 : CHECK OPEN CIRCUIT OF HARNESS.

Measure voltage between ABSCM&H/U connector and chassis ground.

##### Connector & terminal

**(F49) No. 3 (+) — Chassis ground (-):**  
**(F49) No. 31 (+) — Chassis ground (-):**



- CHECK** : Is the voltage between 10 V and 15 V?  
**YES** : Go to step 8U8.  
**NO** : Repair harness/connector between TCM and ABSCM&H/U.

#### 8U8 : CHECK POOR CONTACT IN CONNECTORS.

- CHECK** : Is there poor contact in connectors between TCM and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>  
**YES** : Repair connector.  
**NO** : Go to step 8U9.

#### 8U9 : CHECK ABSCM&H/U.

- 1) Turn ignition switch to OFF.
- 2) Connect all connectors.
- 3) Erase the memory.
- 4) Perform inspection mode.
- 5) Read out the trouble code.

- CHECK** : Is the same trouble code as in the current diagnosis still being output?  
**YES** : Replace ABSCM&H/U. <Ref. to 4-4 [W15A0].>  
**NO** : Go to step 8U10.

<b>8U10 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>
---

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.

**V: TROUBLE CODE 51**

— ABNORMAL VALVE RELAY —

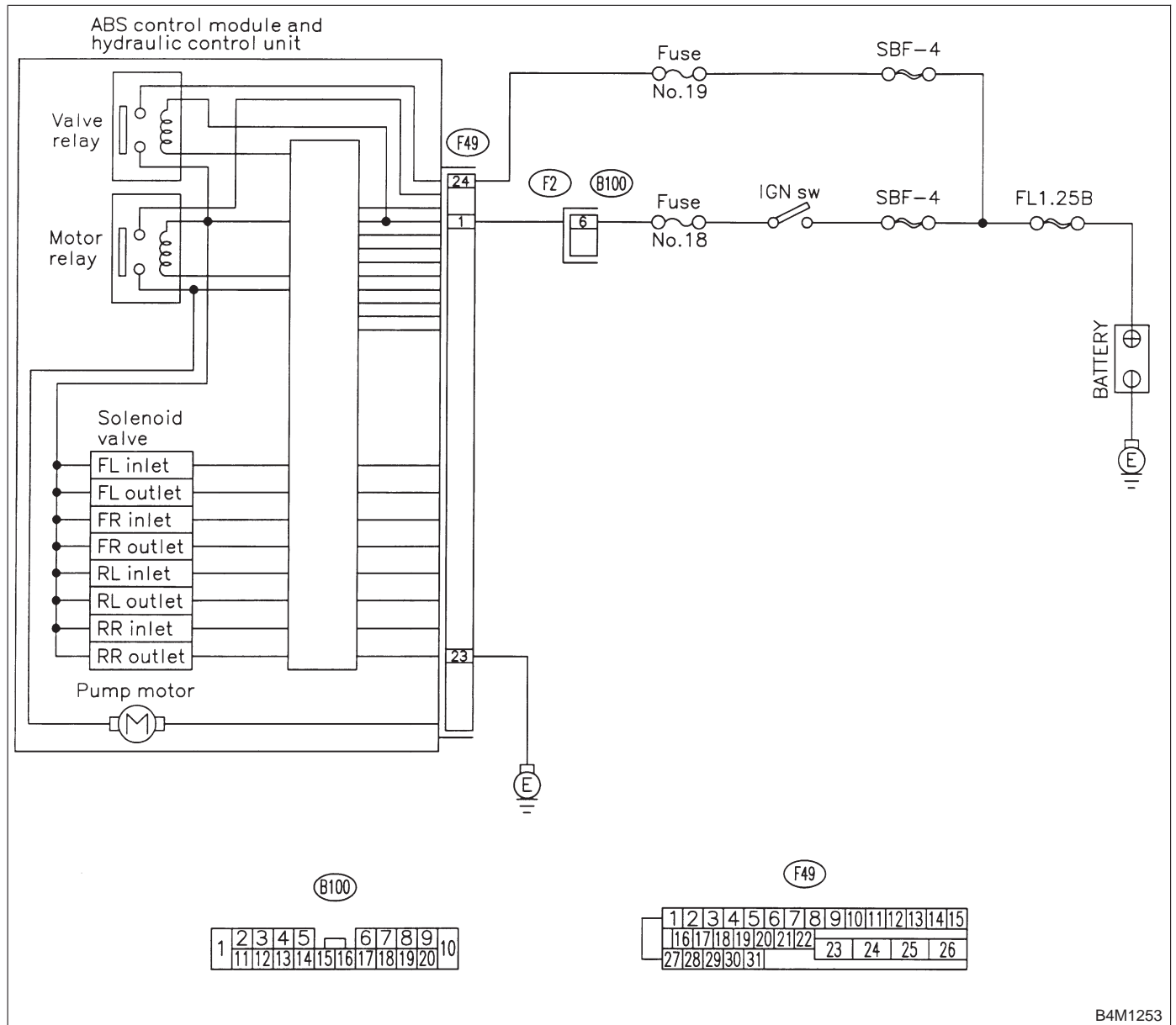
**DIAGNOSIS:**

- Faulty valve relay

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



B4M1253



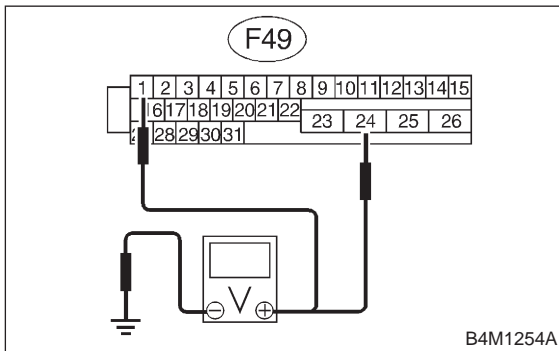
**8V1 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Run the engine at idle.
- 4) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 1 (+) — Chassis ground (-):**

**(F49) No. 24 (+) — Chassis ground (-):**



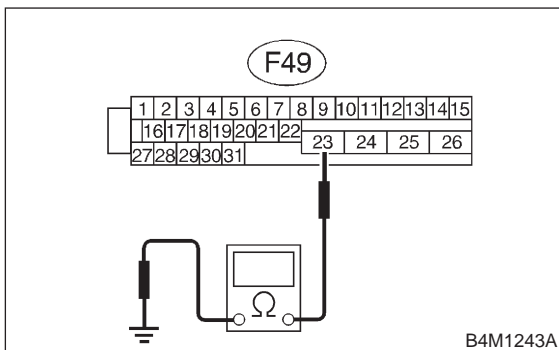
- CHECK** : *Is the voltage between 10 V and 15 V?*
- YES** : Go to step **8V2**.
- NO** : Repair harness connector between battery and ABSCM&H/U.

**8V2 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 23 — Chassis ground:**



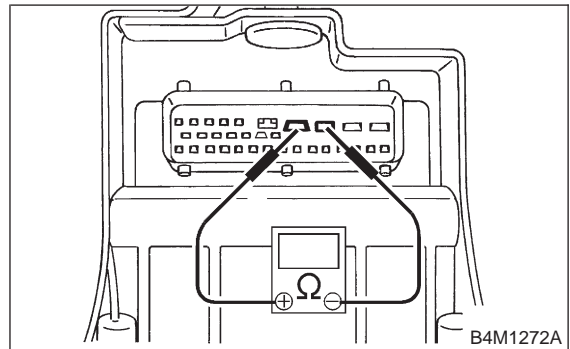
- CHECK** : *Is the resistance less than 0.5 Ω?*
- YES** : Go to step **8V3**.
- NO** : Repair ABSCM&H/U ground harness.

**8V3 : CHECK VALVE RELAY IN ABSCM&H/U.**

Measure resistance between ABSCM&H/U and terminals.

**Terminals**

**No. 23 (+) — No. 24 (-):**



- CHECK** : *Is the resistance more than 1 MΩ?*
- YES** : Go to step **8V4**.
- NO** : Replace ABSCM&H/U.

**8V4 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : *Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>*
- YES** : Repair connector.
- NO** : Go to step **8V5**.

**8V5 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
- YES** : Replace ABSCM&H/U.
- NO** : Go to step **8V6**.

**8V6 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.

## BRAKES

[T8V6] 4-4

8. Diagnostics Chart with Trouble Code by ABS Warning Light

---

MEMO:

**W: TROUBLE CODE 52**

— ABNORMAL MOTOR AND/OR MOTOR RELAY —

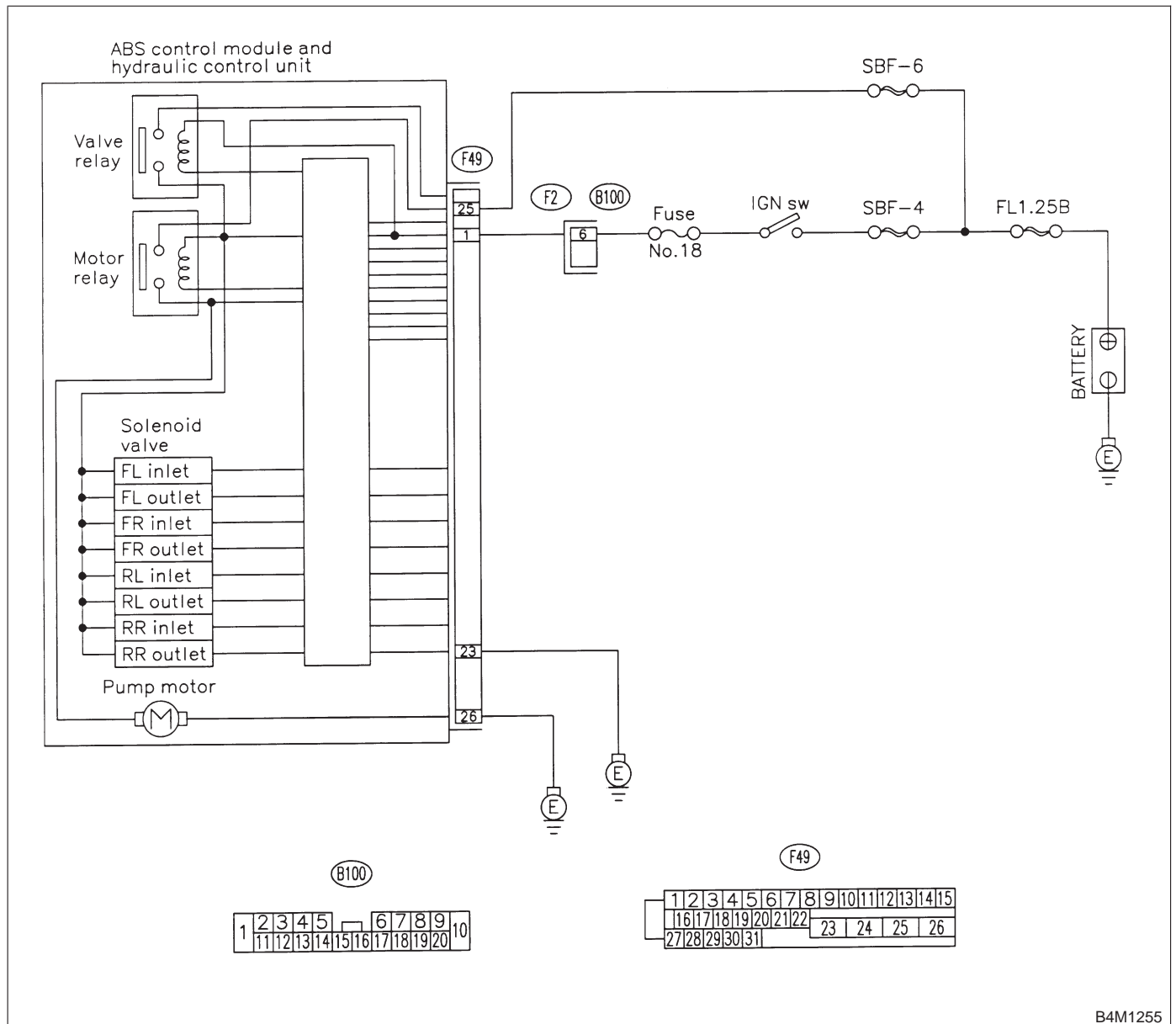
**DIAGNOSIS:**

- Faulty motor
- Faulty motor relay
- Faulty harness connector

**TROUBLE SYMPTOM:**

- ABS does not operate.

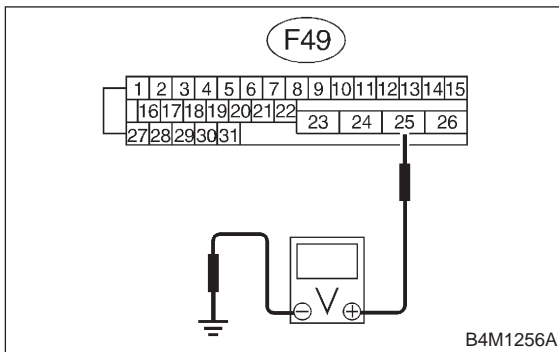
**WIRING DIAGRAM:**



**8W1 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Turn ignition switch to ON.
- 4) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**  
**(F49) No. 25 (+) — Chassis ground (-):**

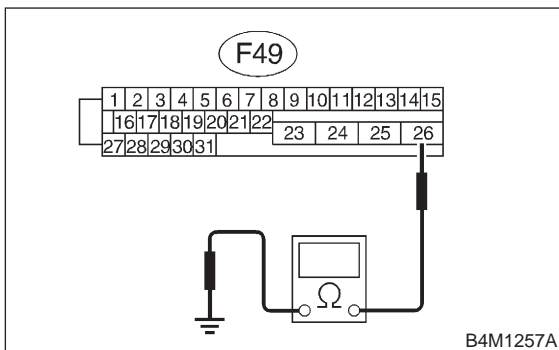


- CHECK** : Is the voltage between 10 V and 15 V?  
**YES** : Go to step 8W2.  
**NO** : Repair harness/connector between battery and ABSCM&H/U and check fuse SBF-6.

**8W2 : CHECK GROUND CIRCUIT OF MOTOR.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**  
**(F49) No. 26 — Chassis ground:**

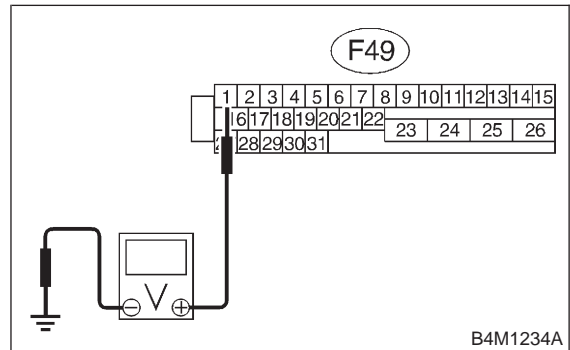


- CHECK** : Is the resistance less than 0.5 Ω?  
**YES** : Go to step 8W3.  
**NO** : Repair ABSCM&H/U ground harness.

**8W3 : CHECK INPUT VOLTAGE OF ABSCM&H/U.**

- 1) Run the engine at idle.
- 2) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**  
**(F49) No. 1 (+) — Chassis ground (-):**

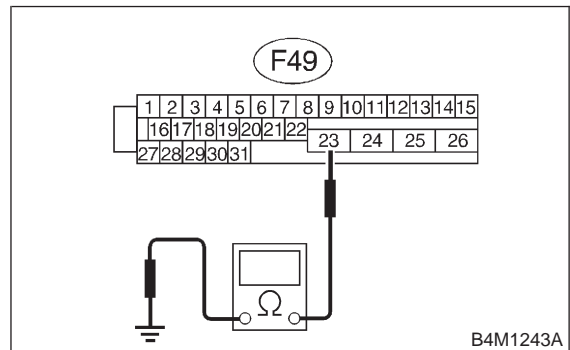


- CHECK** : Is the voltage between 10 V and 15 V?  
**YES** : Go to step 8W4.  
**NO** : Repair harness connector between battery, ignition switch and ABSCM&H/U.

**8W4 : CHECK GROUND CIRCUIT OF ABSCM&H/U.**

- 1) Turn ignition switch to OFF.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**  
**(F49) No. 23 — Chassis ground:**



- CHECK** : Is the resistance less than 0.5 Ω?  
**YES** : Go to step 8W5.  
**NO** : Repair ABSCM&H/U ground harness.

**8W5 : CHECK MOTOR OPERATION.**

Operate the sequence control. <Ref. to 4-4 [W15D1].>

## NOTE:

Use the diagnosis connector to operate the sequence control.

**CHECK** : *Can motor revolution noise (buzz) be heard when carrying out the sequence control?*

**YES** : Go to step **8W6**.

**NO** : Replace ABSCM&H/U.

**8W6 : CHECK POOR CONTACT IN CONNECTORS.**

Turn ignition switch to OFF.

**CHECK** : *Is there poor contact in connector between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>*

**YES** : Repair connector.

**NO** : Go to step **8W7**.

**8W7 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

**CHECK** : *Is the same trouble code as in the current diagnosis still being output?*

**YES** : Replace ABSCM&H/U.

**NO** : Go to step **8W8**.

**8W8 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

**CHECK** : *Are other trouble codes being output?*

**YES** : Proceed with the diagnosis corresponding to the trouble code.

**NO** : A temporary poor contact.

## BRAKES

[T8W8] 4-4

8. Diagnostics Chart with Trouble Code by ABS Warning Light

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MEMO:

**X: TROUBLE CODE 54**

— ABNORMAL STOP LIGHT SWITCH —

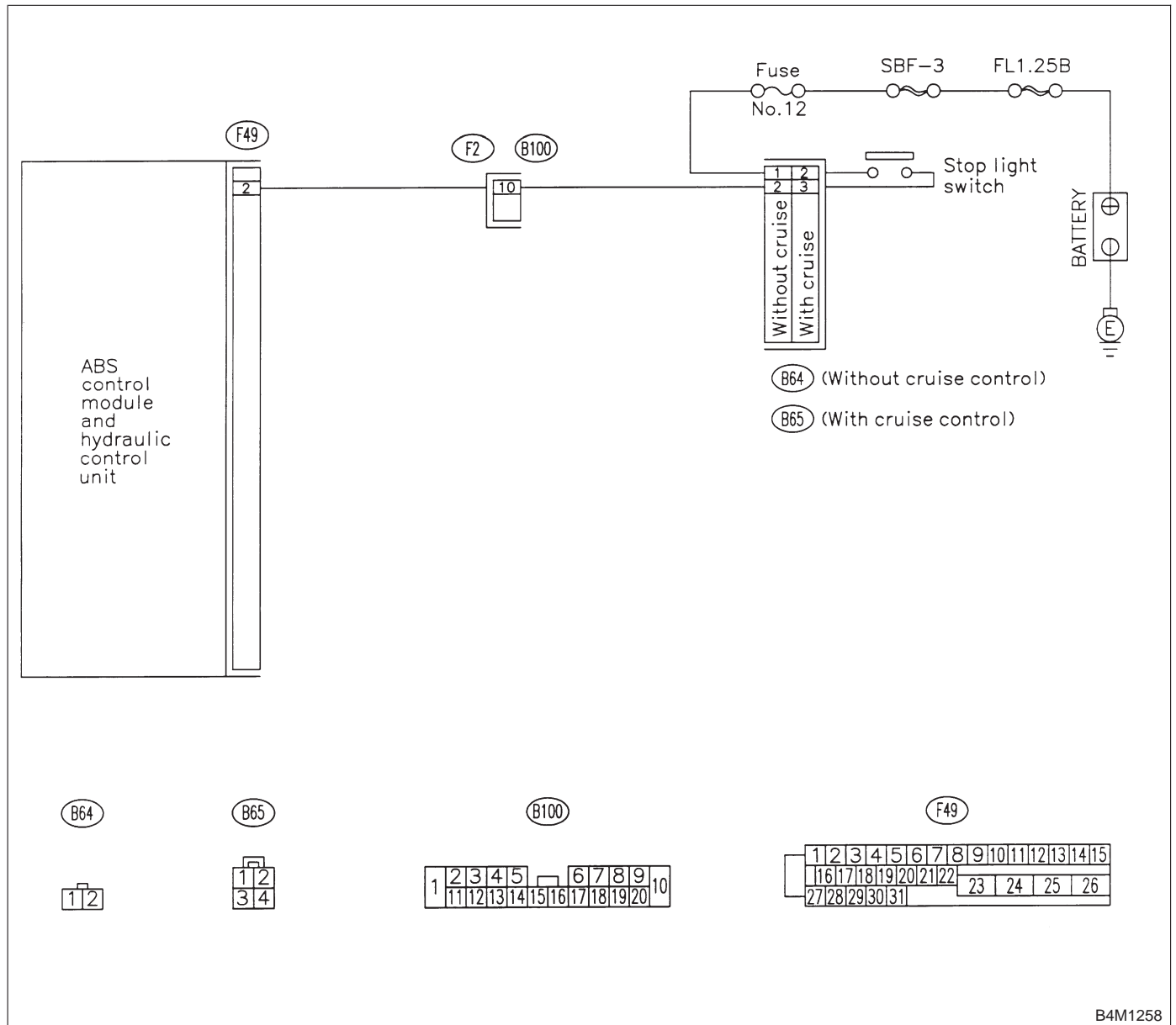
**DIAGNOSIS:**

- Faulty stop light switch

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**





**8X1 : CHECK STOP LIGHTS COME ON.**

Depress the brake pedal.

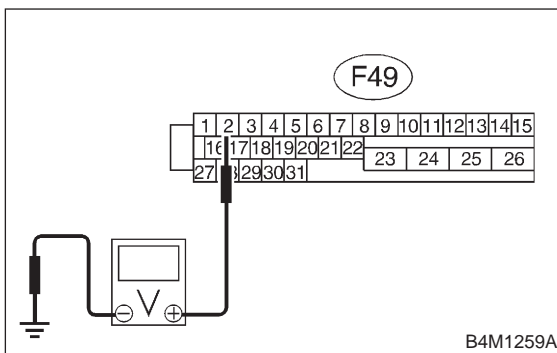
- CHECK** : *Do stop lights come on?*
- YES** : Go to step **8X2**.
- NO** : Repair stop lights circuit.

**8X2 : CHECK OPEN CIRCUIT IN HARNESS.**

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Depress brake pedal.
- 4) Measure voltage between ABSCM&H/U connector and chassis ground.

**Connector & terminal**

**(F49) No. 2 (+) — Chassis ground (-):**



- CHECK** : *Is the voltage between 10 V and 15 V?*
- YES** : Go to step **8X3**.
- NO** : Repair harness between stop light switch and ABSCM&H/U.

**8X3 : CHECK POOR CONTACT IN CONNECTORS.**

- CHECK** : *Is there poor contact in connector between stop light switch and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>*
- YES** : Repair connector.
- NO** : Go to step **8X4**.

**8X4 : CHECK ABSCM&H/U.**

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

- CHECK** : *Is the same trouble code as in the current diagnosis still being output?*
- YES** : Replace ABSCM&H/U.
- NO** : Go to step **8X5**.

**8X5 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.**

- CHECK** : *Are other trouble codes being output?*
- YES** : Proceed with the diagnosis corresponding to the trouble code.
- NO** : A temporary poor contact.

**Y: TROUBLE CODE 56**

— ABNORMAL G SENSOR OUTPUT VOLTAGE —

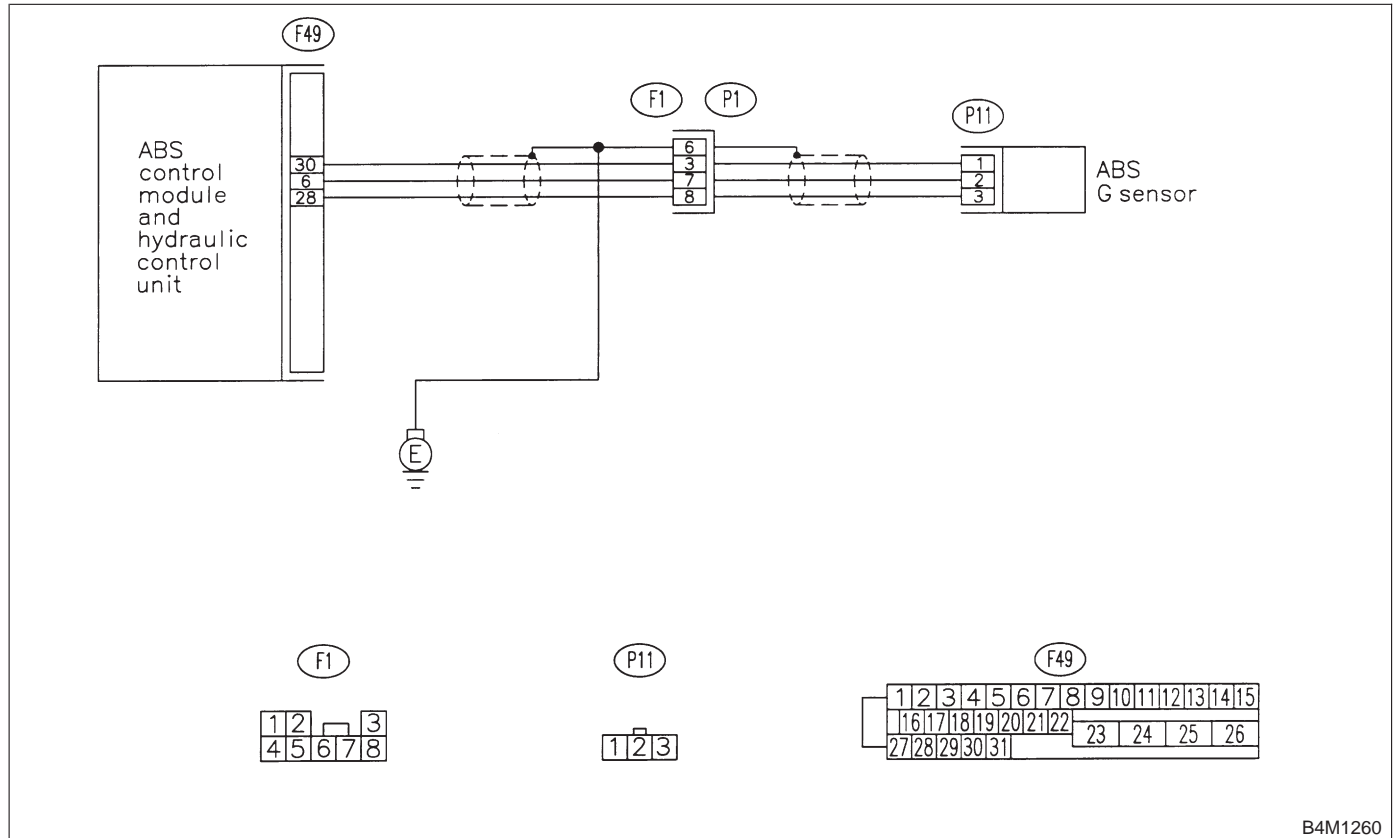
**DIAGNOSIS:**

- Faulty G sensor output voltage

**TROUBLE SYMPTOM:**

- ABS does not operate.

**WIRING DIAGRAM:**



B4M1260

# BRAKES

[T8Y3] 4-4

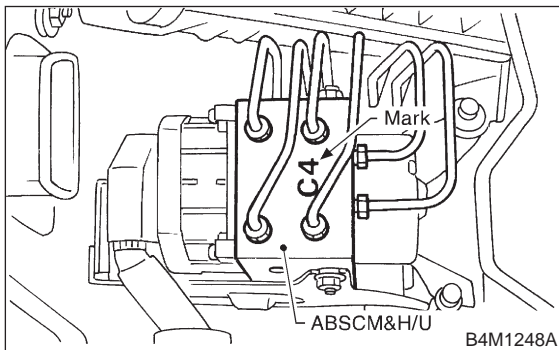
8. Diagnostics Chart with Trouble Code by ABS Warning Light

## 8Y1 : CHECK ALL FOUR WHEELS FOR FREE TURNING.

- CHECK** : *Have the wheels been turned freely such as when the vehicle is lifted up, or operated on a rolling road?*
- YES** : The ABS is normal. Erase the trouble code.
- NO** : Go to step **8Y2**.

## 8Y2 : CHECK SPECIFICATIONS OF ABSCM&H/U.

Check specifications of the mark to the ABSCM&H/U.



Mark	Model
C5	AWD AT
C6	AWD MT

- CHECK** : *Is an ABSCM for AWD model installed on a FWD model?*
- YES** : Replace ABSCM&H/U. <Ref. to 4-4 [W15A0].>

### CAUTION:

Be sure to turn ignition switch to OFF when removing ABSCM&H/U.

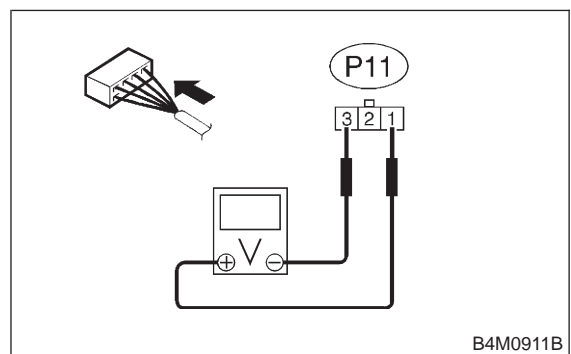
- NO** : Go to step **8Y3**.

## 8Y3 : CHECK INPUT VOLTAGE OF G SENSOR.

- 1) Turn ignition switch to OFF.
- 2) Remove console box.
- 3) Disconnect G sensor from body. (Do not disconnect connector.)
- 4) Turn ignition switch to ON.
- 5) Measure voltage between G sensor connector terminals.

### Connector & terminal

(P11) No. 1 (+) — No. 3 (-):



- CHECK** : *Is the voltage between 4.75 and 5.25 V?*
- YES** : Go to step **8Y4**.
- NO** : Repair harness/connector between G sensor and ABSCM&H/U.

## 4-4 [T8Y4]

## BRAKES

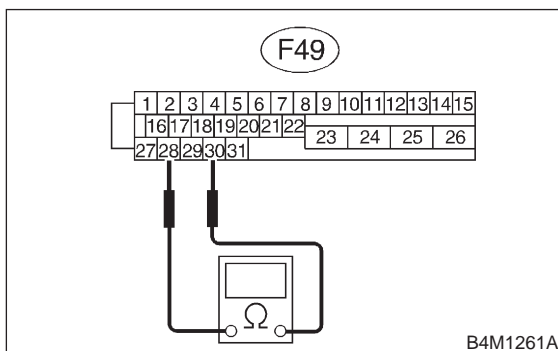
### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8Y4 : CHECK OPEN CIRCUIT IN G SENSOR OUTPUT HARNESS AND GROUND HARNESS.

- 1) Turn ignition switch to OFF.
- 2) Disconnect connector from ABSCM&H/U.
- 3) Measure resistance between ABSCM&H/U connector terminals.

##### Connector & terminal

(F49) No. 30 — No. 28:



**CHECK** : Is the resistance between 4.3 and 4.9 k $\Omega$ ?

**YES** : Go to step 8Y5.

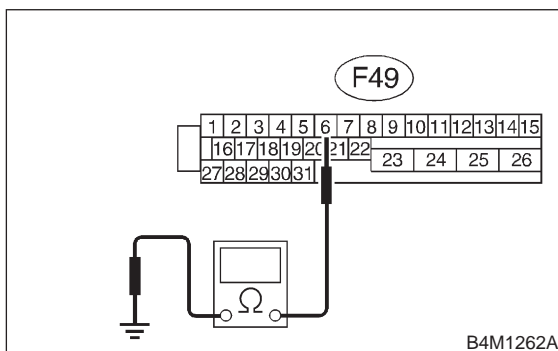
**NO** : Repair harness/connector between G sensor and ABSCM&H/U.

#### 8Y5 : CHECK GROUND SHORT IN G SENSOR OUTPUT HARNESS.

- 1) Disconnect connector from G sensor.
- 2) Measure resistance between ABSCM&H/U connector and chassis ground.

##### Connector & terminal

(F49) No. 6 — Chassis ground:



**CHECK** : Is the resistance more than 1 M $\Omega$ ?

**YES** : Go to step 8Y6.

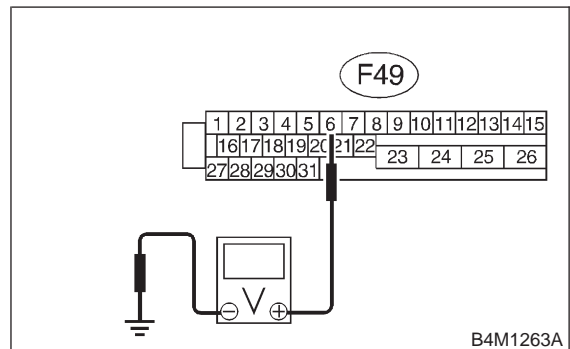
**NO** : Repair harness between G sensor and ABSCM&H/U.

#### 8Y6 : CHECK BATTERY SHORT OF HARNESS.

Measure voltage between ABSCM&H/U connector and chassis ground.

##### Connector & terminal

(F49) No. 6 (+) — Chassis ground (-):



**CHECK** : Is the voltage less than 1 V?

**YES** : Go to step 8Y7.

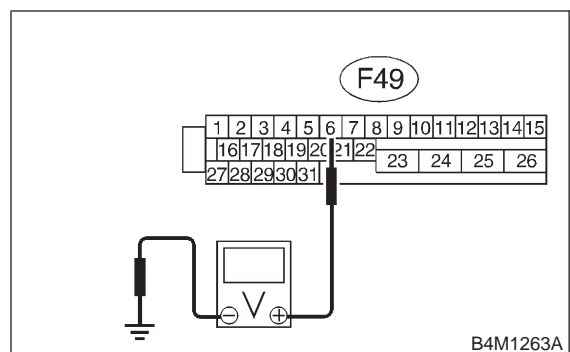
**NO** : Repair harness between G sensor and ABSCM&H/U.

#### 8Y7 : CHECK BATTERY SHORT OF HARNESS.

- 1) Turn ignition switch to ON.
- 2) Measure voltage between ABSCM&H/U connector and chassis ground.

##### Connector & terminal

(F49) No. 6 (+) — Chassis ground (-):



**CHECK** : Is the voltage less than 1 V?

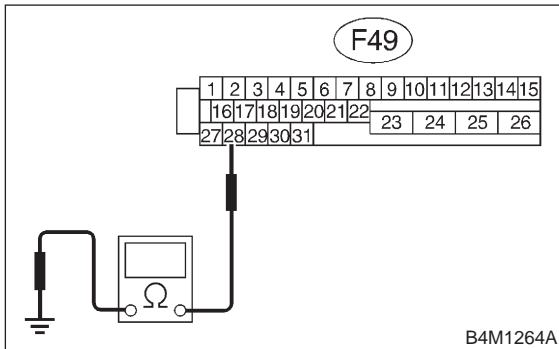
**YES** : Go to step 8Y8.

**NO** : Repair harness between G sensor and ABSCM&H/U.

**8Y8 : CHECK GROUND SHORT OF HARNESS.**

Measure resistance between ABSCM&H/U connector and chassis ground.

**Connector & terminal**  
**(F49) No. 28 — Chassis ground:**

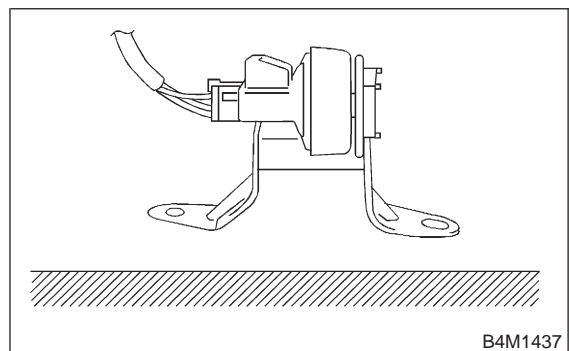
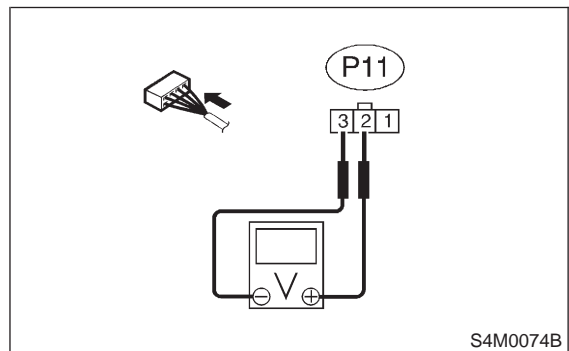


- CHECK** : *Is the resistance more than 1 MΩ?*
- YES** : Go to step **8Y9**.
- NO** : Repair harness between G sensor and ABSCM&H/U.  
Replace ABSCM&H/U. <Ref. to 4-4 [W15A0].>

**8Y9 : CHECK G SENSOR.**

- 1) Turn ignition switch to OFF.
- 2) Remove G sensor from vehicle.
- 3) Connect connector to G sensor.
- 4) Connect connector to ABSCM&H/U.
- 5) Turn ignition switch to ON.
- 6) Measure voltage between G sensor connector terminals.

**Connector & terminal**  
**(P11) No. 2 (+) — No. 3 (-):**



- CHECK** : *Is the voltage between 2.1 and 2.4 V when G sensor is horizontal?*
- YES** : Go to step **8Y10**.
- NO** : Replace G sensor. <Ref. to 4-4 [W16A0].>

## 4-4 [T8Y10]

## BRAKES

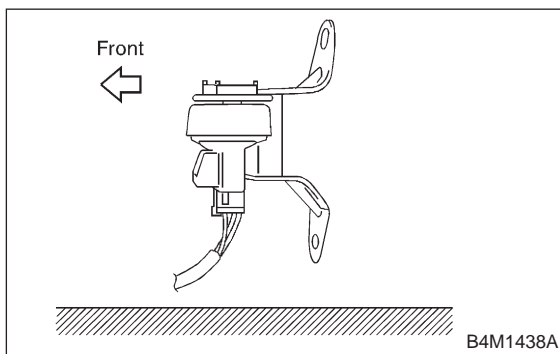
### 8. Diagnostics Chart with Trouble Code by ABS Warning Light

#### 8Y10 : CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

##### Connector & terminal

(P11) No. 2 (+) — No. 3 (-):



**CHECK** : *Is the voltage between 3.7 and 4.1 V when G sensor is inclined forwards to 90°?*

**YES** : Go to step 8Y11.

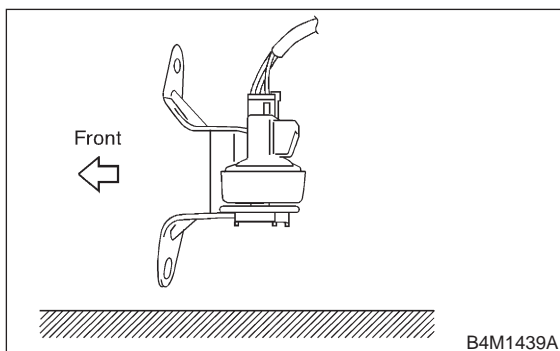
**NO** : Replace G sensor. <Ref. to 4-4 [W16A0].>

#### 8Y11 : CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

##### Connector & terminal

(P11) No. 2 (+) — No. 3 (-):



**CHECK** : *Is the voltage between 0.5 and 0.9 V when G sensor is inclined backwards to 90°?*

**YES** : Go to step 8Y12.

**NO** : Replace G sensor. <Ref. to 4-4 [W16A0].>

#### 8Y12 : CHECK POOR CONTACT IN CONNECTORS.

**CHECK** : *Is there poor contact in connector between ABSCM&H/U and G sensor? <Ref. to FOREWORD [T3C1].>*

**YES** : Repair connector.

**NO** : Go to step 8Y13.

#### 8Y13 : CHECK ABSCM&H/U.

- 1) Connect all connectors.
- 2) Erase the memory.
- 3) Perform inspection mode.
- 4) Read out the trouble code.

**CHECK** : *Is the same trouble code as in the current diagnosis still being output?*

**YES** : Replace ABSCM&H/U. <Ref. to 4-4 [W15A0].>

**NO** : Go to step 8Y14.

#### 8Y14 : CHECK ANY OTHER TROUBLE CODES APPEARANCE.

**CHECK** : *Are other trouble codes being output?*

**YES** : Proceed with the diagnosis corresponding to the trouble code.

**NO** : A temporary poor contact.