

## 13. Diagnostics Chart with Diagnosis Connector S006522

### A: ABS WARNING LIGHT DOES NOT COME ON. S006522E24

#### DIAGNOSIS:

- ABS warning light circuit is open or shorted.

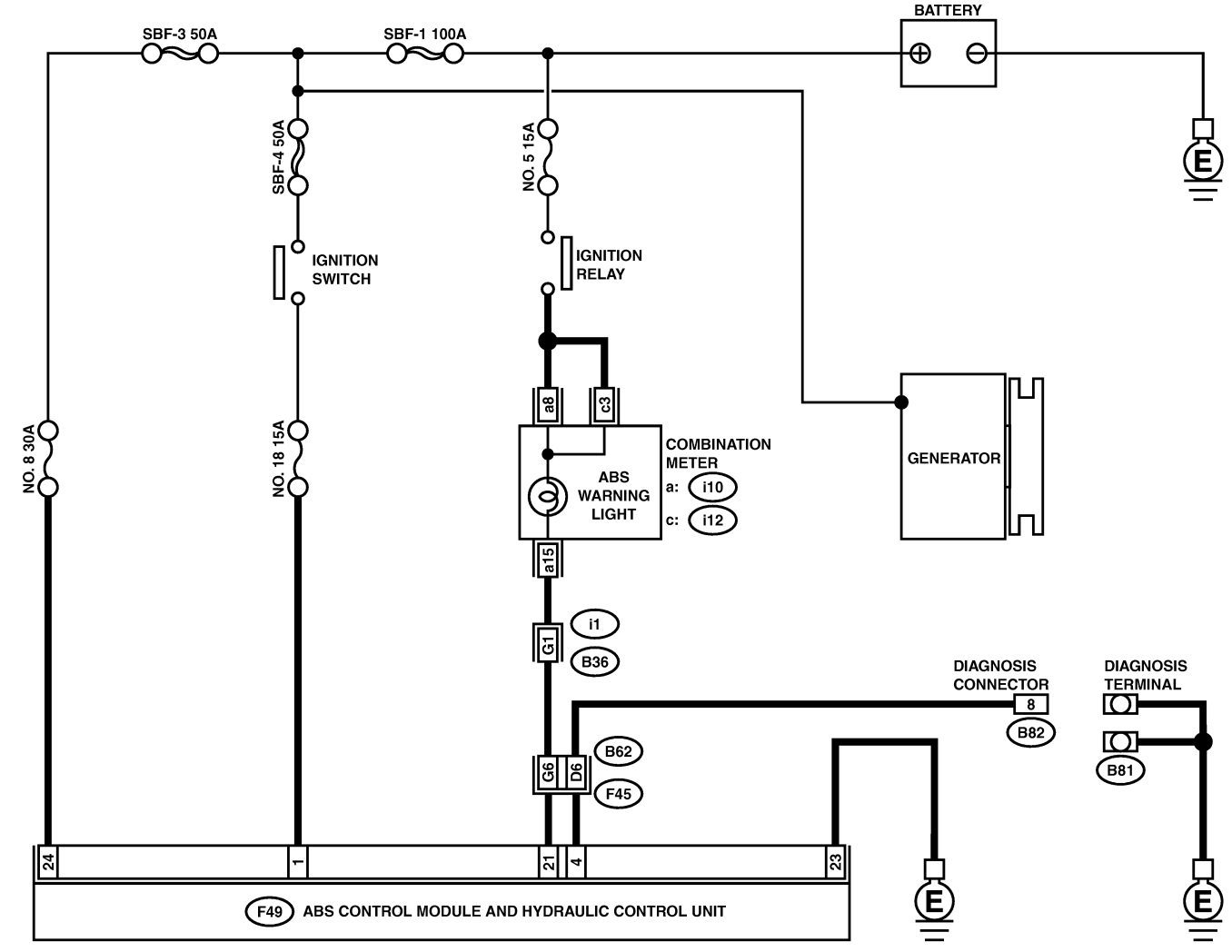
#### TROUBLE SYMPTOM:

- When ignition switch is turned ON (engine OFF), ABS warning light does not come on

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



(B82)

1	2	3
4	5	6

(i12)

1	2	3	4	5	6
7	8	9	10	11	12
13	14				

(F49)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26				
27	28	29	30	31										

(i10)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30												

(B36) (B62)

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

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# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK IF OTHER WARNING LIGHTS TURN ON.</b> Turn ignition switch to ON (engine OFF).	Do other warning lights turn on?	Go to step 2.	Repair combination meter. <Ref. to IDI-17 Combination Meter Assembly.>
2	<b>CHECK ABS WARNING LIGHT BULB.</b> 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove ABS warning light bulb from combination meter.	Is ABS warning light bulb OK?	Go to step 3.	Replace ABS warning light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
3	<b>CHECK BATTERY SHORT OF ABS WARNING LIGHT HARNESS.</b> 1) Disconnect connector (B62) from connector (F45). 2) Measure voltage between connector (B62) and chassis ground. <i>Connector &amp; terminal</i> <i>(B62) No. G6 (+) — Chassis ground (-):</i>	Is the voltage less than 3 V?	Go to step 4.	Repair warning light harness.
4	<b>CHECK BATTERY SHORT OF ABS WARNING LIGHT HARNESS.</b> 1) Turn ignition switch to ON. 2) Measure voltage between connector (B62) and chassis ground. <i>Connector &amp; terminal</i> <i>(B62) No. G6 (+) — Chassis ground (-):</i>	Is the voltage less than 3 V?	Go to step 5.	Repair warning light harness.
5	<b>CHECK WIRING HARNESS.</b> 1) Turn ignition switch to OFF. 2) Install ABS warning light bulb from combination meter. 3) Install combination meter. 4) Turn ignition switch to ON. 5) Measure voltage between connector (B62) and chassis ground. <i>Connector &amp; terminal</i> <i>(B62) No. G6 (+) — Chassis ground (-):</i>	Is the voltage between 10 and 15 V?	Go to step 6.	Repair wiring harness.
6	<b>CHECK BATTERY SHORT OF ABS WARNING LIGHT HARNESS.</b> 1) Turn ignition switch to OFF. 2) Measure voltage between connector (F45) and chassis ground. <i>Connector &amp; terminal</i> <i>(F45) No. G6 (+) — Chassis ground (-):</i>	Is the voltage less than 3 V?	Go to step 7.	Repair wiring harness.
7	<b>CHECK BATTERY SHORT OF ABS WARNING LIGHT HARNESS.</b> 1) Turn ignition switch to ON. 2) Measure voltage between connector (F45) and chassis ground. <i>Connector &amp; terminal</i> <i>(F45) No. G6 (+) — Chassis ground (-):</i>	Is the voltage less than 3 V?	Go to step 8.	Repair wiring harness.
8	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> Measure resistance between ABSCM&H/U and chassis ground. <i>Connector &amp; terminal</i> <i>(F49) No. 23 — GND:</i>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 9.	Repair ABSCM&H/U ground harness.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
9	<b>CHECK WIRING HARNESS.</b> Measure resistance between connector (F45) and chassis ground. <b>Connector &amp; terminal</b> <b>(F45) No. G6 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 10.	Repair harness/connector.
10	<b>CHECK POOR CONTACT IN CONNECTORS.</b> Turn ignition switch to OFF.	Is there poor contact in connectors between combination meter and ABSCM&H/U?	Repair connector.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## B: ABS WARNING LIGHT DOES NOT GO OFF. S006522E25

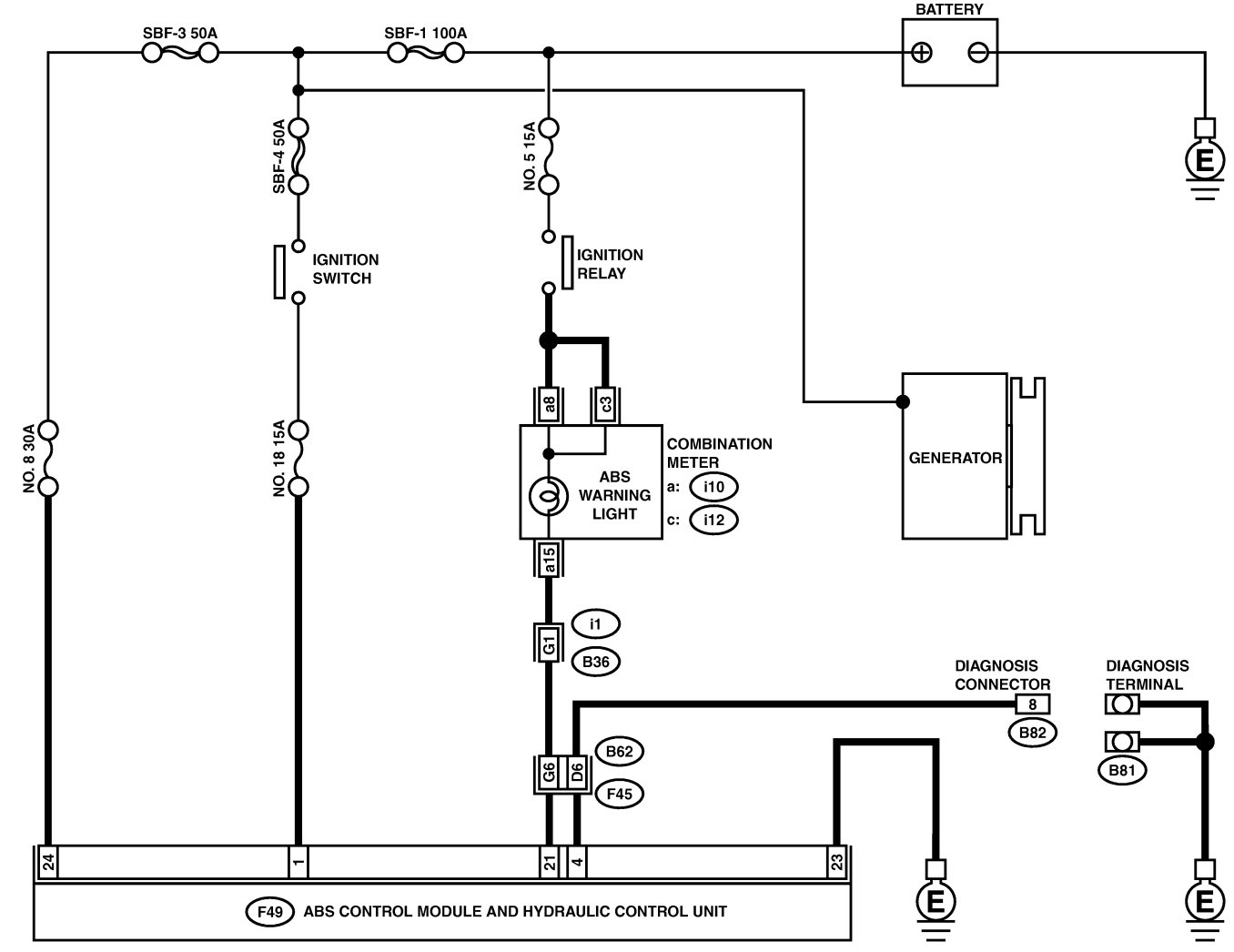
### DIAGNOSIS:

- ABS warning light circuit is open or shorted.

### TROUBLE SYMPTOM:

- When starting the engine and while ABS warning light is kept ON.

### WIRING DIAGRAM:



**(B82)**

1	2	3
4	5	6
7	8	

**(i12)**

1	2	3	4	5	6
7	8	9	10	11	12
13	14				

**(F49)**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26				
27	28	29	30	31										

**(i10)**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	23	24	25	26	27	28
29	30												

**(B36) (B62)**

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

B4M1454

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INSTALLATION OF ABSCM&amp;H/U CONNECTOR.</b> Turn ignition switch to OFF.	Is ABSCM&H/U connector inserted into ABSCM until the clamp locks onto it?	Go to step 2.	Insert ABSCM&H/U connector into ABSCM&H/U until the clamp locks onto it.
2	<b>CHECK DIAGNOSIS TERMINAL.</b> Measure resistance between diagnosis terminals (B81) and chassis ground. <i>Terminals</i> <i>Diagnosis terminal (A) — Chassis ground:</i> <i>Diagnosis terminal (B) — Chassis ground:</i>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair diagnosis terminal harness.
3	<b>CHECK DIAGNOSIS LINE.</b> 1) Turn ignition switch to OFF. 2) Connect diagnosis terminal (B81) to diagnosis connector (B82) No. 8. 3) Disconnect connector from ABSCM&H/U. 4) Measure resistance between ABSCM&H/U connector and chassis ground. <i>Connector &amp; terminal (F49) No. 4 — Chassis ground:</i>	Is the resistance less than 0.5 Ω?	Go to step 4.	Repair harness connector between ABSCM&H/U and diagnosis connector.
4	<b>CHECK GENERATOR.</b> 1) Start the engine. 2) Idle the engine. 3) Measure voltage between generator and chassis ground. <i>Terminal</i> <i>Generator B terminal (+) — Chassis ground (-):</i>	Is the voltage between 10 and 15 V?	Go to step 5.	Repair generator. <Ref. to SC(H4)-15 Generator.>
5	<b>CHECK BATTERY TERMINAL.</b> Turn ignition switch to OFF.	Is there poor contact at battery terminal?	Repair battery terminal.	Go to step 6.
6	<b>CHECK POWER SUPPLY OF ABSCM.</b> 1) Disconnect connector from ABSCM&H/U. 2) Start engine. 3) Idle the engine. 4) Measure voltage between ABSCM&H/U connector and chassis ground. <i>Connector &amp; terminal (F49) No. 1 (+) — Chassis ground (-):</i>	Is the voltage between 10 and 15 V?	Go to step 7.	Repair ABSCM&H/U power supply circuit.
7	<b>CHECK WIRING HARNESS.</b> 1) Disconnect connector (F45) from connector (B62). 2) Turn ignition switch to ON.	Does the ABS warning light remain off?	Go to step 8.	Repair front wiring harness.
8	<b>CHECK PROJECTION AT ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Check for broken projection at the ABSCM&H/U terminal.	Are the projection broken?	Go to step 9.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
9	<b>CHECK ABSCM&amp;H/U.</b> Measure resistance between ABSCM&H/U terminals. <i>Terminal</i> <i>No. 21 — No. 23:</i>	Is the resistance more than 1 MΩ?	Go to step 10.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
10	<b>CHECK WIRING HARNESS.</b> Measure resistance between connector (F45) and chassis ground. <b>Connector &amp; terminal</b> <b>(F45) No. G6 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 11.	Repair harness.
11	<b>CHECK WIRING HARNESS.</b> 1) Connect connector to ABSCM&H/U. 2) Measure resistance between connector (F45) and chassis ground. <b>Connector &amp; terminal</b> <b>(F45) No. G6 — Chassis ground:</b>	Is the resistance more than 1 M $\Omega$ ?	Go to step 12.	Repair harness.
12	<b>CHECK POOR CONTACT IN ABSCM&amp;H/U CONNECTOR.</b>	Is there poor contact in ABSCM&H/U connector?	Repair connector.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

ABS-33



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## C: TROUBLE CODE DOES NOT APPEAR. S006522E50

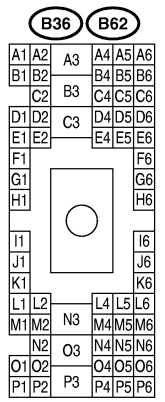
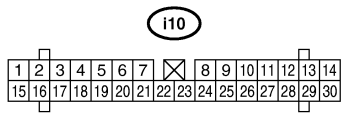
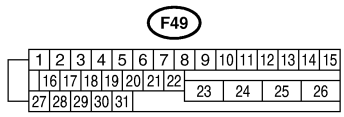
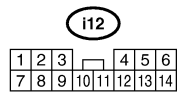
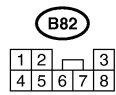
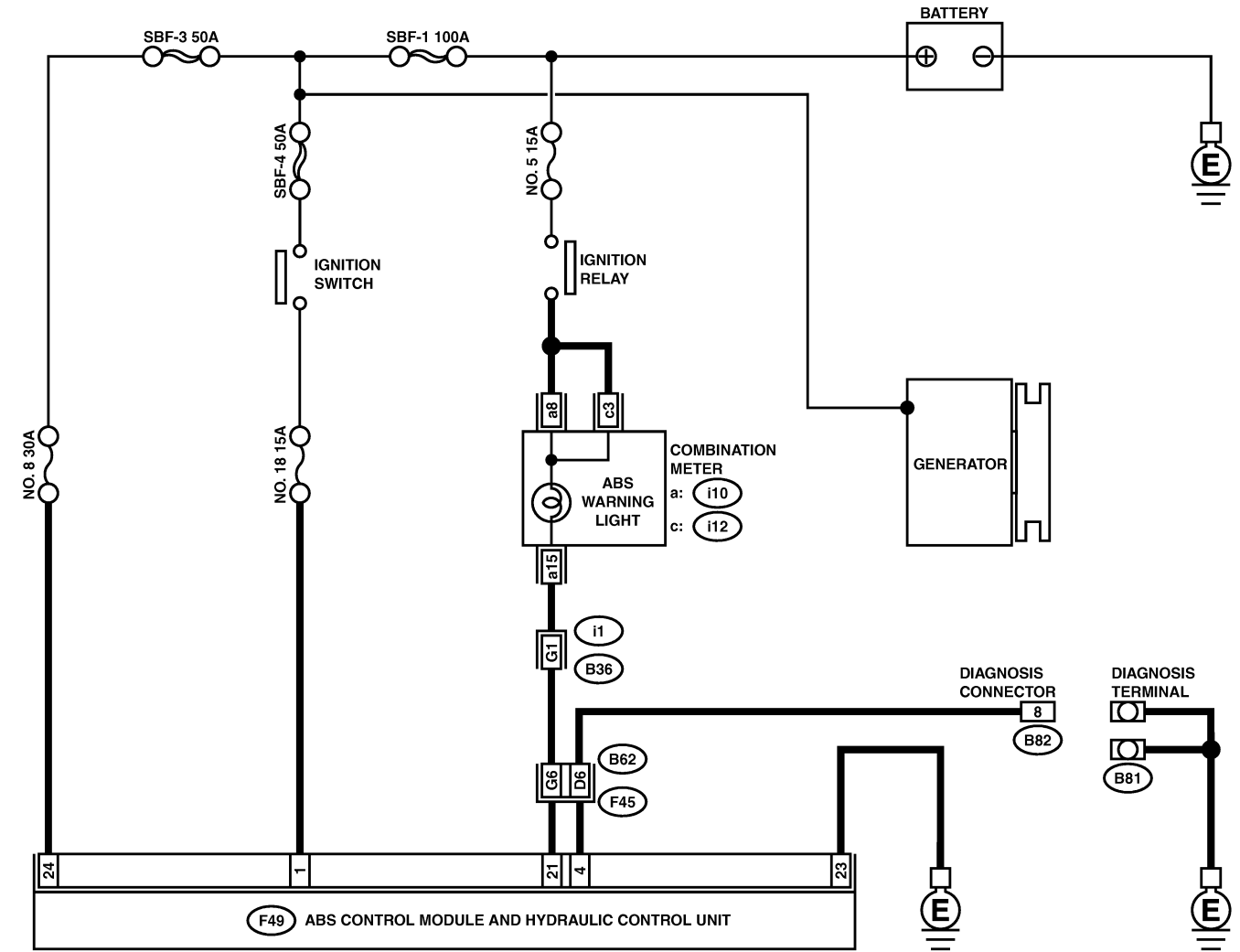
### DIAGNOSIS:

- Diagnosis circuit is open.

### TROUBLE SYMPTOM:

- The ABS warning light turns on or off normally but the start code cannot be read out in the diagnostic mode.

### WIRING DIAGRAM:



B4M1454

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<p><b>CHECK DIAGNOSIS TERMINAL.</b>                      1) Turn ignition switch to OFF.                      2) Measure resistance between diagnosis terminals (B81) and chassis ground.</p> <p><b>Terminals</b>  <i>Diagnosis terminal (A) — Chassis ground:</i>  <i>Diagnosis terminal (B) — Chassis ground:</i></p>	Is the resistance less than 0.5 Ω?	Go to step 2.	Repair diagnosis terminal harness.
2	<p><b>CHECK DIAGNOSIS LINE.</b>                      1) Turn ignition switch to OFF.                      2) Connect diagnosis terminal (B81) to diagnosis connector (B82) No. 8.                      3) Disconnect connector from ABSCM&amp;H/U.                      4) Measure resistance between ABSCM&amp;H/U connector and chassis ground.</p> <p><b>Connector &amp; terminal</b>  <i>(F49) No. 4 — Chassis ground:</i></p>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair harness connector between ABSCM&H/U and diagnosis connector.
3	<p><b>CHECK POOR CONTACT IN ABSCM&amp;H/U CONNECTOR.</b></p>	Is there poor contact in ABSCM&H/U connector?	Repair connector.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## **D: TROUBLE CODE 21**

**— ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (FRONT RH) —** S006522E60

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 27. <Ref. to ABS-36 TROUBLE CODE 27 — ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **E: TROUBLE CODE 23**

**— ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (FRONT LH) —** S006522E61

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 27. <Ref. to ABS-36 TROUBLE CODE 27 — ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **F: TROUBLE CODE 25**

**— ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (REAR RH) —** S006522E62

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 27. <Ref. to ABS-36 TROUBLE CODE 27 — ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **G: TROUBLE CODE 27**

**— ABNORMAL ABS SENSOR (OPEN CIRCUIT OR INPUT VOLTAGE TOO HIGH) (REAR LH) —** S006522E63

### **DIAGNOSIS:**

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

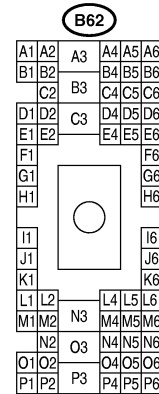
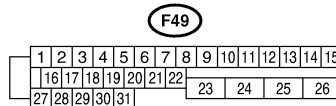
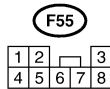
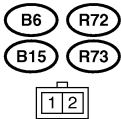
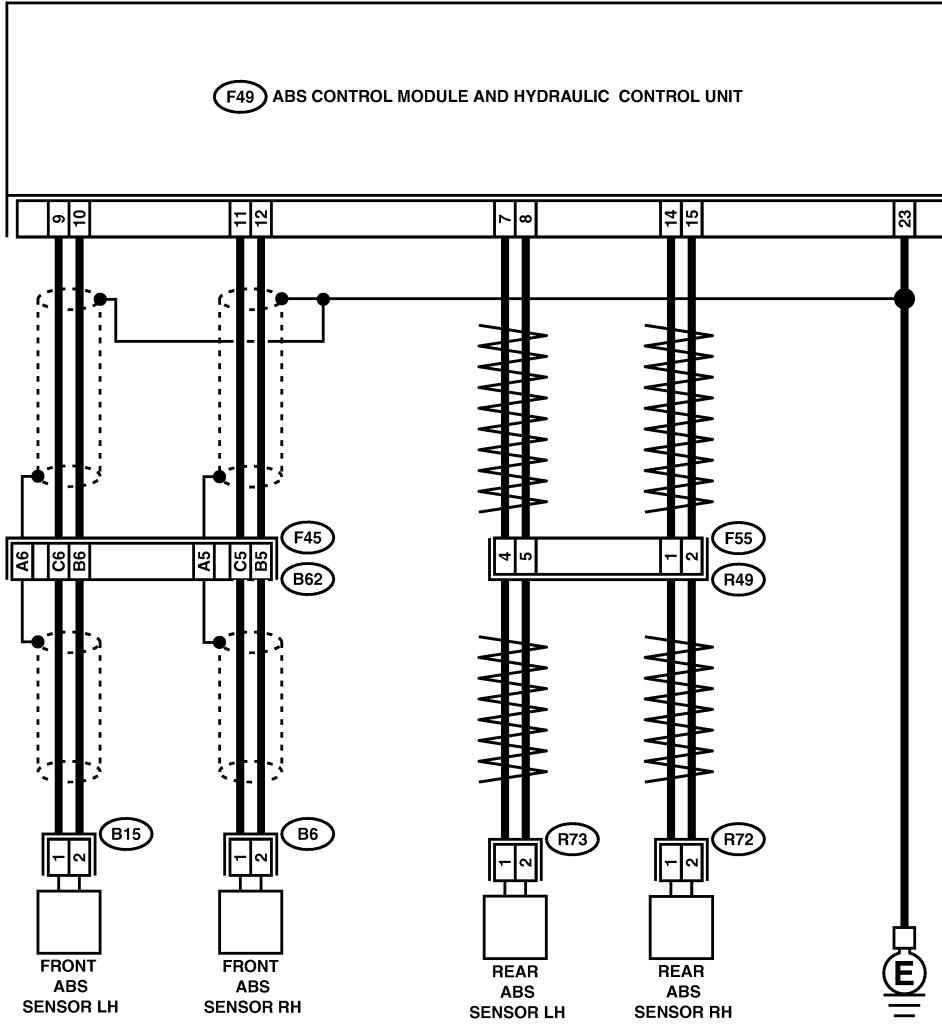
### **TROUBLE SYMPTOM:**

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



B4M1455

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<p><b>CHECK ABS SENSOR.</b></p> <p>1) Turn ignition switch to OFF. 2) Disconnect connector from ABS sensor. 3) Measure resistance of ABS sensor connector terminals.</p> <p><b>Terminal</b></p> <p><b>Front RH No. 1 — No. 2:</b> <b>Front LH No. 1 — No. 2:</b> <b>Rear RH No. 1 — No. 2:</b> <b>Rear LH No. 1 — No. 2:</b></p>	Is the resistance between 1 and 1.5 kΩ?	Go to step 2.	Replace ABS sensor. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.>
2	<p><b>CHECK BATTERY SHORT OF ABS SENSOR.</b></p> <p>1) Disconnect connector from ABSCM&amp;H/U. 2) Measure voltage between ABS sensor and chassis ground.</p> <p><b>Terminal</b></p> <p><b>Front RH No. 1 (+) — Chassis ground (-):</b> <b>Front LH No. 1 (+) — Chassis ground (-):</b> <b>Rear RH No. 1 (+) — Chassis ground (-):</b> <b>Rear LH No. 1 (+) — Chassis ground (-):</b></p>	Is the voltage less than 1 V?	Go to step 3.	Replace ABS sensor. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.>
3	<p><b>CHECK BATTERY SHORT OF ABS SENSOR.</b></p> <p>1) Turn ignition switch to ON. 2) Measure voltage between ABS sensor and chassis ground.</p> <p><b>Terminal</b></p> <p><b>Front RH No. 1 (+) — Chassis ground (-):</b> <b>Front LH No. 1 (+) — Chassis ground (-):</b> <b>Rear RH No. 1 (+) — Chassis ground (-):</b> <b>Rear LH No. 1 (+) — Chassis ground (-):</b></p>	Is the voltage less than 1 V?	Go to step 4.	Replace ABS sensor. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.>
4	<p><b>CHECK HARNESS/CONNECTOR BETWEEN ABSCM&amp;H/U AND ABS SENSOR.</b></p> <p>1) Turn ignition switch to OFF. 2) Connect connector to ABS sensor. 3) Measure resistance between ABSCM&amp;H/U connector terminals.</p> <p><b>Connector &amp; terminal</b></p> <p><b>Trouble code 21 / (F49) No. 11 — No. 12:</b> <b>Trouble code 23 / (F49) No. 9 — No. 10:</b> <b>Trouble code 25 / (F49) No. 14 — No. 15:</b> <b>Trouble code 27 / (F49) No. 7 — No. 8:</b></p>	Is the resistance between 1 and 1.5 kΩ?	Go to step 5.	Repair harness/connector between ABSCM&H/U and ABS sensor.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
5	<p><b>CHECK BATTERY SHORT OF HARNESS.</b> Measure voltage between ABSCM&amp;H/U connector and chassis ground.</p> <p><b>Connector &amp; terminal</b> <i>Trouble code 21 / (F49) No. 11 (+) — Chassis ground (-):</i> <i>Trouble code 23 / (F49) No. 9 (+) — Chassis ground (-):</i> <i>Trouble code 25 / (F49) No. 14 (+) — Chassis ground (-):</i> <i>Trouble code 27 / (F49) No. 7 (+) — Chassis ground (-):</i></p>	Is the voltage less than 1 V?	Go to step 6.	Repair harness between ABSCM&H/U and ABS sensor.
6	<p><b>CHECK BATTERY SHORT OF HARNESS.</b> 1) Turn ignition switch to ON. 2) Measure voltage between ABSCM&amp;H/U connector and chassis ground.</p> <p><b>Connector &amp; terminal</b> <i>Trouble code 21 / (F49) No. 11 (+) — Chassis ground (-):</i> <i>Trouble code 23 / (F49) No. 9 (+) — Chassis ground (-):</i> <i>Trouble code 25 / (F49) No. 14 (+) — Chassis ground (-):</i> <i>Trouble code 27 / (F49) No. 7 (+) — Chassis ground (-):</i></p>	Is the voltage less than 1 V?	Go to step 7.	Repair harness between ABSCM&H/U and ABS sensor.
7	<p><b>CHECK INSTALLATION OF ABS SENSOR.</b> Turn ignition switch to OFF.</p> <p><b>Tightening torque:</b> <b>32 N·m (3.3 kgf·m, 24 ft·lb)</b></p>	Are the ABS sensor installation bolts tightened securely?	Go to step 8.	Tighten ABS sensor installation bolts securely.
8	<p><b>CHECK ABS SENSOR GAP.</b> Measure tone wheel to ABS sensor piece gap over entire perimeter of the wheel.</p> <p><b>Front wheel</b> <b>0.3 — 0.8 mm (0.012 — 0.031 in)</b></p> <p><b>Rear wheel</b> <b>0.44 — 0.94 mm (0.0173 — 0.0370 in)</b></p>	Is the gap within the specifications?	Go to step 9.	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.
9	<p><b>CHECK TONE WHEEL RUNOUT.</b> Measure tone wheel runout.</p>	Is the runout less than 0.05 mm (0.0020 in)?	Go to step 10.	Replace tone wheel. Front: <Ref. to ABS-22 Front Tone Wheel.> Rear: <Ref. to ABS-23 Rear Tone Wheel.>

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
10	<b>CHECK GROUND SHORT OF ABS SENSOR.</b> 1) Turn ignition switch to ON. 2) Measure resistance between ABS sensor and chassis ground. <b>Terminal</b> <i>Front RH No. 1 — Chassis ground:</i> <i>Front LH No. 1 — Chassis ground:</i> <i>Rear RH No. 1 — Chassis ground:</i> <i>Rear LH No. 1 — Chassis ground:</i>	Is the resistance more than 1 MΩ?	Go to step 11.	Replace ABS sensor and ABSCM&H/U. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.> and <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
11	<b>CHECK GROUND SHORT OF HARNESS.</b> 1) Turn ignition switch to OFF. 2) Connect connector to ABS sensor. 3) Measure resistance between ABSCM&H/U connector terminal and chassis ground. <b>Connector &amp; terminal</b> <i>Trouble code 21 / (F49) No. 11 — Chassis ground:</i> <i>Trouble code 23 / (F49) No. 9 — Chassis ground:</i> <i>Trouble code 25 / (F49) No. 14 — Chassis ground:</i> <i>Trouble code 27 / (F49) No. 7 — Chassis ground:</i>	Is the resistance more than 1 MΩ?	Go to step 12.	Repair harness between ABSCM&H/U and ABS sensor. Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
12	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between ABSCM&H/U and ABS sensor?	Repair connector.	Go to step 13.
13	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 14.
14	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact. NOTE: Check harness and connectors between ABSCM&H/U and ABS sensor.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

MEMO:

ABS-41



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## H: TROUBLE CODE 22

— ABNORMAL ABS SENSOR (FRONT RH) — S006522E64

### NOTE:

For the diagnostic procedure, refer to TROUBLE CODE 28. <Ref. to ABS-42 TROUBLE CODE 28 — ABNORMAL ABS SENSOR (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## I: TROUBLE CODE 24

— ABNORMAL ABS SENSOR (FRONT LH) — S006522E65

### NOTE:

For the diagnostic procedure, refer to TROUBLE CODE 28. <Ref. to ABS-42 TROUBLE CODE 28 — ABNORMAL ABS SENSOR (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## J: TROUBLE CODE 26

— ABNORMAL ABS SENSOR (REAR RH) — S006522E66

### NOTE:

For the diagnostic procedure, refer to TROUBLE CODE 28. <Ref. to ABS-42 TROUBLE CODE 28 — ABNORMAL ABS SENSOR (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## K: TROUBLE CODE 28

— ABNORMAL ABS SENSOR (REAR LH) — S006522E67

### DIAGNOSIS:

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

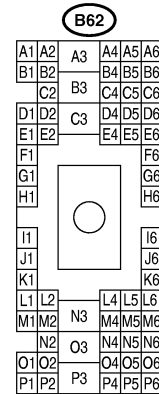
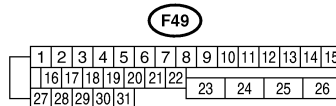
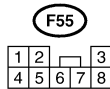
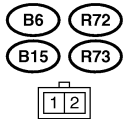
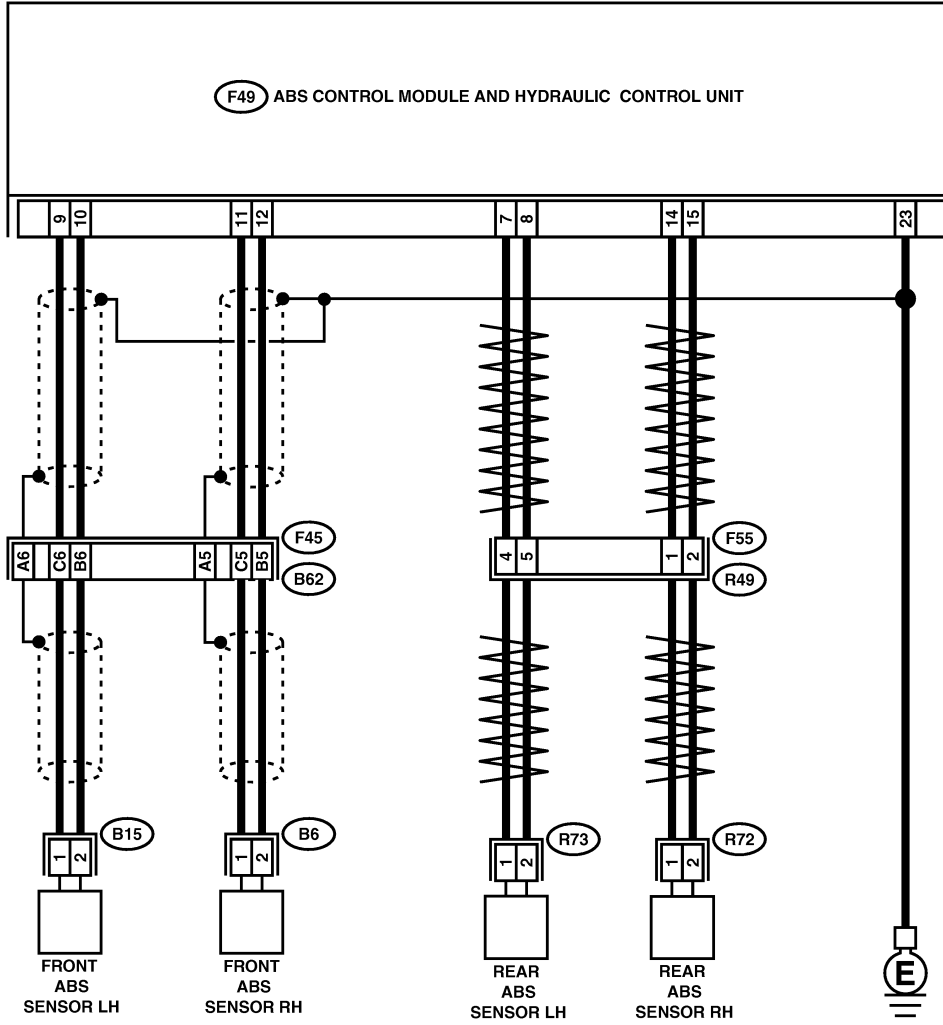
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



B4M1455

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INSTALLATION OF ABS SENSOR.</b> Turn ignition switch to OFF. <i>Tightening torque:</i> <b>32±10 N·m (3.3±1.0 kgf-m, 24±7 ft-lb)</b>	Are the ABS sensor installation bolts tightened securely?	Go to step 2.	Tighten ABS sensor installation bolts securely.
2	<b>CHECK ABS SENSOR GAP.</b> Measure tone wheel to ABS sensor piece gap over entire perimeter of the wheel. <i>Front wheel</i> <b>0.3 — 0.8 mm (0.012 — 0.031 in)</b> <i>Rear wheel</i> <b>0.44 — 0.94 mm (0.0173 — 0.0370 in)</b>	Is the gap within the specifications?	Go to step 3.	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.
3	<b>PREPARE OSCILLOSCOPE.</b>	Is an oscilloscope available?	Go to step 4.	Go to step 5.
4	<b>CHECK ABS SENSOR SIGNAL.</b> 1) Raise all four wheels of ground. 2) Turn ignition switch OFF. 3) Connect the oscilloscope to the connector. 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. <i>Connector &amp; terminal</i> <b>Trouble code 22 / (B62) No. C5 (+) — No. B5 (-):</b> <b>Trouble code 24 / (B62) No. C6 (+) — No. B6 (-):</b> <b>Trouble code 26 / (F55) No. 1 (+) — No. 2 (-):</b> <b>Trouble code 28 / (F55) No. 4 (+) — No. 5 (-):</b>	Is oscilloscope pattern smooth, as shown in figure?	Go to step 8.	Go to step 7.
5	<b>CHECK CONTAMINATION OF ABS SENSOR OR TONE WHEEL.</b> Remove disc rotor or drum from hub in accordance with trouble code.	Is the ABS sensor piece or the tone wheel contaminated by dirt or other foreign matter?	Thoroughly remove dirt or other foreign matter.	Go to step 6.
6	<b>CHECK DAMAGE OF ABS SENSOR OR TONE WHEEL.</b>	Are there broken or damaged in the ABS sensor piece or the tone wheel?	Replace ABS sensor or tone wheel. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.> and Front: <Ref. to ABS-22 Front Tone Wheel.> Rear: <Ref. to ABS-23 Rear Tone Wheel.>	Go to step 7.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
7	<b>CHECK TONE WHEEL RUNOUT.</b> Measure tone wheel runout.	Is the runout less than 0.05 mm (0.0020 in)?	Go to step 8.	Replace tone wheel. Front: <Ref. to ABS-22 Front Tone Wheel.> Rear: <Ref. to ABS-23 Rear Tone Wheel.>
8	<b>CHECK RESISTANCE OF ABS SENSOR.</b> 1) Turn ignition switch OFF. 2) Disconnect connector from ABS sensor. 3) Measure resistance between ABS sensor connector terminals. <i>Terminal</i> <i>Front RH No. 1 — No. 2:</i> <i>Front LH No. 1 — No. 2:</i> <i>Rear RH No. 1 — No. 2:</i> <i>Rear LH No. 1 — No. 2:</i>	Is the resistance between 1 and 1.5 kΩ?	Go to step 9.	Replace ABS sensor. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.>
9	<b>CHECK GROUND SHORT OF ABS SENSOR.</b> Measure resistance between ABS sensor and chassis ground. <i>Terminal</i> <i>Front RH No. 1 — Chassis ground:</i> <i>Front LH No. 1 — Chassis ground:</i> <i>Rear RH No. 1 — Chassis ground:</i> <i>Rear LH No. 1 — Chassis ground:</i>	Is the resistance more than 1 MΩ?	Go to step 10.	Replace ABS sensor. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.>
10	<b>CHECK HARNESS/CONNECTOR BETWEEN ABSCM&amp;H/U AND ABS SENSOR.</b> 1) Connect connector to ABS sensor. 2) Disconnect connector from ABSCM&H/U. 3) Measure resistance at ABSCM&H/U connector terminals. <i>Connector &amp; terminal</i> <i>Trouble code 22 / (F49) No. 11 — No. 12:</i> <i>Trouble code 24 / (F49) No. 9 — No. 10:</i> <i>Trouble code 26 / (F49) No. 14 — No. 15:</i> <i>Trouble code 28 / (F49) No. 7 — No. 8:</i>	Is the resistance between 1 and 1.5 kΩ?	Go to step 11.	Repair harness/connector between ABSCM&H/U and ABS sensor.
11	<b>CHECK GROUND SHORT OF HARNESS.</b> Measure resistance between ABSCM&H/U connector and chassis ground. <i>Connector &amp; terminal</i> <i>Trouble code 22 / (F49) No. 11 — Chassis ground:</i> <i>Trouble code 24 / (F49) No. 9 — Chassis ground:</i> <i>Trouble code 26 / (F49) No. 14 — Chassis ground:</i> <i>Trouble code 28 / (F49) No. 7 — Chassis ground:</i>	Is the resistance more than 1 MΩ?	Go to step 12.	Repair harness/connector between ABSCM&H/U and ABS sensor.
12	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> Measure resistance between ABSCM&H/U and chassis ground. <i>Connector &amp; terminal</i> <i>(F49) No. 23 — GND:</i>	Is the resistance less than 0.5 Ω?	Go to step 13.	Repair ABSCM&H/U ground harness.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
13	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between ABSCM&H/U and ABS sensor?	Repair connector.	Go to step 14.
14	<b>CHECK SOURCES OF SIGNAL NOISE.</b>	Is the car telephone or the wireless transmitter properly installed?	Go to step 15.	Properly install the car telephone or the wireless transmitter.
15	<b>CHECK SOURCES OF SIGNAL NOISE.</b>	Are noise sources (such as an antenna) installed near the sensor harness?	Install the noise sources apart from the sensor harness.	Go to step 16.
16	<b>CHECK SHIELD CIRCUIT.</b> 1) Connect all connectors. 2) Measure resistance between shield connector and chassis ground. <b>Connector &amp; terminal</b> <i>Trouble code 22 / (B62) No. A5 —</i> <b>Chassis ground:</b> <i>Trouble code 24 / (B62) No. A6 —</i> <b>Chassis ground:</b> NOTE: For the <b>Trouble code 26</b> and <b>28</b> : Go to step 17.	Is the resistance less than 0.5 Ω?	Go to step 17.	Repair shield harness.
17	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 18.
18	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary noise interference.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

ABS-47

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## L: TROUBLE CODE 29

— ABNORMAL ABS SENSOR SIGNAL (ANY ONE OF FOUR) — S006522E68

### DIAGNOSIS:

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

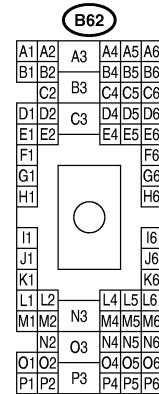
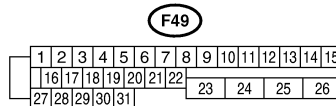
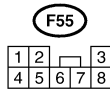
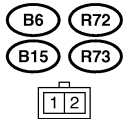
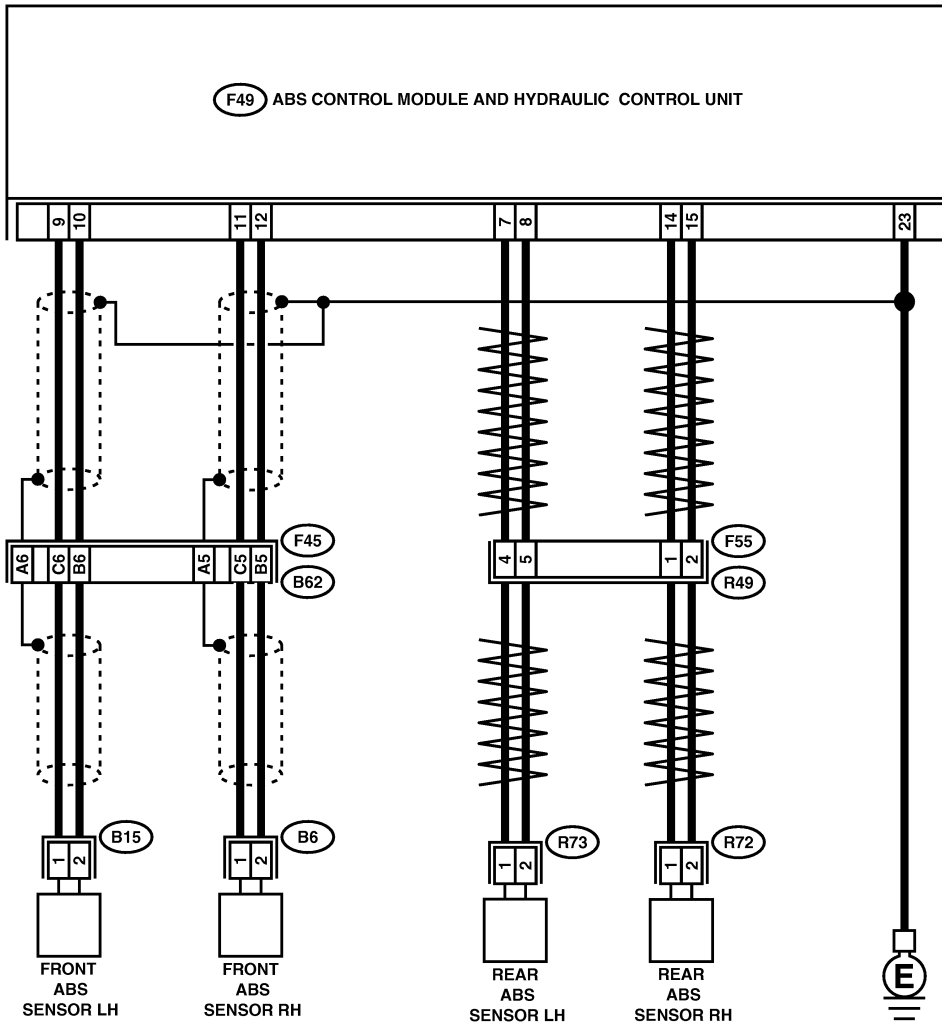
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



B4M1455



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK IF THE WHEELS HAVE TURNED FREELY FOR A LONG TIME.</b>	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.	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.	Go to step 2.
2	<b>CHECK TIRE SPECIFICATIONS.</b> Turn ignition switch to OFF.	Are the tire specifications correct?	Go to step 3.	Replace tire.
3	<b>CHECK WEAR OF TIRE.</b>	Is the tire worn excessively?	Replace tire.	Go to step 4.
4	<b>CHECK TIRE PRESSURE.</b>	Is the tire pressure correct?	Go to step 5.	Adjust tire pressure.
5	<b>CHECK INSTALLATION OF ABS SENSOR.</b> <i>Tightening torque:</i> <b>32±10 N·m (3.3±1.0 kgf·m, 24±7 ft·lb)</b>	Are the ABS sensor installation bolts tightened securely?	Go to step 6.	Tighten ABS sensor installation bolts securely.
6	<b>CHECK ABS SENSOR GAP.</b> Measure tone wheel to ABS sensor piece gap over entire perimeter of the wheel. <i>Specifications</i> <i>Front wheel</i> <b>0.3 — 0.8 mm (0.012 — 0.031 in)</b> <i>Rear wheel</i> <b>0.44 — 0.94 mm (0.0173 — 0.0370 in)</b>	Is the gap within the specifications?	Go to step 7.	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.
7	<b>PREPARE OSCILLOSCOPE.</b>	Is an oscilloscope available?	Go to step 8.	Go to step 9.
8	<b>CHECK ABS SENSOR SIGNAL.</b> 1) Raise all four wheels of ground. 2) Turn ignition switch OFF. 3) Connect the oscilloscope to the connector. 4) Turn ignition switch ON. 5) Rotate wheels and measure voltage at specified frequency. NOTE: When this inspection is completed, the ABSCM&H/U sometimes stores the trouble code 29. <i>Connector &amp; terminal</i> <b>(B62) No. C5 (+) — No. B5 (-) (Front RH):</b> <b>(B62) No. C6 (+) — No. B6 (-) (Front LH):</b> <b>(F55) No. 1 (+) — No. 2 (-) (Rear RH):</b> <b>(F55) No. 4 (+) — No. 5 (-) (Rear LH):</b>	Is oscilloscope pattern smooth, as shown in figure?	Go to step 12.	Go to step 9.
9	<b>CHECK CONTAMINATION OF ABS SENSOR OR TONE WHEEL.</b> Remove disc rotor from hub.	Is the ABS sensor piece or the tone wheel contaminated by dirt or other foreign matter?	Thoroughly remove dirt or other foreign matter.	Go to step 10.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
10	<b>CHECK DAMAGE OF ABS SENSOR OR TONE WHEEL.</b>	Are there broken or damaged teeth in the ABS sensor piece or the tone wheel?	Replace ABS sensor or tone wheel. Front: <Ref. to ABS-14 Front ABS Sensor.> Rear: <Ref. to ABS-17 Rear ABS Sensor.> and Front: <Ref. to ABS-17Front Tone Wheel.> Rear: <Ref. to ABS-23 Rear Tone Wheel.>	Go to step 11.
11	<b>CHECK TONE WHEEL RUNOUT.</b> Measure tone wheel runout.	Is the runout less than 0.05 mm (0.0020 in)?	Go to step 12.	Replace tone wheel. Front: <Ref. to ABS-22 Front Tone Wheel.> Rear: <Ref. to ABS-23 Rear Tone Wheel.>
12	<b>CHECK ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform inspection mode. 5) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 13.
13	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## **M: TROUBLE CODE 31**

**— ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (FRONT RH) —** S006522E69

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 37. <Ref. to ABS-52 TROUBLE CODE 37 — ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **N: TROUBLE CODE 33**

**— ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (FRONT LH) —** S006522E70

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 37. <Ref. to ABS-52 TROUBLE CODE 37 — ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **O: TROUBLE CODE 35**

**— ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR RH) —** S006522E71

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 37. <Ref. to ABS-52 TROUBLE CODE 37 — ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **P: TROUBLE CODE 37**

**— ABNORMAL INLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —** S006522E72

### **DIAGNOSIS:**

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

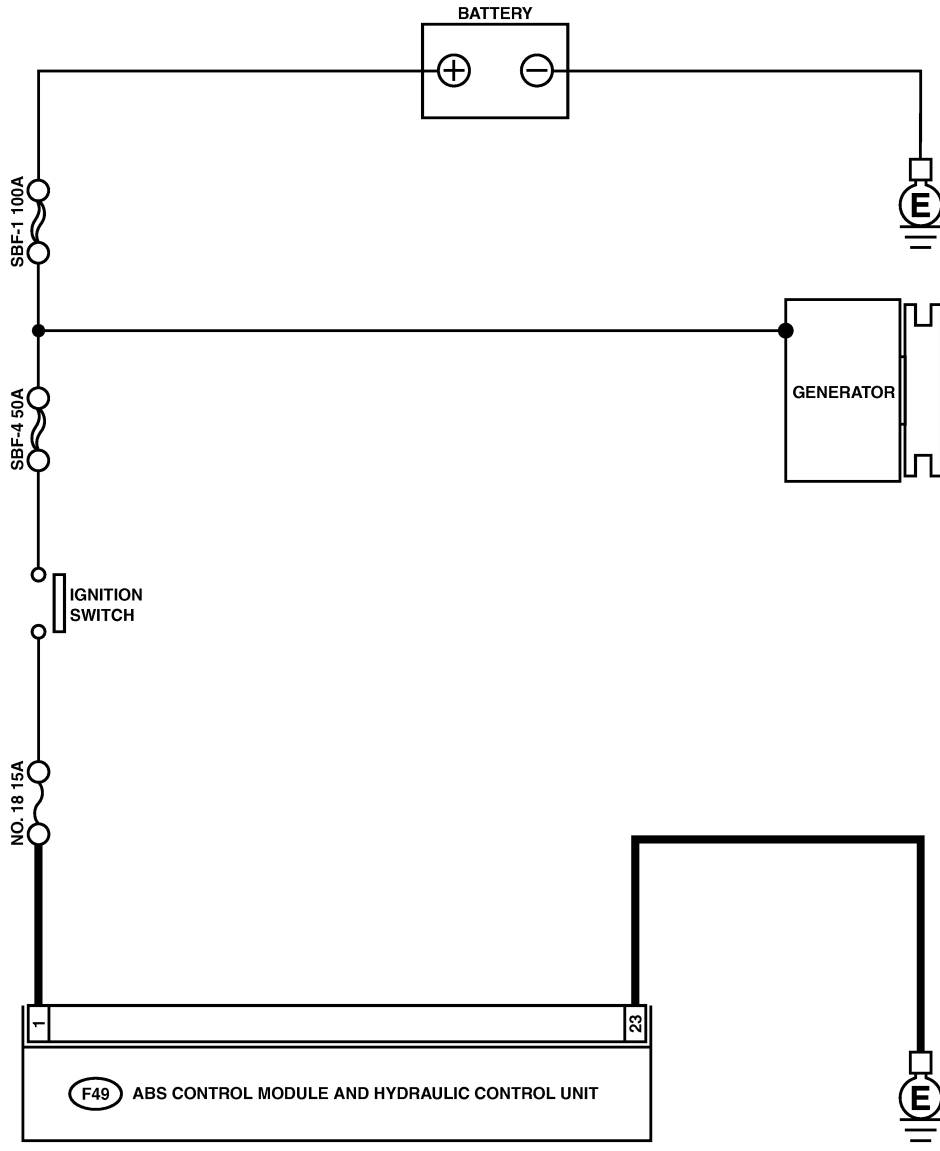
### **TROUBLE SYMPTOM:**

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22		23	24	25	26			
27	28	29	30	31										

B4M2334

ABS-53

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 1) Disconnect connector from ABSCM&H/U. 2) Run the engine at idle. 3) Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 1 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 2.	Repair harness connector between battery, ignition switch and ABSCM&H/U.
2	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 23 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair ABSCM&H/U ground harness.
3	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between generator, battery and ABSCM&H/U?	Repair connector.	Go to step 4.
4	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 5.
5	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

ABS-55

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## **Q: TROUBLE CODE 32**

**— ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (FRONT RH) —** S006522E73

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 38. <Ref. to ABS-56 TROUBLE CODE 38 — ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **R: TROUBLE CODE 34**

**— ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (FRONT LH) —** S006522E74

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 38. <Ref. to ABS-56 TROUBLE CODE 38 — ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **S: TROUBLE CODE 36**

**— ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR RH) —** S006522E75

### **NOTE:**

For the diagnostic procedure, refer to TROUBLE CODE 38. <Ref. to ABS-56 TROUBLE CODE 38 — ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —, Diagnostics Chart with Diagnosis Connector.>

## **T: TROUBLE CODE 38**

**— ABNORMAL OUTLET SOLENOID VALVE CIRCUIT(S) IN ABSCM&H/U (REAR LH) —** S006522E76

### **DIAGNOSIS:**

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

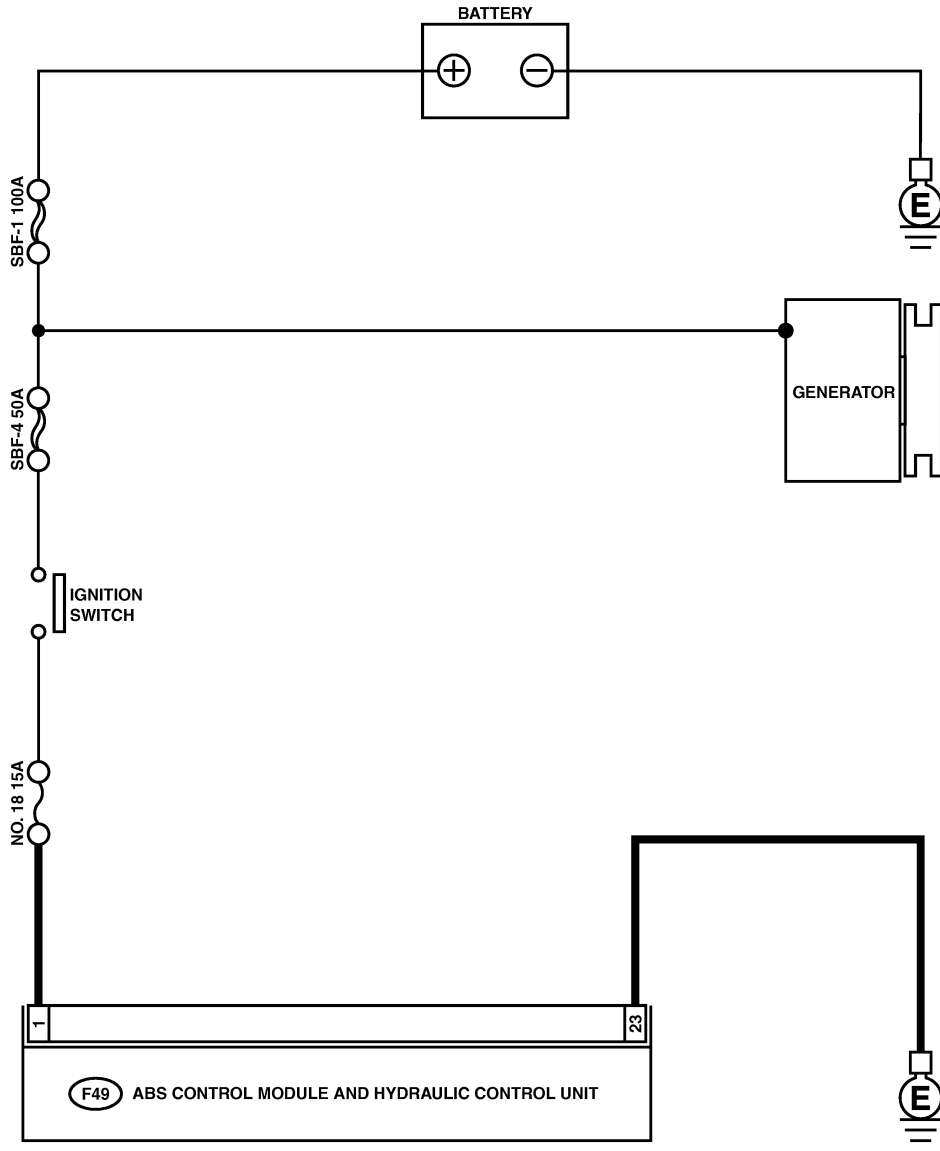
### **TROUBLE SYMPTOM:**

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22		23	24	25	26			
27	28	29	30	31										

B4M2334

ABS-57



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 1) Disconnect connector from ABSCM&H/U. 2) Run the engine at idle. 3) Measure voltage between ABSCM&H/U connector and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(F49) No. 1 (+) — Chassis ground (-):</b></i>	Is the voltage between 10 and 15 V?	Go to step 2.	Repair harness connector between battery, ignition switch and ABSCM&H/U.
2	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(F49) No. 23 — Chassis ground:</b></i>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair ABSCM&H/U ground harness.
3	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between generator, battery and ABSCM&H/U?	Repair connector.	Go to step 4.
4	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 5.
5	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## U: TROUBLE CODE 41

— ABNORMAL ABS CONTROL MODULE — S00652D29

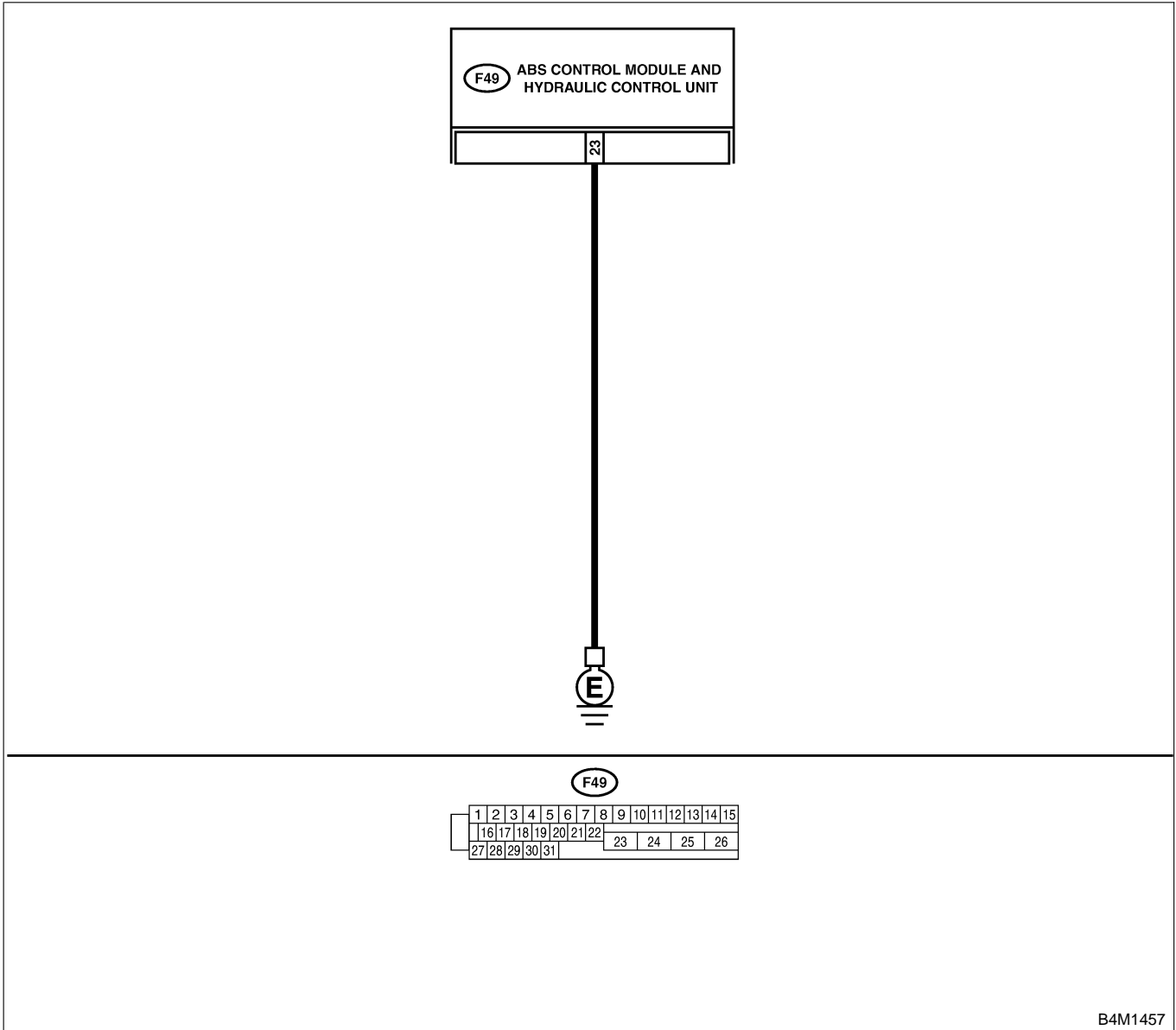
### DIAGNOSIS:

- Faulty ABSCM&H/U.

### TROUBLE SYMPTOM:

- ABS does not operate.

### WIRING DIAGRAM:



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Disconnect connector from ABSCM&H/U. 3) Measure resistance between ABSCM&H/U and chassis ground. <i>Connector &amp; terminal (F49) No. 23 — Chassis ground:</i>	Is the resistance less than 0.5 Ω?	Go to step 2.	Repair ABSCM&H/U ground harness.
2	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between battery, ignition switch and ABSCM&H/U?	Repair connector.	Go to step 3.
3	<b>CHECK SOURCES OF SIGNAL NOISE.</b>	Is the car telephone or the wireless transmitter properly installed?	Go to step 4.	Properly install the car telephone or the wireless transmitter.
4	<b>CHECK SOURCES OF SIGNAL NOISE.</b>	Are noise sources (such as an antenna) installed near the sensor harness?	Install the noise sources apart from the sensor harness.	Go to step 5.
5	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 6.
6	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## V: TROUBLE CODE 42

— SOURCE VOLTAGE IS ABNORMAL. — S006522D37

### DIAGNOSIS:

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

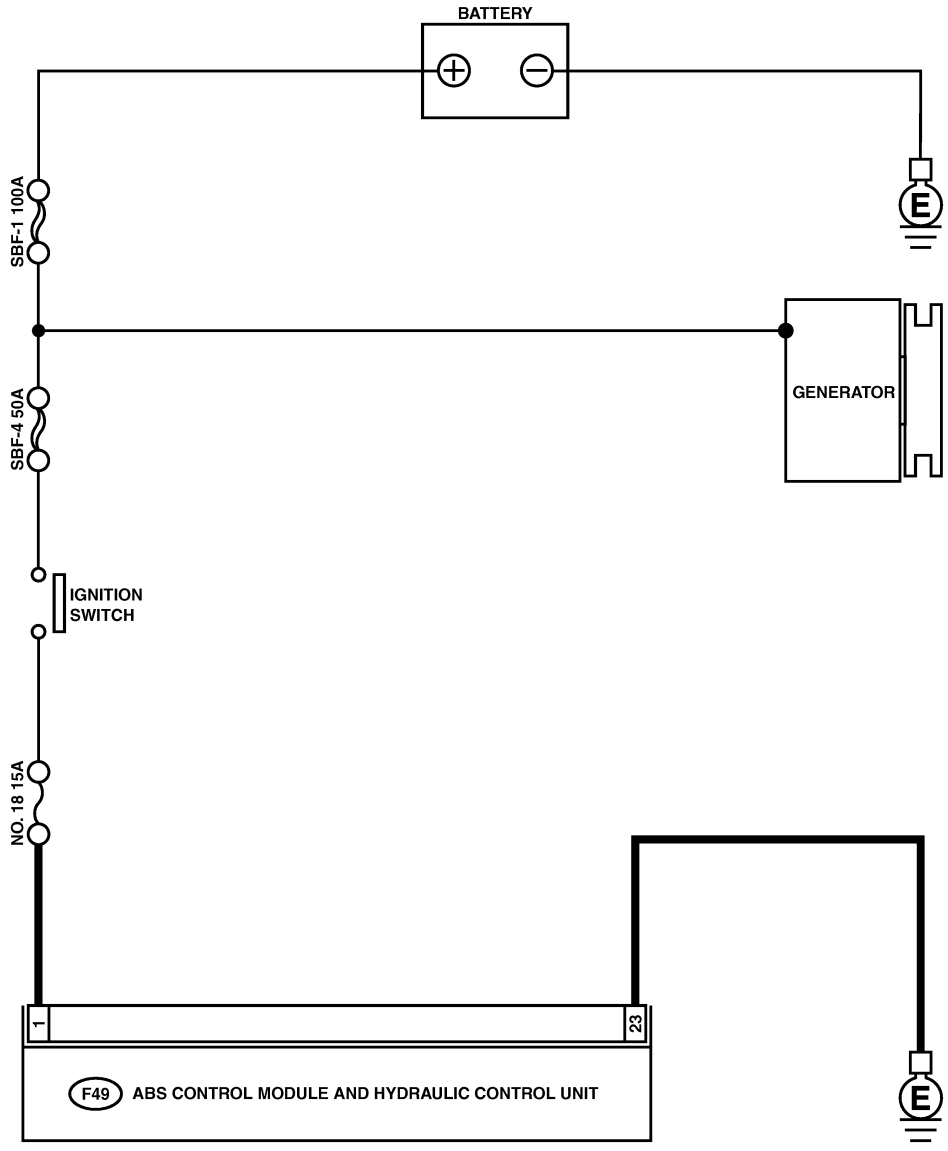
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22		23	24	25	26			
27	28	29	30	31										

B4M2334

ABS-63

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK GENERATOR.</b> 1) Start engine. 2) Idling after warm-up. 3) Measure voltage between generator B terminal and chassis ground. <i>Terminal</i> <b>Generator B terminal — Chassis ground:</b>	Is the voltage between 10 and 17 V?	Go to step 2.	Repair generator. <Ref. to SC(H4)-15 Generator.>
2	<b>CHECK BATTERY TERMINAL.</b> Turn ignition switch to OFF.	Are the positive and negative battery terminals tightly clamped?	Go to step 3.	Tighten the clamp of terminal.
3	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 1) Disconnect connector from ABSCM&H/U. 2) Run the engine at idle. 3) Measure voltage between ABSCM&H/U connector and chassis ground. <i>Connector &amp; terminal</i> <b>(F49) No. 1 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 17 V?	Go to step 4.	Repair harness connector between battery, ignition switch and ABSCM&H/U.
4	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <i>Connector &amp; terminal</i> <b>(F49) No. 23 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 5.	Repair ABSCM&H/U ground harness.
5	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between generator, battery and ABSCM&H/U?	Repair connector.	Go to step 6.
6	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 7.
7	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

MEMO:

ABS-65



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## W: TROUBLE CODE 44

— A COMBINATION OF AT CONTROL ABNORMAL — S006522D42

### DIAGNOSIS:

- Combination of AT control faults

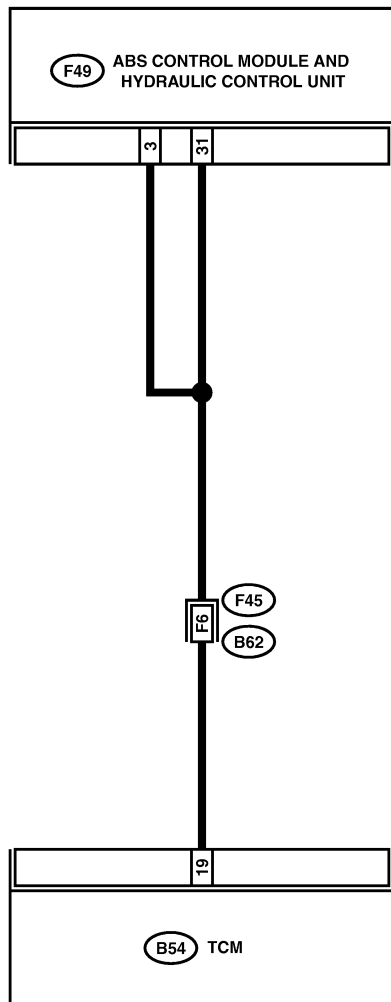
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



**B54**

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21				22	23	24

**F49**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26				
27	28	29	30	31										

**B62**

A1	A2	A3	A4	A5	A6
B1	B2	B3	B4	B5	B6
C2			C4	C5	C6
D1	D2	C3	D4	D5	D6
E1	E2		E4	E5	E6
F1					F6
G1					G6
H1					H6
I1					I6
J1					J6
K1					K6
L1	L2		L4	L5	L6
M1	M2	N3	M4	M5	M6
N2		O3	N4	N5	N6
O1	O2		O4	O5	O6
P1	P2	P3	P4	P5	P6

B4M1458

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK SPECIFICATIONS OF THE ABSCM&amp;H/U.</b> Check specifications of the mark to the ABSCM&H/U. <b>C5: AT (Except OUTBACK)</b> <b>C6: MT (Except OUTBACK)</b> <b>CE: AT (OUTBACK)</b> <b>CF: MT (OUTBACK)</b>	Is an ABSCM&H/U for AT model installed on a MT model?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 2.
2	<b>CHECK GROUND SHORT OF HARNESS.</b> 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. <b>Connector &amp; terminal</b> <b>(F49) No. 3 — Chassis ground:</b>	Is the resistance more than 1 MΩ?	Go to step 3.	Repair harness between TCM and ABSCM&H/U.
3	<b>CHECK BATTERY SHORT OF HARNESS.</b> Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 3 (+) — Chassis ground (-):</b>	Is the voltage less than 1 V?	Go to step 4.	Repair harness between TCM and ABSCM&H/U.
4	<b>CHECK BATTERY SHORT OF HARNESS.</b> 1) Turn ignition switch to ON. 2) Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 3 (+) — Chassis ground (-):</b>	Is the voltage less than 1 V?	Go to step 5.	Repair harness between TCM and ABSCM&H/U.
5	<b>CHECK TCM.</b> 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. <b>Connector &amp; terminal</b> <b>(B54) No. 19 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 7.	Go to step 6.
6	<b>CHECK AT.</b>	Is the AT functioning normally?	Replace TCM.	Repair AT.
7	<b>CHECK OPEN CIRCUIT OF HARNESS.</b> Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 3 (+) — Chassis ground (-):</b> <b>(F49) No. 31 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 8.	Repair harness/connector between TCM and ABSCM&H/U.
8	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between TCM and ABSCM&H/U?	Repair connector.	Go to step 9.
9	<b>CHECK ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform inspection mode. 5) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 10.
10	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

ABS-69

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## **X: TROUBLE CODE 51**

**— ABNORMAL VALVE RELAY —** S006522D61

### **DIAGNOSIS:**

- Faulty valve relay

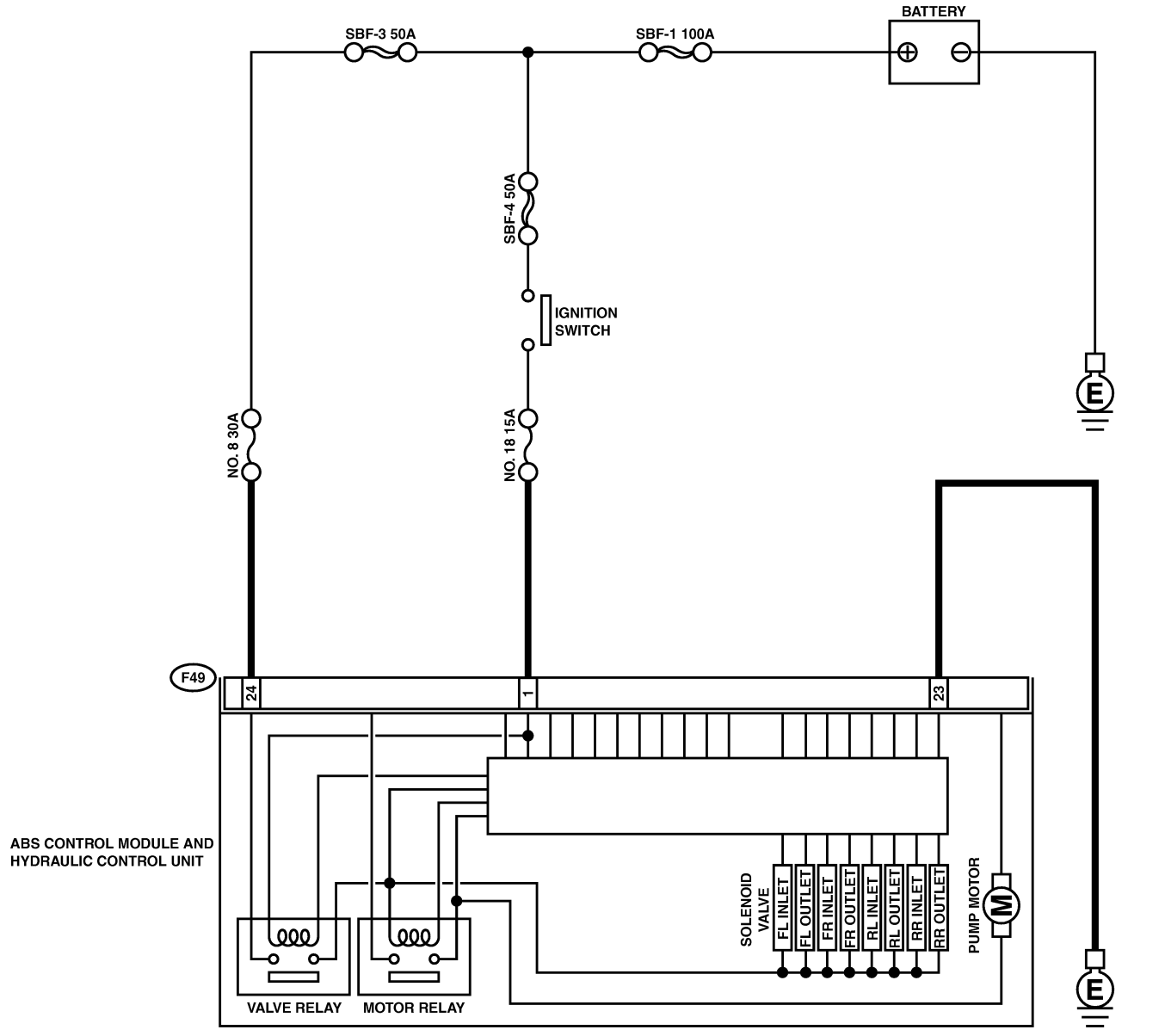
### **TROUBLE SYMPTOM:**

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26				
27	28	29	30	31										

B4M1459

ABS-71

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 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. <b>Connector &amp; terminal</b> <i>(F49) No. 1 (+) — Chassis ground (-):</i> <i>(F49) No. 24 (+) — Chassis ground (-):</i>	Is the voltage between 10 and 15 V?	Go to step 2.	Repair harness connector between battery and ABSCM&H/U.
2	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <i>(F49) No. 23 — Chassis ground:</i>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair ABSCM&H/U ground harness.
3	<b>CHECK VALVE RELAY IN ABSCM&amp;H/U.</b> Measure resistance between ABSCM&H/U and terminals. <b>Terminals</b> <i>No. 23 (+) — No. 24 (-):</i>	Is the resistance more than 1 MΩ?	Go to step 4.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
4	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connectors between generator, battery and ABSCM&H/U?	Repair connector.	Go to step 5.
5	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 6.
6	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

MEMO:

ABS-73



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## Y: TROUBLE CODE 52

— ABNORMAL MOTOR AND/OR MOTOR RELAY — S006522D65

### DIAGNOSIS:

- Faulty motor
- Faulty motor relay
- Faulty harness connector

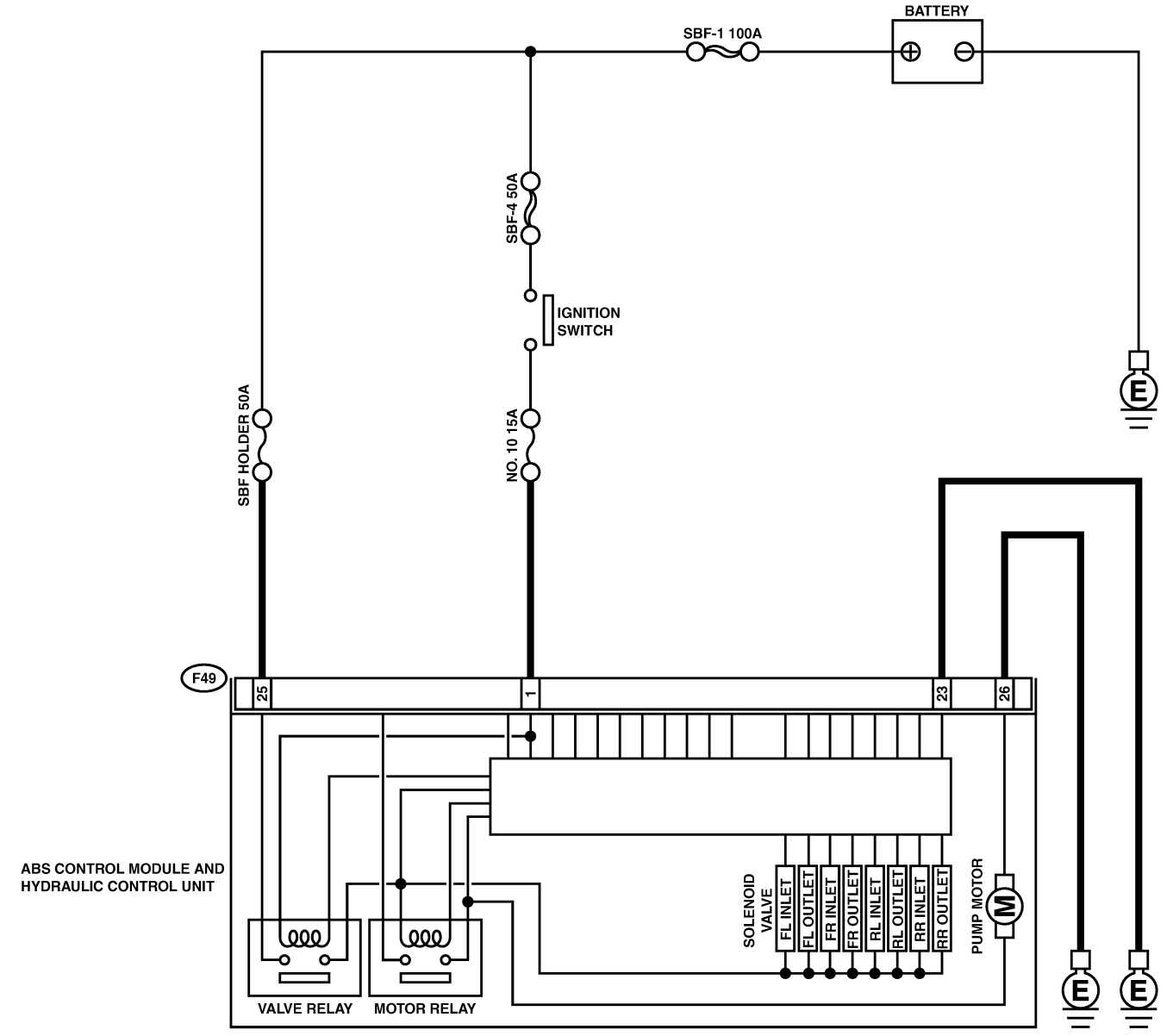
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22		23	24	25	26			
27	28	29	30	31										

B4M1460

ABS-75

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 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. <b>Connector &amp; terminal</b> <b>(F49) No. 25 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 2.	Repair harness/connector between battery and ABSCM&H/U and check fuse SBF-holder.
2	<b>CHECK GROUND CIRCUIT OF MOTOR.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 26 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair ABSCM&H/U ground harness.
3	<b>CHECK INPUT VOLTAGE OF ABSCM&amp;H/U.</b> 1) Run the engine at idle. 2) Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 1 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 4.	Repair harness connector between battery, ignition switch and ABSCM&H/U.
4	<b>CHECK GROUND CIRCUIT OF ABSCM&amp;H/U.</b> 1) Turn ignition switch to OFF. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 23 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 5.	Repair ABSCM&H/U ground harness.
5	<b>CHECK MOTOR OPERATION.</b> Operate the sequence control. <Ref. to ABS-11 ABS Sequence Control.> NOTE: Use the diagnosis connector to operate the sequence control.	Can motor revolution noise (buzz) be heard when carrying out the sequence control?	Go to step 6.	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
6	<b>CHECK POOR CONTACT IN CONNECTORS.</b> Turn ignition switch to OFF.	Is there poor contact in connector between generator, battery and ABSCM&H/U?	Repair connector.	Go to step 7.
7	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 8.
8	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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MEMO:

ABS-77

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## Z: TROUBLE CODE 54

— ABNORMAL STOP LIGHT SWITCH — S006522D72

### DIAGNOSIS:

- Faulty stop light switch

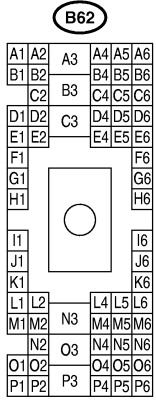
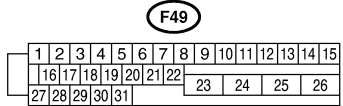
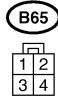
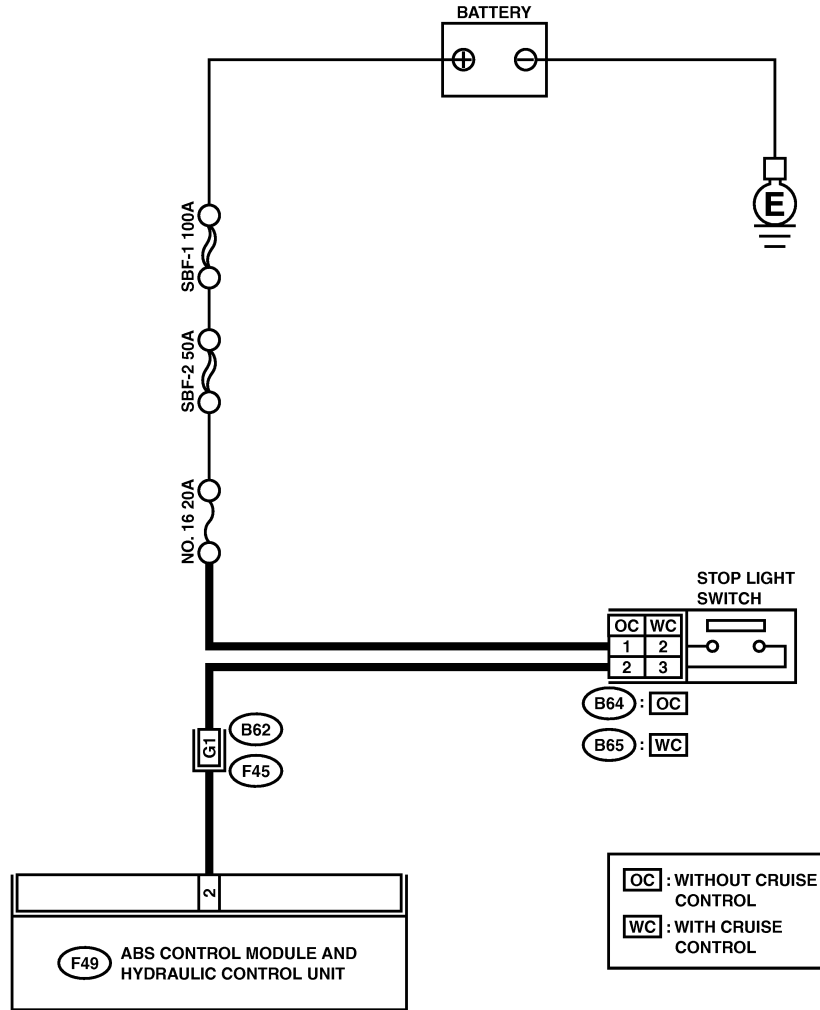
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



B4M1461

## ABS-79

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK STOP LIGHTS COME ON.</b> Depress the brake pedal.	Do stop lights come on?	Go to step 2.	Repair stop lights circuit.
2	<b>CHECK OPEN CIRCUIT IN HARNESS.</b> 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. <b>Connector &amp; terminal</b> <b>(F49) No. 2 (+) — Chassis ground (-):</b>	Is the voltage between 10 and 15 V?	Go to step 3.	Repair harness between stop light switch and ABSCM&H/U.
3	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between stop light switch and ABSCM&H/U?	Repair connector.	Go to step 4.
4	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 5.
5	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

MEMO:

ABS-81



# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

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## AA: TROUBLE CODE 56

— ABNORMAL G SENSOR OUTPUT VOLTAGE — S006522E77

### DIAGNOSIS:

- Faulty G sensor output voltage

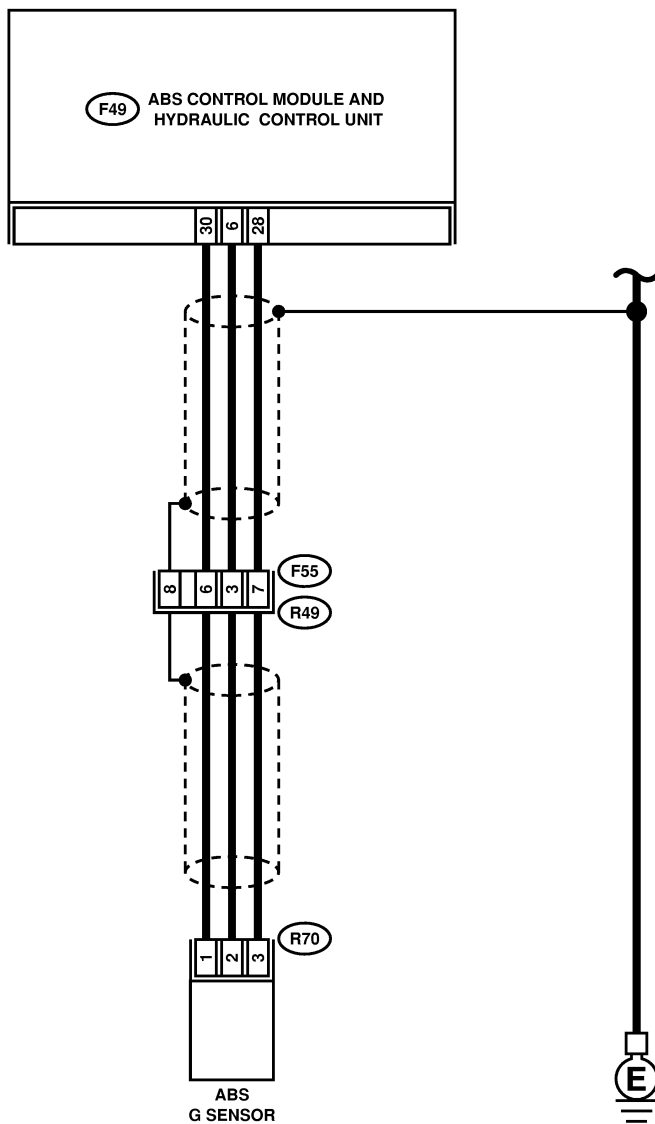
### TROUBLE SYMPTOM:

- ABS does not operate.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## WIRING DIAGRAM:



R70

1	2	3
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F55

1	2	3		
4	5	6	7	8

F49

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22								
23	24	25	26											
27	28	29	30	31										

B4M1462

ABS-83

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	<b>CHECK ALL FOUR WHEELS FOR FREE TURNING.</b>	Have the wheels been turned freely such as when the vehicle is lifted up, or operated on a rolling road?	The ABS is normal. Erase the trouble code.	Go to step 2.
2	<b>CHECK SPECIFICATIONS OF ABSCM&amp;H/U.</b> Check specifications of the mark to the ABSCM&H/U. <b>C5: AT (Except OUTBACK)</b> <b>C6: MT (Except OUTBACK)</b> <b>CE: AT (OUTBACK)</b> <b>CF: MT (OUTBACK)</b>	Does the vehicle specification and the ABSCM&H/U specification match?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).> <b>CAUTION:</b> <b>Be sure to turn ignition switch to OFF when removing ABSCM&amp;H/U.</b>	Go to step 3.
3	<b>CHECK INPUT VOLTAGE OF G SENSOR.</b> 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. <b>Connector &amp; terminal</b> <b>(R70) No. 1 (+) — No. 3 (-):</b>	Is the voltage between 4.75 and 5.25 V?	Go to step 4.	Repair harness/connector between G sensor and ABSCM&H/U.
4	<b>CHECK OPEN CIRCUIT IN G SENSOR OUTPUT HARNESS AND GROUND HARNESS.</b> 1) Turn ignition switch to OFF. 2) Disconnect connector from ABSCM&H/U. 3) Measure resistance between ABSCM&H/U connector terminals. <b>Connector &amp; terminal</b> <b>(F49) No. 6 — No. 28:</b>	Is the resistance between 4.3 and 4.9 kΩ?	Go to step 5.	Repair harness/connector between G sensor and ABSCM&H/U.
5	<b>CHECK GROUND SHORT IN G SENSOR OUTPUT HARNESS.</b> 1) Disconnect connector from G sensor. 2) Measure resistance between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 6 — Chassis ground:</b>	Is the resistance more than 1 MΩ?	Go to step 6.	Repair harness between G sensor and ABSCM&H/U.
6	<b>CHECK BATTERY SHORT OF HARNESS.</b> Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 6 (+) — Chassis ground (-):</b>	Is the voltage less than 1 V?	Go to step 7.	Repair harness between G sensor and ABSCM&H/U.
7	<b>CHECK BATTERY SHORT OF HARNESS.</b> 1) Turn ignition switch to ON. 2) Measure voltage between ABSCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(F49) No. 6 (+) — Chassis ground (-):</b>	Is the voltage less than 1 V?	Go to step 8.	Repair harness between G sensor and ABSCM&H/U.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

No.	Step	Check	Yes	No
8	<b>CHECK GROUND SHORT OF HARNESS.</b> Measure resistance between ABSCM&H/U connector and chassis ground. <i><b>Connector &amp; terminal</b></i> <i><b>(F49) No. 28 — Chassis ground:</b></i>	Is the resistance more than 1 M $\Omega$ ?	Go to step 9.	Repair harness between G sensor and ABSCM&H/U. Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>
9	<b>CHECK G SENSOR.</b> 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. <i><b>Connector &amp; terminal</b></i> <i><b>(R70) No. 2 (+) — No. 3 (-):</b></i>	Is the voltage between 2.1 and 2.4 V when G sensor is horizontal?	Go to step 10.	Replace G sensor. <Ref. to ABS-24 G Sensor.>
10	<b>CHECK G SENSOR.</b> Measure voltage between G sensor connector terminals. <i><b>Connector &amp; terminal</b></i> <i><b>(R70) No. 2 (+) — No. 3 (-):</b></i>	Is the voltage between 3.7 and 4.1 V when G sensor is inclined forwards to 90°?	Go to step 11.	Replace G sensor. <Ref. to ABS-24 G Sensor.>
11	<b>CHECK G SENSOR.</b> Measure voltage between G sensor connector terminals. <i><b>Connector &amp; terminal</b></i> <i><b>(R70) No. 2 (+) — No. 3 (-):</b></i>	Is the voltage between 0.5 and 0.9 V when G sensor is inclined backwards to 90°?	Go to step 12.	Replace G sensor. <Ref. to ABS-24 G Sensor.>
12	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between ABSCM&H/U and G sensor?	Repair connector.	Go to step 13.
13	<b>CHECK ABSCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform inspection mode. 4) Read out the trouble code.	Is the same trouble code as in the current diagnosis still being output?	Replace ABSCM&H/U. <Ref. to ABS-7 ABS Control Module and Hydraulic Control Unit (ABSCM&H/U).>	Go to step 14.
14	<b>CHECK ANY OTHER TROUBLE CODES APPEARANCE.</b>	Are other trouble codes being output?	Proceed with the diagnosis corresponding to the trouble code.	A temporary poor contact.

# DIAGNOSTICS CHART WITH DIAGNOSIS CONNECTOR

ABS (DIAGNOSTICS)

## AB: SELECT MONITOR S006522E48

Applicable cartridge of select monitor: <Ref. to ABS-9 SPECIAL TOOLS, PREPARATION TOOL, General Description.>

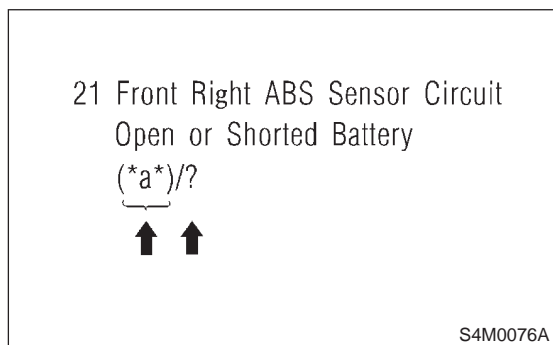
### NOTE:

For basic handling of the select monitor, refer to its Operation Manual.

## AC: TROUBLE CODES ARE DISPLAYED. S006522E51

A maximum of 3 trouble codes are displayed in order of occurrence.

- If a particular trouble code is not properly stored in memory (due to a drop in ABSCM&H/U power supply, etc.) when a problem occurs, the trouble code, followed by a question mark "?", appears on the select monitor display. This shows it may be an unreliable reading.



- \*a\* refers to the troubles in order of occurrence (Latest, Old, Older and Reference).

Display screen	Contents to be monitored
Latest	The most recent trouble code appears on the select monitor display.
Old	The second most recent trouble code appears on the select monitor display.
Older	The third most recent trouble code appears on the select monitor display.
Reference	A specified period of time proceeding trouble code appears on the select monitor display.

## AD: CLEAR MEMORY S006522E33

Display screen	Contents to be monitored
Clear memory?	Function of clearing trouble code and freeze frame data.

## AE: ANALOG DATA ARE DISPLAYED. S006522E29

Display screen	Contents to be monitored
FR wheel speed	Wheel speed detected by the Front Right ABS sensor is displayed in km/h or mile/h.
FL wheel speed	Wheel speed detected by the Front Left ABS sensor is displayed in km/h or mile/h.
RR wheel speed	Wheel speed detected by the Rear Right ABS sensor is displayed in km/h or mile/h.
RL wheel speed	Wheel speed detected by the Rear Left ABS sensor is displayed in km/h or mile/h.
Stop light switch	Stop light switch monitor voltage is displayed.
G sensor output voltage	Refers to vehicle acceleration detecting by the analog G sensor. It appears on the select monitor display in volts.

## AF: ON/OFF DATA ARE DISPLAYED. S006522E43

Display screen	Contents to be monitored
Stop light switch	Stop light switch signal
Valve relay signal	Valve relay signal
Motor relay signal	Motor relay signal
ABS signal to TCM	ABS operation signal from ABS control module to TCM
ABS warning light	ABS warning light
Valve relay monitor	Valve relay operation monitor signal
Motor relay monitor	Motor relay operation monitor signal
CCM signal	ABS operation signal from ABS control module to TCM

## AG: ABS SEQUENCE CONTROL S006522E23

Display screen	Contents to be monitored	Index No.
ABS sequence control	Perform ABS sequence control by operating valve and pump motor sequentially.	<Ref. to ABS-11 ABS Sequence Control.>

## AH: FREEZE FRAME DATA S006522E39

**NOTE:**

- Data stored at the time of trouble occurrence is shown on display.
- Each time trouble occurs, the latest information is stored in the freeze frame data in memory.
- If freeze frame data is not properly stored in memory (due to a drop in ABSCM power supply, etc.), a trouble code, preceded by a question mark “?”, appears on the select monitor display. This shows it may be an unreliable reading.

Display screen	Contents to be monitored
FR wheel speed	Wheel speed detected by the Front Right ABS sensor is displayed in km/h or mile/h.
FL wheel speed	Wheel speed detected by the Front Left ABS sensor is displayed in km/h or mile/h.
RR wheel speed	Wheel speed detected by the Rear Right ABS sensor is displayed in km/h or mile/h.
RL wheel speed	Wheel speed detected by the Rear Left ABS sensor is displayed in km/h or mile/h.
ABSCM power voltage	Power (in volts) supplied to ABSCM&H/U appears on the select monitor display.
G sensor output voltage	Refers to vehicle acceleration detected by the analog G sensor. It appears on the select monitor display in volts.
Motor relay monitor	Motor relay operation monitor signal
Stop light switch	Stop light switch signal
ABS signal to TCM	ABS operation signal from ABS control module to TCM
ABS-AT control	ABS operation signal from ABS control module to TCM
ABS operation signal	ABS operation signal