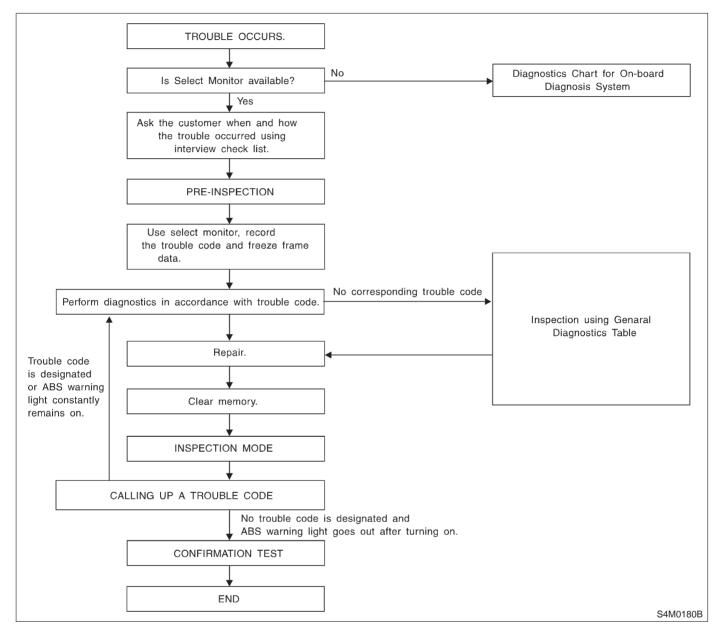
10. Diagnostics Chart with Select Monitor

10. Diagnostics Chart with Select Monitor

A: BASIC DIAGNOSTIC CHART



CAUTION:

Remove foreign matter (dust, water, etc.) from the ABSCM&H/U connector during removal and installation.

NOTE:

- To check harness for broken wires or short circuits, shake it while holding it or the connector.
- Check list for interview, <Ref. to 4-4 [T6B0].>

BRAKES

B: LIST OF DIAGNOSTIC TROUBLE CODE

Although no trouble code appears on the select monitor display, the ABS warning light remains on.	Code	Display screen	Contents of diagnosis	Index No.
Select monitor display, the ABS warning light remains on.		Communication for initializing impossible	Select monitor communication failure	<ref. 4-4="" [t10c0].="" to=""></ref.>
22 Front right ABS sensor abnormal signal Open or short circuit in front left ABS sensor circuit sensor circuit sensor circuit in front left ABS sensor circuit in rear right ABS sensor circuit in rear left ABS s	_	No trouble code	select monitor display, the ABS warning light remains on.	<ref. 4-4="" [t10d0].="" to=""></ref.>
Open or short circuit in front left ABS sensor circuit in rear right ABS sensor abnormal signal cere right ABS sensor circuit sensor circu	21			<ref. 4-4="" [t10e0].="" to=""></ref.>
23 sensor circuit 24 Front left ABS sensor abnormal signal 25 Open or short circuit in rear right ABS 26 Open or short circuit in rear right ABS 27 Open or short circuit in rear right ABS 28 Rear right ABS sensor abnormal signal 28 Rear left ABS sensor abnormal signal 29 Open or short circuit in rear left ABS 20 Open or short circuit in rear left ABS 20 Open or short circuit in rear left ABS 21 Open or short circuit in rear left ABS 22 Open or short circuit in rear left ABS 23 Rear left ABS sensor abnormal signal 24 Rear left ABS sensor abnormal signal 25 Rear left ABS sensor abnormal signal 26 Rear left ABS sensor signal on any one of four 27 of four sensor 28 Rear left ABS sensor signal on any one of four sensor 29 of four sensor 30 four sensor 31 Front right inlet valve malfunction 32 Front left utlet valve malfunction 33 Front left inlet valve malfunction 34 Front left inlet valve malfunction 35 Rear right inlet valve malfunction 36 Rear right inlet valve malfunction 37 Rear left inlet valve malfunction 38 Rear left inlet valve malfunction 39 Rear left inlet valve malfunction 30 Rear left inlet valve malfunction 30 Rear left inlet valve malfunction 31 Rear left inlet valve malfunction 32 Rear left inlet valve malfunction 33 Rear left inlet valve malfunction 34 Front left outlet valve malfunction 35 Rear left inlet valve malfunction 36 Rear left inlet valve malfunction 37 Rear left inlet valve malfunction 38 Rear left inlet valve malfunction 39 Rear left inlet valve malfunction 30 Rear left inlet valve malfunction 30 Rear left inlet valve malfunction 31 Rear left inlet valve malfunction 32 Rear left outlet valve malfunction 33 Rear left inlet valve malfunction 34 Power supply voltage too low 44 Power supply voltage too low 45 Power supply voltage too low 46 Power supply voltage too low 47 Power supply voltage too low 48 Power supply voltage too low 49 Power supply voltage too low 40 Power supply voltage too low 40 Power supply voltage too low 41 ABS-AT control (Controlled) 42 Power supply voltage too low 43	22	Front right ABS sensor abnormal signal	Front right ABS sensor abnormal signal	<ref. 4-4="" [t10i0].="" to=""></ref.>
25 Open or short circuit in rear right ABS sensor circuit Sensor circuit Sensor circuit Sensor circuit Rear right ABS sensor abnormal signal Rear right ABS sensor abnormal signal Rear right ABS sensor abnormal signal Rear right ABS sensor circuit Rear right ABS sensor circuit Sensor circuit Rear left ABS Open or short circuit in rear left ABS sensor circuit Rear left ABS sensor circuit Rear left ABS sensor abnormal signal Ref. to 4-4 [T1040].> Rear left ABS sensor abnormal signal Ref. to 4-4 [T1040].> Rear left ABS sensor signal on any one of four sensor Abnormal ABS sensor signal on any one of four sensor Ref. to 4-4 [T1040].>	23	ļ !	l ·	<ref. 4-4="" [t10f0].="" to=""></ref.>
Sensor circuit in rear left ABS open or short circuit in rear left ABS sensor circuit sensor ci	24	Front left ABS sensor abnormal signal	Front left ABS sensor abnormal signal	<ref. 4-4="" [t10j0].="" to=""></ref.>
27 Open or short circuit in rear left ABS sensor circuit Sensor cir	25			<ref. 4-4="" [t10g0].="" to=""></ref.>
27 sensor circuit sensor sensor circuit sensor circuit sensor sensor <td>26</td> <td>Rear right ABS sensor abnormal signal</td> <td>Rear right ABS sensor abnormal signal</td> <td><ref. 4-4="" [t10k0].="" to=""></ref.></td>	26	Rear right ABS sensor abnormal signal	Rear right ABS sensor abnormal signal	<ref. 4-4="" [t10k0].="" to=""></ref.>
Abnormal ABS sensor signal on any one of four sensor 31 Front right inlet valve malfunction Front right inlet valve malfunction Ref. to 4-4 [T10M0] . 32 Front right inlet valve malfunction Front right outlet valve malfunction Ref. to 4-4 [T10M0] . 33 Front left inlet valve malfunction Front right outlet valve malfunction Ref. to 4-4 [T10M0] . 34 Front left inlet valve malfunction Front left outlet valve malfunction Ref. to 4-4 [T10M0] . 35 Rear right inlet valve malfunction Rear right inlet valve malfunction Ref. to 4-4 [T10M0] . 36 Rear right outlet valve malfunction Rear right outlet valve malfunction Ref. to 4-4 [T10M0] . 37 Rear left inlet valve malfunction Rear left inlet valve malfunction Ref. to 4-4 [T10M0] . 38 Rear left outlet valve malfunction Rear left outlet valve malfunction Ref. to 4-4 [T10M0] . 41 ABS control module malfunction Rear left outlet valve malfunction Ref. to 4-4 [T10M0] . 42 Power supply voltage too low Power supply voltage too low Ref. to 4-4 [T10W0] . 42 Power supply voltage too high Power supply voltage too high Ref. to 4-4 [T10W0] . 44 ABS-AT control (Non Controlled) ABS-AT control (Non Controlled) Ref. to 4-4 [T10W0] . 45 Valve relay malfunction Valve relay malfunction Ref. to 4-4 [T10W0] . 46 ABS-AT control (Controlled) ABS-AT control (Controlled) Ref. to 4-4 [T10ABO] . 51 Valve relay ON failure Valve relay ON failure Ref. to 4-4 [T10ABO] . 52 Motor malfunction Motor relay circuit Open circuit in motor relay circuit Ref. to 4-4 [T10ABO] . 52 Motor malfunction Motor malfunction Ref. to 4-4 [T10ABO] . 53 Stop light switch signal circuit malfunction Ref. to 4-4 [T10ABO] . 54 Stop light switch signal circuit malfunction Ref. to 4-4 [T10ABO] . 55 Dopen or short circuit in G sensor ci	27	· ·	· ·	<ref. 4-4="" [t10h0].="" to=""></ref.>
of four sensor 31 Front right inlet valve malfunction Front right inlet valve malfunction Front right outlet valve malfunction Front left inlet valve malfunction Front left outlet valve malfunction Rear right inlet valve malfunction Rear right inlet valve malfunction Rear right inlet valve malfunction Rear right outlet valve malfunction Rear right outlet valve malfunction Rear left inlet valve malfunction Rear left inlet valve malfunction Rear left inlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction ABS control module and hydraulic control unit malfunction ABS control module and hydraulic control unit malfunction Front left outlet valve malfunction Rear left outlet valve malfunction ABS-AT control (Non Controlled) ABS-AT control (Non Controlled) ABS-AT control (Non Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled	28	Rear left ABS sensor abnormal signal	Rear left ABS sensor abnormal signal	<ref. 4-4="" [t10l0].="" to=""></ref.>
32 Front right outlet valve malfunction Front right outlet valve malfunction Ref. to 4-4 [T10R0].> 33 Front left inlet valve malfunction Front left inlet valve malfunction Ref. to 4-4 [T100].> 34 Front left outlet valve malfunction Front left outlet valve malfunction Ref. to 4-4 [T1080].> 35 Rear right inlet valve malfunction Rear right inlet valve malfunction Ref. to 4-4 [T10P0].> 36 Rear right outlet valve malfunction Rear right inlet valve malfunction Ref. to 4-4 [T10P0].> 37 Rear left inlet valve malfunction Rear right outlet valve malfunction Ref. to 4-4 [T1000].> 38 Rear left outlet valve malfunction Rear left outlet valve malfunction Ref. to 4-4 [T1000].> 38 Rear left outlet valve malfunction Rear left outlet valve malfunction Ref. to 4-4 [T1000].> 41 ABS control module malfunction ABS control module and hydraulic control unit malfunction Ref. to 4-4 [T10V0].> 42 Power supply voltage too low Power supply voltage too low Ref. to 4-4 [T10V0].> 44 ABS-AT control (Non Controlled) ABS-AT control (Non Controlled) Ref. to 4-4 [T10V0].> 44 ABS-AT control (Controlled) ABS-AT control (Controlled) Ref. to 4-4 [T10V0].> 44 ABS-AT control (Controlled) ABS-AT control (Controlled) Ref. to 4-4 [T10A0].> 44 ABS-AT control (Controlled) ABS-AT control (Controlled) Ref. to 4-4 [T10A0].> 45 Valve relay malfunction Valve relay malfunction Ref. to 4-4 [T10A0].> 46 Ref. to 4-4 [T10A0].> 47 Ref. to 4-4 [T10A0].> 48 Ref. to 4-4 [T10A0].> 49 Ref. to 4-4 [T10A0].> 40 Ref. to 4-4 [T1	29	,	j ,	<ref. 4-4="" [t10m0].="" to=""></ref.>
33 Front left inlet valve malfunction Front left inlet valve malfunction Ref. to 4-4 [T1000].> 34 Front left outlet valve malfunction Front left outlet valve malfunction Ref. to 4-4 [T1080].> 35 Rear right inlet valve malfunction Rear right inlet valve malfunction Rear right outlet valve malfunction Rear right outlet valve malfunction Rear right outlet valve malfunction Rear left inlet valve malfunction Rear left outlet valve malfunction Ref. to 4-4 [T1000].> Rear left outlet valve malfunction Rear left outlet valve malfunct	31	Front right inlet valve malfunction	Front right inlet valve malfunction	<ref. 4-4="" [t10n0].="" to=""></ref.>
Front left outlet valve malfunction Front left outlet valve malfunction Ref. to 4-4 [T10S0].> 35 Rear right inlet valve malfunction Rear right inlet valve malfunction Rear right outlet valve malfunction Rear right outlet valve malfunction Rear right outlet valve malfunction Rear left inlet valve malfunction Rear left outlet	32	Front right outlet valve malfunction	Front right outlet valve malfunction	<ref. 4-4="" [t10r0].="" to=""></ref.>
35Rear right inlet valve malfunctionRear right inlet valve malfunction <ref. 4-4="" [t10po].="" to="">36Rear right outlet valve malfunctionRear right outlet valve malfunction<ref. 4-4="" [t10to].="" to="">37Rear left inlet valve malfunctionRear left inlet valve malfunction<ref. 4-4="" [t10qo].="" to="">38Rear left outlet valve malfunctionRear left outlet valve malfunction<ref. 4-4="" [t10uo].="" to="">41ABS control module malfunctionABS control module and hydraulic control unit malfunction<ref. 4-4="" [t10vo].="" to="">42Power supply voltage too lowPower supply voltage too low<ref. 4-4="" [t10wo].="" to="">42Power supply voltage too highPower supply voltage too high<ref. 4-4="" [t10xo].="" to="">44ABS-AT control (Non Controlled)ABS-AT control (Non Controlled)<ref. 4-4="" [t10xo].="" to="">44ABS-AT control (Controlled)ABS-AT control (Controlled)<ref. 4-4="" [t10ao].="" to="">51Valve relay malfunctionValve relay malfunction<ref. 4-4="" [t10aao].="" to="">51Valve relay ON failureValve relay ON failure<ref. 4-4="" [t10aao].="" to="">52Open circuit in motor relay circuitOpen circuit in motor relay circuit<ref. 4-4="" [t10ado].="" to="">52Motor relay ON failureMotor malfunction<ref. 4-4="" [t10aeo].="" to="">54Stop light switch signal circuit malfunction<ref. 4-4="" [t10aeo].="" to="">56Open or short circuit in G sensor circuitOpen or short circuit in G sensor circuit<ref. 4-4="" [t10aho].="" to="">56Abnormal G sensor high μ outputAbnormal G sensor high μ output<</ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.>	33	Front left inlet valve malfunction	Front left inlet valve malfunction	<ref. 4-4="" [t1000].="" to=""></ref.>
Rear right outlet valve malfunction Rear right outlet valve malfunction Rear left inlet valve malfunction Rear left outlet valve malfunction Rear left inlet valve malfunction Rear left outlet valve malfunction Reaf to 4-4 [T10AD].>	34	Front left outlet valve malfunction	Front left outlet valve malfunction	<ref. 4-4="" [t10s0].="" to=""></ref.>
Rear left inlet valve malfunction Rear left inlet valve malfunction Rear left inlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left outlet valve malfunction Rear left inlet valve malfunction Reaf to 4-4 [T10V0].> Reaf it o 4-4 [T10V0].> Rea	35	Rear right inlet valve malfunction	Rear right inlet valve malfunction	<ref. 4-4="" [t10p0].="" to=""></ref.>
Rear left outlet valve malfunction ABS control module malfunction ABS control module and hydraulic control unit malfunction unit malfunction ABS control module and hydraulic control unit malfunction which unit malfunction ABS control module and hydraulic control unit malfunction unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic controlled (Ref. to 4-4 [T10W0].> ABS control module and hydraulic control exef. to 4-4 [T10W0].> ABS control module and hydraulic control exef. to 4-4 [T10W0].> ABS control module and hydraulic controlled (Non Controlled) ABS control malfunction (N	36	Rear right outlet valve malfunction	Rear right outlet valve malfunction	<ref. 4-4="" [t10t0].="" to=""></ref.>
ABS control module malfunction ABS control module and hydraulic control unit malfunction ABS control module and hydraulic control controlled) ABS control module and hydraulic control controlled) ABS control module and hydraulic control was control unit malfunction ABS control module and hydraulic control controlled) ABS control module and hydraulic control controlled) ABS control module and hydraulic control was control unit malfunction ABS control module and hydraulic control was control unit malfunction. ABS control module and hydraulic control was control unit malfunction. ABS control module and hydraulic control was control unit malfunction (Non Controlled) ABS control module and hydraulic control unit malfunction (Non Controlled) ABS control module and hydraulic control was control was control unit malfunction. ABS control module and hydraulic control was control unit malfunction. ABS control module and hydraulic control was control was control on whith malfunction (Non Controlled) ABS control malfunction (Non Controlled) ABS control malfunction (Non Controlled) ABS control was control (Non Controlled) ABS control was control (Non Controlled) ABS control was control (Non Controlled) ABS control (Non Controlled) ABS control was control (Non Controlled) ABS control was control (Non Controlled) ABS control (Non Controlled) ABS control was control (Non Controlled) ABS control was control (Non Controlled) ABS control (Non Control	37	Rear left inlet valve malfunction	Rear left inlet valve malfunction	<ref. 4-4="" [t10q0].="" to=""></ref.>
trol unit malfunction 42 Power supply voltage too low 42 Power supply voltage too low 43 Power supply voltage too high 44 ABS-AT control (Non Controlled) 45 ABS-AT control (Non Controlled) 46 ABS-AT control (Non Controlled) 47 ABS-AT control (Controlled) 48 ABS-AT control (Controlled) 49 ABS-AT control (Controlled) 40 ABS-AT control (Controlled) 41 ABS-AT control (Controlled) 42 ABS-AT control (Non Controlled) 43 ABS-AT control (Controlled) 44 ABS-AT control (Controlled) 45 Valve relay malfunction 46 Valve relay on failure 47 (T10AB0]. 48 ABS-AT control (Controlled) 49 ABS-AT control (Controlled) 40 ABS-AT control (Controlled) 40 ABS-AT control (Controlled) 41 ABS-AT control (Controlled) 42 ABS-AT control (Controlled) 43 ABS-AT control (Controlled) 44 ABS-AT control (Controlled) 45 ABS-AT control (Controlled) 46 ABS-AT control (Controlled) 47 ABS-AT control (Controlled) 48 ABS-AT control (Controlled) 49 ABS-AT control (Controlled) 40 ABS-AT control (Controlled) 42 ABS-AT con	38	Rear left outlet valve malfunction	Rear left outlet valve malfunction	<ref. 4-4="" [t10u0].="" to=""></ref.>
42Power supply voltage too highPower supply voltage too high <ref. 4-4="" [t10x0].="" to="">44ABS-AT control (Non Controlled)ABS-AT control (Non Controlled)<ref. 4-4="" [t10y0].="" to="">44ABS-AT control (Controlled)ABS-AT control (Controlled)<ref. 4-4="" [t10z0].="" to="">51Valve relay malfunctionValve relay malfunction<ref. 4-4="" [t10aa0].<="" td="" to="">51Valve relay ON failureValve relay ON failure<ref. 4-4="" [t10ab0].<="" td="" to="">52Open circuit in motor relay circuitOpen circuit in motor relay circuit<ref. 4-4="" [t10ac0].<="" td="" to="">52Motor relay ON failureMotor malfunction<ref. 4-4="" [t10ad0].<="" td="" to="">52Motor malfunctionStop light switch signal circuit malfunction<ref. 4-4="" [t10ae0].<="" td="" to="">54Stop light switch signal circuit malfunction<ref. 4-4="" [t10af0].<="" td="" to="">56Open or short circuit in G sensor circuitOpen or short circuit in G sensor circuit<ref. 4-4="" [t10ah0].<="" td="" to="">56Battery short in G sensor circuit<ref. 4-4="" [t10ah0].<="" td="" to="">56Abnormal G sensor high μ outputAbnormal G sensor high μ output<ref. 4-4="" [t10ah0].<="" td="" to=""></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.></ref.>	41	ABS control module malfunction	•	<ref. 4-4="" [t10v0].="" to=""></ref.>
ABS-AT control (Non Controlled) ABS-AT control (Non Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Controlled) ABS-AT control (Non Controlled) ABS-AT control (Controlled) APE-A [T10AH0].> ABS-AT control (Controlled) APE-A [T10AH0].> ABS-AT control (Controlled) APE-A [T10AH0].> APE-A [T10A	42	Power supply voltage too low	Power supply voltage too low	<ref. 4-4="" [t10w0].="" to=""></ref.>
ABS-AT control (Controlled) ABIS ABC TCONTROLLED ABIS ABC TO 4-4 [T10AD0].	42	Power supply voltage too high	Power supply voltage too high	<ref. 4-4="" [t10x0].="" to=""></ref.>
Valve relay malfunction Valve relay malfunction Valve relay malfunction Valve relay ON failure Valve relay ON failure Valve relay ON failure Valve relay ON failure Open circuit in motor relay circuit Notor relay ON failure Motor relay ON failure Valve relay ON failure Valve relay ON failure Open circuit in motor relay circuit Ref. to 4-4 [T10AC0]. Ref. to 4-4 [T10AD0]. Stop light switch signal circuit malfunction Stop light switch signal circuit malfunction Stop light switch signal circuit malfunction Open or short circuit in G sensor circuit Ref. to 4-4 [T10AF0]. Ref. to 4-4 [T10AG0]. Ref. to 4-4 [T10AG0]. Ref. to 4-4 [T10AG0]. Abnormal G sensor high μ output Abnormal G sensor high μ output Ref. to 4-4 [T10AH0].	44	ABS-AT control (Non Controlled)	ABS-AT control (Non Controlled)	<ref. 4-4="" [t10y0].="" to=""></ref.>
51Valve relay ON failureValve relay ON failure <ref. 4-4="" [t10ab0].<="" th="" to="">52Open circuit in motor relay circuitOpen circuit in motor relay circuit<ref. 4-4="" [t10ac0].<="" td="" to="">52Motor relay ON failureMotor relay ON failure<ref. 4-4="" [t10ad0].<="" td="" to="">52Motor malfunctionKef. to 4-4 [T10AE0].54Stop light switch signal circuit malfunctionStop light switch signal circuit malfunction<ref. 4-4="" [t10af0].<="" td="" to="">56Open or short circuit in G sensor circuitOpen or short circuit in G sensor circuit<ref. 4-4="" [t10ag0].<="" td="" to="">56Battery short in G sensor circuitBattery short in G sensor circuit<ref. 4-4="" [t10ah0].<="" td="" to="">56Abnormal G sensor high μ outputAbnormal G sensor high μ output<ref. 4-4="" [t10ai0].<="" td="" to=""></ref.></ref.></ref.></ref.></ref.></ref.></ref.>	44	ABS-AT control (Controlled)	ABS-AT control (Controlled)	<ref. 4-4="" [t10z0].="" to=""></ref.>
52 Open circuit in motor relay circuit 53 Motor relay ON failure 54 Motor malfunction 55 Stop light switch signal circuit malfunction 56 Open or short circuit in G sensor circuit 57 Stop light switch in G sensor circuit 58 Battery short in G sensor circuit 59 Abnormal G sensor high μ output 50 Open circuit in motor relay circuit 50 Action 50 Open circuit in motor relay circuit in motor relay circuit 50 Action 50 Action 50 Open circuit in motor relay circuit in motor relay circuit 50 Action 50 Action 50 Open circuit in motor relay circuit in motor relay circuit in General circuit in General in motor relay circuit in General circuit in General in motor relay circuit in General in motor in motor relay circuit in General in motor in mot	51	Valve relay malfunction	Valve relay malfunction	<ref. 4-4="" [t10aa0].="" to=""></ref.>
52 Motor relay ON failure Motor relay ON failure <ref. 4-4="" 52="" 53="" 54="" 55="" 56="" <ref.="" [t10ad0].:="" [t10ae0].:="" [t10af0].:="" [t10ag0].:="" [t10ah0].:="" [t10ai0].<="" abnormal="" battery="" circuit="" g="" high="" in="" light="" malfunction="" motor="" open="" or="" output="" sensor="" short="" signal="" stop="" switch="" td="" to="" μ=""><td>51</td><td>Valve relay ON failure</td><td>Valve relay ON failure</td><td><ref. 4-4="" [t10ab0].="" to=""></ref.></td></ref.>	51	Valve relay ON failure	Valve relay ON failure	<ref. 4-4="" [t10ab0].="" to=""></ref.>
52 Motor malfunction	52	Open circuit in motor relay circuit	Open circuit in motor relay circuit	<ref. 4-4="" [t10ac0].="" to=""></ref.>
Stop light switch signal circuit malfunction Stop light switch signal circuit malfunction Stop light switch signal circuit malfunction <ref. 4-4="" [t10af0].:="" circuit="" cref.="" light="" malfunction="" signal="" stop="" switch="" switch<="" td="" to=""><td>52</td><td>Motor relay ON failure</td><td>Motor relay ON failure</td><td><ref. 4-4="" [t10ad0].="" to=""></ref.></td></ref.>	52	Motor relay ON failure	Motor relay ON failure	<ref. 4-4="" [t10ad0].="" to=""></ref.>
tion tion control tion tion control tion co	52	Motor malfunction	Motor malfunction	<ref. 4-4="" [t10ae0].="" to=""></ref.>
56 Battery short in G sensor circuit Battery short in G sensor circuit <ref. 4-4="" 56="" <ref.="" [t10ah0].:="" [t10ai0].="" abnormal="" g="" high="" output="" sensor="" to="" μ=""></ref.>	54			<ref. 4-4="" [t10af0].="" to=""></ref.>
56 Abnormal G sensor high μ output Abnormal G sensor high μ output <ref. 4-4="" [t10al0].="" to=""></ref.>	56	Open or short circuit in G sensor circuit	Open or short circuit in G sensor circuit	<ref. 4-4="" [t10ag0].="" to=""></ref.>
	56	Battery short in G sensor circuit	Battery short in G sensor circuit	<ref. 4-4="" [t10ah0].="" to=""></ref.>
56 Detection of G sensor stick Detection of G sensor stick <ref. 4-4="" it10a.i01="" to=""></ref.>	56			<ref. 4-4="" [t10ai0].="" to=""></ref.>
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	56	Detection of G sensor stick	Detection of G sensor stick	<ref. 4-4="" [t10aj0].="" to=""></ref.>

NOIE

High μ means high friction coefficient against road surface.

4-4 [T10C0]10. Diagnostics Chart with Select Monitor

C: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

- SELECT MONITOR COMMUNICATION FAILURE -

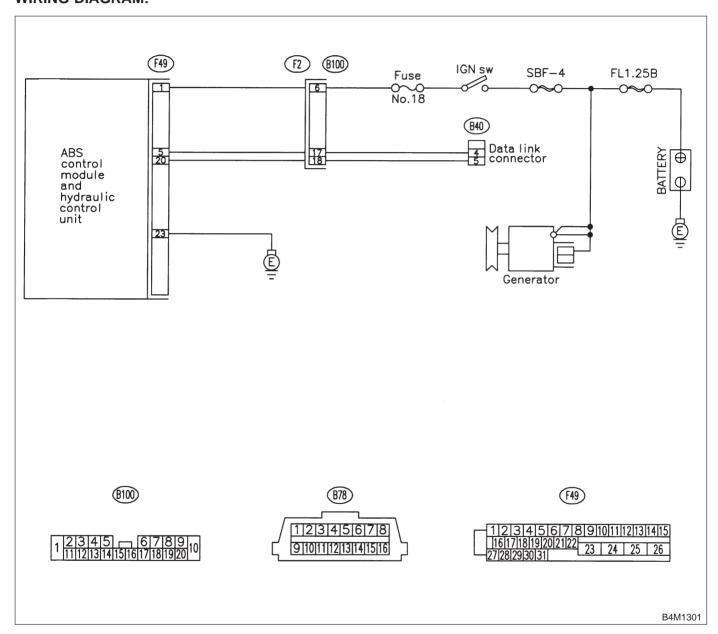
DIAGNOSIS:

• Faulty harness connector

TROUBLE SYMPTOM:

• ABS warning light remains on.

WIRING DIAGRAM:



10C1: CHECK IGNITION SWITCH.

(CHECK): Is ignition switch ON?

YES : Go to step **10C2**.

 Turn ignition switch ON, and select ABS/ TCS mode using the select monitor.

10C2: CHECK GENERATOR.

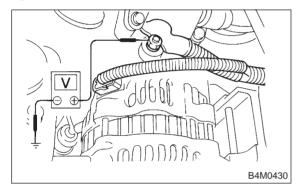
1) Start the engine.

2) Idle the engine.

3) Measure voltage between generator and chassis ground.

Terminal

Generator B terminal (+) — Chassis ground (-):



CHECK): Is the voltage between 10 and 15 V?

: Go to step **10C3**.

(NO): Repair generator.

10C3: CHECK BATTERY TERMINAL.

Turn ignition switch to OFF.

CHECK : Is there poor contact at battery termi-

ııaı:

YES: Repair battery terminal.

: Go to step **10C4**.

10C4: CHECK COMMUNICATION OF SELECT MONITOR.

Using the select monitor, check whether communication to other system (such as engine, AT, etc.) can be executed normally.

CHECK : Are the name and year of the system displayed on the select monitor?

YES : Go to step **10C5**.

Repair select monitor communication cable and connector.

10C5: CHECK INSTALLATION OF ABSCM&H/U CONNECTOR.

Turn ignition switch to OFF.

CHECK : Is ABSCM&H/U connector inserted into ABSCM&H/U until the clamp

locks onto it?

: Go to step **10C6**.

: Insert ABSCM&H/U connector into ABSCM&H/U until the clamp locks onto it.

10C6: CHECK POWER SUPPLY OF ABSCM&H/U.

1) Disconnect connector from ABSCM&H/U.

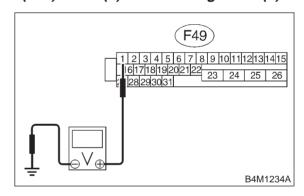
2) Start engine.

NO

3) Idle the engine.

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

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



CHECK): Is the voltage between 10 and 15 V?

YES : Go to step **10C7**.

: Repair ABSCM&H/U power supply cir-

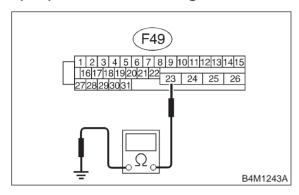
cuit

10C7: **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 ?

harness/connector : Repair YES

ABSCM&H/U and select monitor.

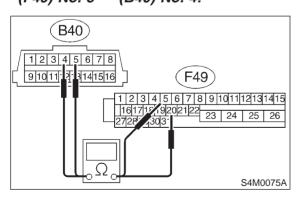
: Go to step 10C8. (NO)

10C8: CHECK HARNESS/CONNECTOR BETWEEN ABSCM&H/U AND DATA LINK CONNECTOR.

- 1) Turn ignition switch OFF.
- 2) Measure resistance between ABSCM&H/U connector and data link connector.

Connector & terminal

(F49) No. 20 — (B40) No. 5: (F49) No. 5 — (B40) No. 4:



: Is the resistance less than 0.5 Ω ? CHECK

: Repair harness and connector between YES) ABSCM&H/U and data link connector.

: Go to step **10C9**. (NO)

CHECK POOR CONTACT IN CON-10C9: NECTORS.

(CHECK)

Is there poor contact in connectors between ABSCM&H/U and data link connector? <Ref. to FOREWORD [T3C1].>

: Repair connector. (YES)

: Replace ABSCM&H/U. (NO)

MEMO:

10. Diagnostics Chart with Select Monitor

D: NO TROUBLE CODE

— ALTHOUGH NO TROUBLE CODE APPEARS ON THE SELECT MONITOR DISPLAY, THE ABS WARNING LIGHT REMAINS ON. —

DIAGNOSIS:

ABS warning light circuit is shorted.

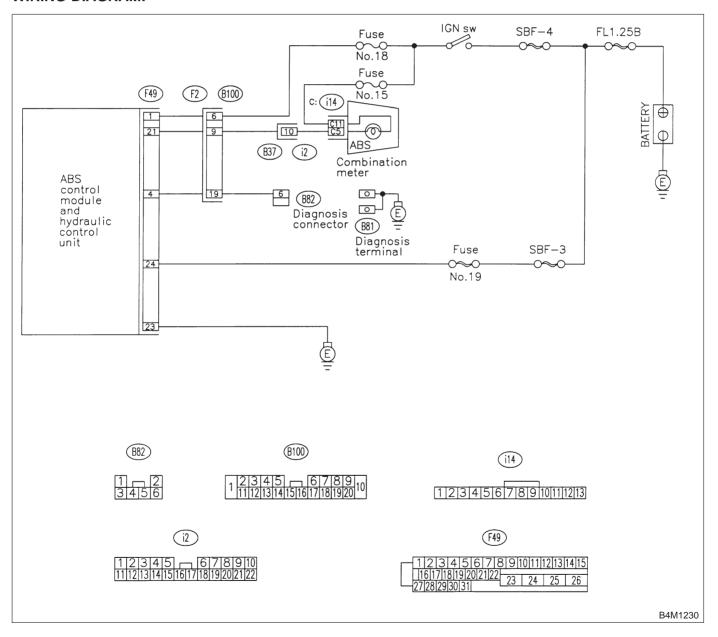
TROUBLE SYMPTOM:

- ABS warning light remains on.
- NO TROUBLE CODE displayed on the select monitor.

NOTF:

When the ABS warning light is OFF and "NO TROUBLE CODE" is displayed on the select monitor, the system is in normal condition.

WIRING DIAGRAM:



10D1: **CHECK WIRING HARNESS.**

1) Turn ignition switch to OFF.

2) Disconnect connector (F2) from connector (B100).

3) Turn ignition switch to ON.

(CHECK): Does the ABS warning light remain

off?

: Go to step 10D2. (YES)

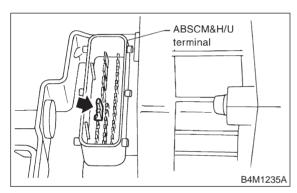
: Repair front wiring harness. (NO)

CHECK PROJECTION AT 10D2: ABSCM&H/U.

1) Turn ignition switch to OFF.

2) Disconnect connector from ABSCM&H/U.

3) Check for broken projection the ABSCM&H/U terminal.



: Are the projection broken? (CHECK)

: Go to step 10D3. YES)

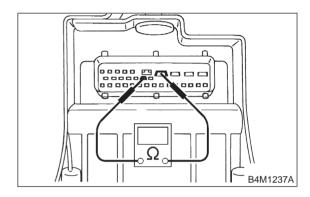
: Replace ABSCM&H/U. NO)

CHECK ABSCM&H/U. 10D3:

Measure resistance between ABSCM&H/U terminals.

Terminals

No. 21 — No. 23:



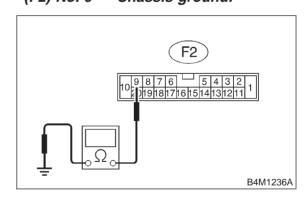
: Is the resistance more than 1 M Ω ?

: Go to step 10D4. (YES) : Replace valve relay. NO

CHECK WIRING HARNESS. 10D4:

Measure resistance between connector (F2) and chassis ground.

Connector & terminal (F2) No. 9 — Chassis ground:



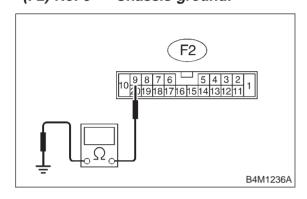
: Is the resistance less than 0.5 Ω ? CHECK

: Go to step **10D5**. YES) : Repair harness. NO

10D5: CHECK WIRING HARNESS.

- 1) Connect connector to ABSCM&H/U.
- 2) Measure resistance between connector (F2) and chassis ground.

Connector & terminal (F2) No. 9 — Chassis ground:



(CHECK): Is the resistance more than 1 M Ω ?

: Go to step **10D6**.

NO : Repair harness.

10D6: CHECK POOR CONTACT IN ABSCM&H/U CONNECTOR.

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

Repair connector.

Replace ABSCM&H/U.

MEMO:

10. Diagnostics Chart with Select Monitor

E: TROUBLE CODE 21 OPEN OR SHORT CIRCUIT IN FRONT RIGHT ABS SENSOR CIRCUIT

F: TROUBLE CODE 23 OPEN OR SHORT CIRCUIT IN FRONT LEFT ABS SENSOR CIRCUIT

G: TROUBLE CODE 25 OPEN OR SHORT CIRCUIT IN REAR RIGHT ABS SENSOR CIRCUIT

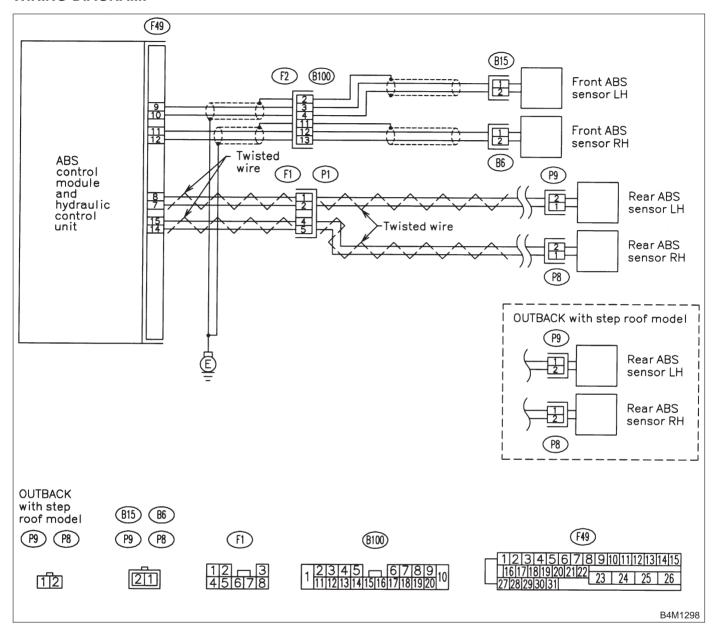
H: TROUBLE CODE 27 OPEN OR SHORT CIRCUIT IN REAR LEFT ABS SENSOR CIRCUIT

- ABNORMAL ABS SENSOR (OPEN OR SHORT CIRCUIT IN ABS SENSOR CIRCUIT) DIAGNOSIS:
- Faulty ABS sensor (Broken wire, input voltage too high)
- Faulty harness connector

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



10H1: CHECK OUTPUT OF ABS SENSOR USING SELECT MONITOR.

- 1) Select "Current data display & Save" on the select monitor.
- 2) Read the ABS sensor output corresponding to the faulty system in the select monitor data display mode.

CHECK : Does the speed indicated on the display change in response to the speedometer reading during acceleration/deceleration when the steering wheel is in the straightahead position?

(NO) : Go to step 10H2.

10H2: 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?

: Go to step **10H3**.

(NO): Tighten ABS sensor installation bolts

10H3: CHECK INSTALLATION OF TONE WHEEL.

Tightening torque:

13±3 N·m (1.3±0.3 kg-m, 9±2.2 ft-lb)

CHECK : Are the tone wheel installation bolts tightened securely?

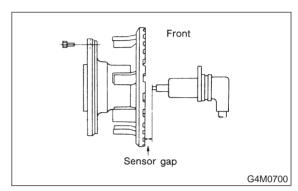
YES: Go to step 10H4.

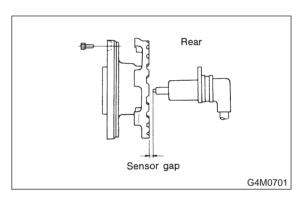
securely.

: Tighten tone wheel installation bolts securely.

10H4: 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	0.7 — 1.2 mm
	(0.035 — 0.055 in)	(0.028 — 0.047 in)

(CHECK): Is the gap within the specifications?

: Go to step **10H5**.

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.

10H5: CHECK HUB RUNOUT.

Measure hub runout.

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

: Go to step **10H6**.

10H6: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

CHECK : Is there poor contact in connectors

between ABSCM&H/U and ABS sensor? <Ref. to FOREWORD [T3C1].>

Repair connector.

On : Go to step 10H7.

10H7: 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?

: Replace ABSCM&H/U.
: Go to step **10H8**.

10H8: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

NOTE:

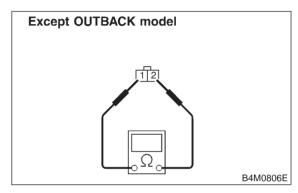
Check harness and connectors between ABSCM&H/U and ABS sensor.

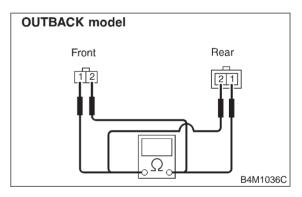
10H9: CHECK ABS SENSOR.

- 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 $k\Omega$?

K22 ?

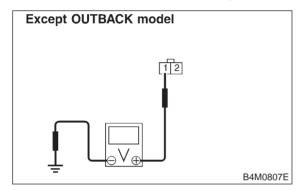
Go to step 10H10.Replace ABS sensor.

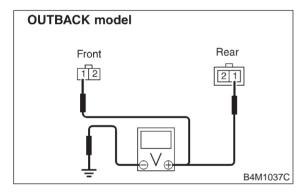
10H10: CHECK BATTERY SHORT OF ABS SENSOR.

- 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?

Go to step 10H11.

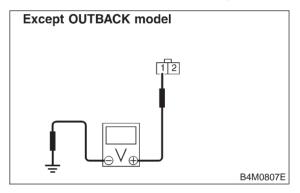
Replace ABS sensor.

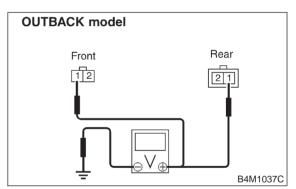
10H11: CHECK BATTERY SHORT OF ABS SENSOR.

- 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?

Fig. : Go to step **10H12**.

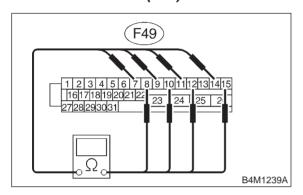
Replace ABS sensor.

10H12: **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:



: Is the resistance between 0.8 and 1.2 CHECK) $k\Omega$?

: Go to step **10H13**. (YES)

NO

Repair harness/connector between ABSCM&H/U and ABS sensor.

10H13: **CHECK BATTERY SHORT OF HAR-**NESS.

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

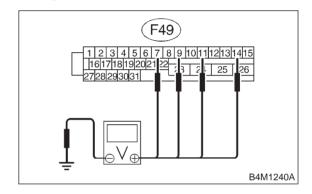
Connector & terminal

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?

: Go to step 10H14. (YES)

(NO)

: Repair harness between ABSCM&H/U and ABS sensor.

10H14: 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 (+) — Chas-

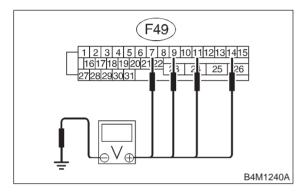
sis ground (-):

Trouble code 25 / (F49) No. 14 (+) —

Chassis ground (-):

Trouble code 27 / (F49) No. 7 (+) — Chas-

sis ground (-):



CHECK : Is the voltage less than 1 V?

YES : Go to step 10H15.

SENSOR.

: Repair harness between ABSCM&H/U and ABS sensor.

10H15: CHECK INSTALLATION OF ABS

Tightening torque:

NO

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 10H16.

: Tighten ABS sensor installation bolts

securely.

10H16: CHECK INSTALLATION OF TONE WHEEL.

Tightening torque:

13±3 N·m (1.3±0.3 kg-m, 9±2.2 ft-lb)

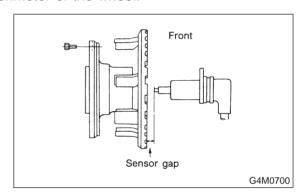
CHECK : Are the tone wheel installation bolts tightened securely?

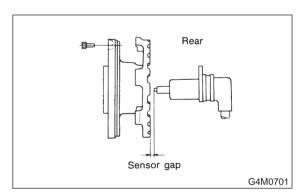
(YES) : Go to step 10H17.

: Tighten tone wheel installation bolts securely.

10H17: 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	0.7 — 1.2 mm
	(0.035 — 0.055 in)	(0.028 — 0.047 in)

CHECK): Is the gap within the specifications?

: Go to step **10H18**.

(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.

10H18: CHECK HUB RUNOUT.

Measure hub runout.

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

: Go to step 10H19. (YES)

: Repair hub. NO

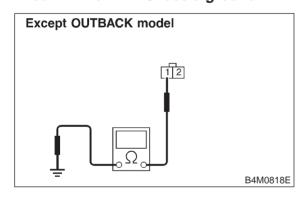
CHECK GROUND SHORT OF ABS 10H19: SENSOR.

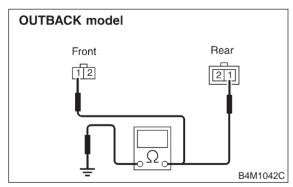
1) Turn ignition switch to ON.

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:





: Is the resistance more than 1 M Ω ? CHECK

: Go to step **10H20**. YES)

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

10H20: CHECK GROUND SHORT OF HAR-NESS.

1) Turn ignition switch to OFF.

2) Connect connector to ABS sensor.

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

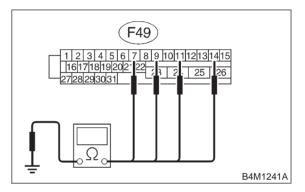
Connector & terminal

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

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

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

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



: Is the resistance more than 1 M Ω ? CHECK

: Go to step 10H21. (YES)

: Repair harness between ABSCM&H/U (NO)

and ABS sensor.

And replace ABSCM&H/U.

CHECK POOR CONTACT IN CON-10H21: **NECTORS.**

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

: Repair connector. YES NO

(CHECK)

: Go to step 10H22.

10H22: 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?

: Replace ABSCM&H/U.

: Go to step **10H23**.

10H23: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : 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.

MEMO:

- I: TROUBLE CODE 22 FRONT RIGHT ABS SENSOR ABNORMAL SIGNAL
- J: TROUBLE CODE 24 FRONT LEFT ABS SENSOR ABNORMAL SIGNAL
- K: TROUBLE CODE 26 REAR RIGHT ABS SENSOR ABNORMAL SIGNAL
- L: TROUBLE CODE 28 REAR LEFT ABS SENSOR ABNORMAL SIGNAL
- ABNORMAL ABS SENSOR (ABS SENSOR ABNORMAL SIGNAL) -

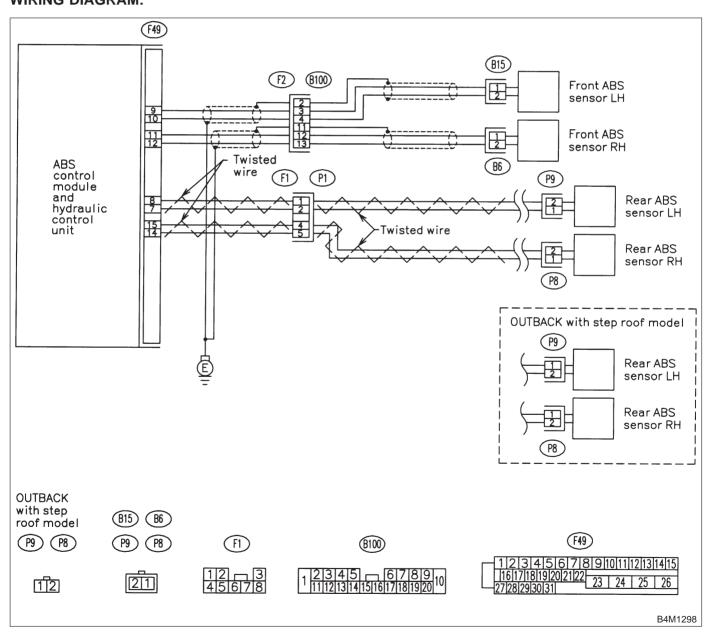
DIAGNOSIS:

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

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



10L1: CHECK OUTPUT OF ABS SENSOR USING SELECT MONITOR.

- 1) Select "Current data display & Save" on the select monitor.
- 2) Read the ABS sensor output corresponding to the faulty system in the select monitor data display mode.

CHECK): Does the speed indicated on the display change in response to the speedometer readina durina acceleration/deceleration when the steering wheel is in the straightahead position?

: Go to step 10L2. YES : Go to step 10L8. NO

10L2: CHECK POOR CONTACT IN CON-**NECTORS.**

Turn ignition switch to OFF.

: Is there poor contact in connectors (CHECK) between ABSCM&H/U and ABS sensor?

: Repair connector. (YES) : Go to step 10L3. NO)

CHECK SOURCES OF SIGNAL 10L3: NOISE.

: Is the car telephone or the wireless (CHECK) transmitter properly installed?

: Go to step 10L4. (YES)

: Properly install the car telephone or the NO wireless transmitter.

CHECK SOURCES OF SIGNAL 10L4: NOISE.

: Are noise sources (such as an CHECK antenna) installed near the sensor harness?

: Install the noise sources apart from the YES sensor harness.

: Go to step **10L5**. (ON)

10L5: CHECK SHIELD CIRCUIT.

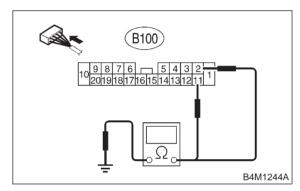
- 1) Turn ignition switch to OFF.
- 2) Connect all connectors.
- Measure resistance between shield connector and chassis ground.

Connector & terminal

Trouble code 22 / (B100) No. 11 — Chassis ground:

Trouble code 24 / (B100) No. 2 — Chassis around:

Trouble code 26 / Go to step 10L6. Trouble code 28 / Go to step 10L6.



: Is the resistance less than 0.5 Ω ?

: Go to step 10L6. YES : Repair shield harness. (NO)

10L6: CHECK ABSCM&H/U.

- 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 CHECK current diagnosis still being output?

: Replace ABSCM&H/U. (YES) : Go to step **10L7**. NO

CHECK ANY OTHER TROUBLE 10L7: CODES APPEARANCE.

: Are other trouble codes being out-(CHECK)

: Proceed with the diagnosis correspond-(YES) ing to the trouble code.

: A temporary noise interference. (NO)

10L8: 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 10L9.

: Tighten ABS sensor installation bolts securely.

10L9: CHECK INSTALLATION OF TONE WHEEL.

Tightening torque:

13±3 N·m (1.3±0.3 kg-m, 9±2.2 ft-lb)

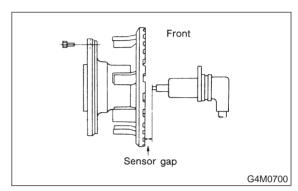
CHECK : Are the tone wheel installation bolts tightened securely?

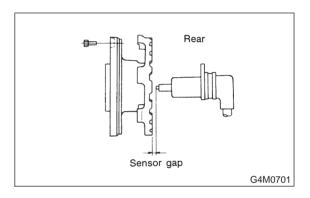
YES : Go to step 10L10.

: Tighten tone wheel installation bolts securely.

10L10: 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	0.7 — 1.2 mm
	(0.035 — 0.055 in)	(0.028 — 0.047 in)

(CHECK): Is the gap within the specifications?

: Go to step **10L11**.

(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.

10L11: CHECK OSCILLOSCOPE.

CHECK : Is an oscilloscope available?

Go to step 10L12.Go to step 10L13.

10L12: CHECK ABS SENSOR SIGNAL.

- 1) Raise all four wheels of ground.
- 2) Turn ignition switch OFF.
- 3) Connect the oscilloscope to the connector (F1) or connector (B100) in accordance with trouble code.
- 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

Connector & terminal

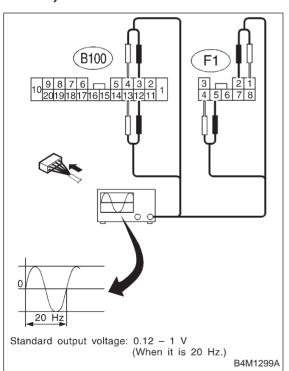
Trouble code 22 / (B100) No. 12 (+) — No. 13 (-):

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 10L16.

NO : Go to step 10L13.

10L13: 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?

Thoroughly remove dirt or other foreign matter.

: Go to step 10L14.

10L14: CHECK DAMAGE OF ABS SEN-SOR 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.

: Go to step **10L15**.

10L15: CHECK HUB RUNOUT.

Measure hub runout.

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

YES : Go to step **10L16**.

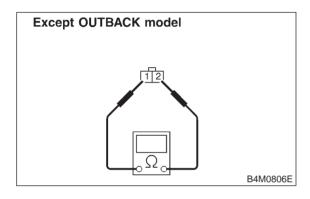
: Repair hub.

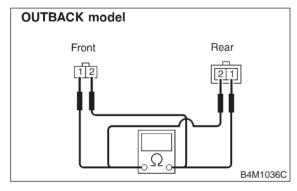
10L16: CHECK RESISTANCE OF ABS SENSOR.

- 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

 $k\Omega$?

Go to step 10L17.

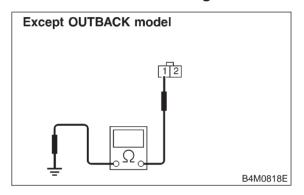
Replace ABS sensor.

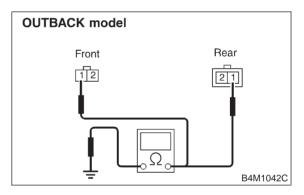
10L17: CHECK GROUND SHORT OF ABS SENSOR.

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 M Ω ?

Go to step 10L18.

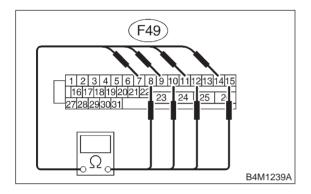
Replace ABS sensor.

CHECK HARNESS/CONNECTOR 10L18: 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:



: Is the resistance between 0.8 and 1.2 CHECK) $k\Omega$?

: Go to step 10L19. (YES)

harness/connector Repair between NO

ABSCM&H/U and ABS sensor.

10L19: CHECK GROUND SHORT OF HAR-NESS.

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

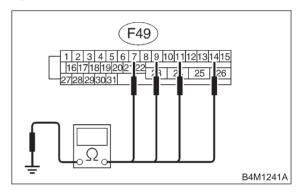
Connector & terminal

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

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

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

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



CHECK : Is the resistance more than 1 M Ω ?

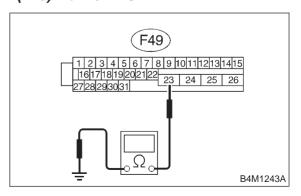
: Go to step 10L20. (YES)

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

CHECK GROUND CIRCUIT OF 10L20: ABSCM&H/U.

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

Connector & terminal (F49) No. 23 — GND:



: Is the resistance less than 0.5 Ω ? (CHECK)

: Go to step 10L21. (YES)

: Repair ABSCM&H/U ground harness.

NO

10L21: CHECK POOR CONTACT IN CONNECTORS.

CHECK : IS

Is there poor contact in connectors between ABSCM&H/U and ABS sensor? <Ref. to FOREWORD [T3C1].>

: Repair connector.
: Go to step 10L22.

10L22: CHECK SOURCES OF SIGNAL NOISE.

CHECK : Is the car telephone or the wireless transmitter properly installed?

YES : Go to step 10L23.

: Properly install the car telephone or the wireless transmitter.

10L23: 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 10L24.

10L24: CHECK SHIELD CIRCUIT.

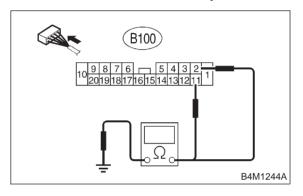
- 1) Connect all connectors.
- 2) Measure resistance between shield connector and chassis ground.

Connector & terminal

Trouble code 22 / (B100) No. 11 — Chassis ground:

Trouble code 24 / (B100) No. 2 — Chassis ground:

Trouble code 26 / Go to step 10L25. Trouble code 28 / Go to step 10L25.



(CHECK): Is the resistance less than 0.5 Ω ?

: Go to step **10L25**.

NO : Repair shield harness.

. Repair shield harness.

10L25: 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?

: Replace ABSCM&H/U.

: Go to step 10L26.

10L26: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary noise interference.

MEMO:

10. Diagnostics Chart with Select Monitor

M: TROUBLE CODE 29 ABNORMAL ABS SENSOR SIGNAL ON ANY ONE OF FOUR SENSOR

- ABNORMAL ABS SENSOR SIGNAL ON ANY ONE OF FOUR -

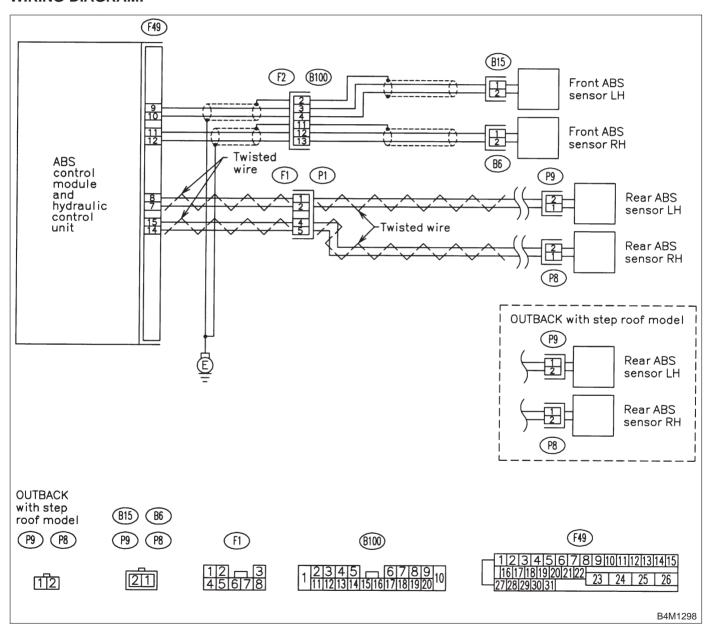
DIAGNOSIS:

- 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:



10M1: **CHECK IF THE WHEELS HAVE** TURNED FREELY FOR A LONG

TIME.

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 (YES) code.

NOTE:

CHECK

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 10M2.

CHECK TIRE SPECIFICATIONS. 10M2:

Turn ignition switch to OFF.

: Are the tire specifications correct? CHECK

YES) : Go to step **10M3**. : Replace tire. NO

10M3: CHECK WEAR OF TIRE.

Is the tire worn excessively? CHECK)

: Replace tire. YES : Go to step 10M4. NO

CHECK TIRE PRESSURE. 10M4:

: Is the tire pressure correct? CHECK

YES : Go to step **10M5**. : Adjust tire pressure. NO

10M5: 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 tiahtened securely?

: Go to step **10M6**. (YES)

: Tighten ABS sensor installation bolts NO securely.

10M6: **CHECK INSTALLATION OF TONE** WHEEL.

Tightening torque:

13±3 N·m (1.3±0.3 kg-m, 9±2.2 ft-lb)

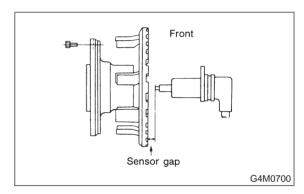
: Are the tone wheel installation bolts CHECK tightened securely?

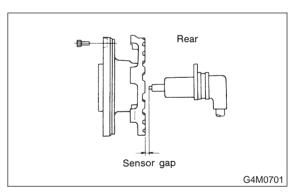
: Go to step 10M7. YES

: Tighten tone wheel installation bolts NO securely.

CHECK ABS SENSOR GAP. 10M7:

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





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

CHECK : Is the gap within the specifications?

: Go to step 10M8. (YES) : Adjust the gap. NO

NOTE:

Adjust using spacer (Part the gap 26755AA000). If spacers cannot correct the gap. replace worn sensor or worn tone wheel.

10M8: CHECK OSCILLOSCOPE.

(CHECK): Is an oscilloscope available?

: Go to step **10M9**.

(NO): Go to step **10M10**.

10M9: 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.

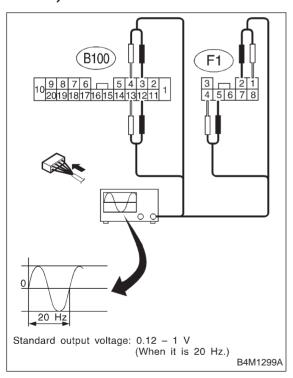
5) Rotate wheels and measure voltage at specified frequency.

NOTE:

When this inspection is completed, the ABSCM&H/U sometimes stores the trouble code 29.

Connector & terminal

(B100) No. 12 (+) — No. 13 (-) (Front RH): (B100) No. 3 (+) — No. 4 (-) (Front LH): (B100) No. 5 (+) — No. 4 (-) (Rear RH): (B100) 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 10M13.

NO : Go to step 10M10.

10M10: 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?

: Thoroughly remove dirt or other foreign matter.

: Go to step 10M11.

YES

10M11: CHECK DAMAGE OF ABS SEN-SOR 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.

: Go to step 10M12.

10M12: CHECK HUB RUNOUT.

Measure hub runout.

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

YES: Go to step **10M13**.

(NO) : Repair hub.

10M13: 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?

: Replace ABSCM&H/U.
: Go to step 10M14.

10M14: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

MEMO:

4-4 [T10N0]

10. Diagnostics Chart with Select Monitor

N: TROUBLE CODE 31 FRONT RIGHT INLET VALVE MALFUNCTION

O: TROUBLE CODE 33 FRONT LEFT INLET VALVE MALFUNCTION

P: TROUBLE CODE 35 REAR RIGHT INLET VALVE MALFUNCTION

Q: TROUBLE CODE 37 REAR LEFT INLET VALVE MALFUNCTION

- INLET SOLENOID VALVE MALFUNCTION -

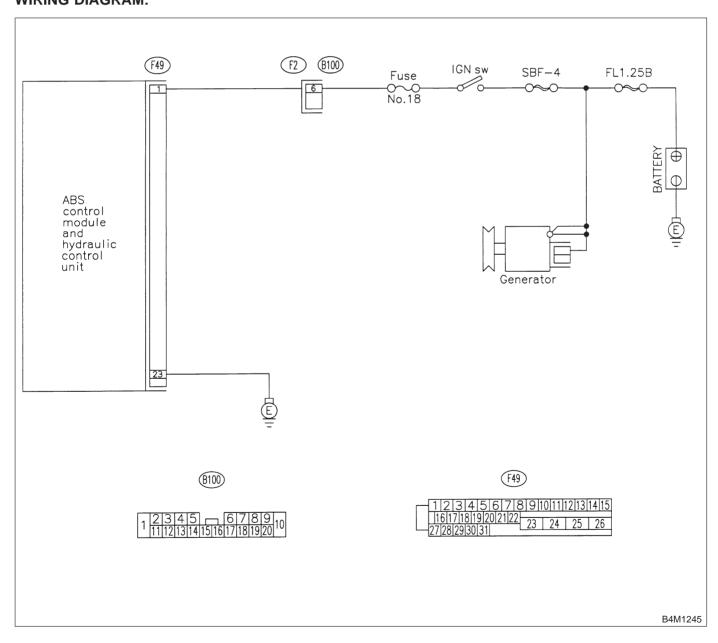
DIAGNOSIS:

- Faulty harness/connector
- Faulty inlet solenoid valve

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



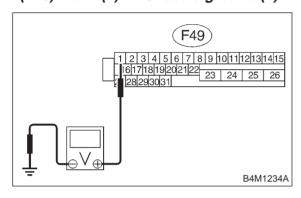
10Q1: CHECK INPUT VOLTAGE OF ABSCM&H/U.

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 (-):



CHECK : Is the voltage between 10 V and 15 V?

YES : Go to step **10Q2**.

: Repair harness connector between battery, ignition switch and

ABSCM&H/U.

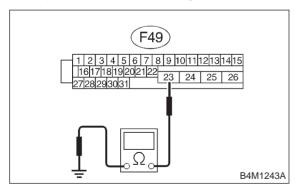
10Q2: CHECK GROUND CIRCUIT OF ABSCM&H/U.

1) Turn ignition switch to OFF.

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

Connector & terminal

(F49) No. 23 — Chassis ground:



 $\widehat{\mathsf{CHECK}}$: Is the resistance less than 0.5 Ω ?

YES: Go to step **10Q3**.

: Repair ABSCM&H/U ground harness.

10Q3: CHECK POOR CONTACT IN CONNECTORS.

(CHECK)

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

: Repair connector.
: Go to step **10Q4**.

10Q4: 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?

Replace ABSCM&H/U.

(NO) : Go to step 10Q5.

10Q5: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being out-

Proceed with the diagnosis corresponding to the trouble code.

(NO) : A temporary poor contact.

R: TROUBLE CODE 32 FRONT RIGHT OUTLET VALVE MALFUNCTION

S: TROUBLE CODE 34 FRONT LEFT OUTLET VALVE MALFUNCTION

T: TROUBLE CODE 36 REAR RIGHT OUTLET VALVE MALFUNCTION

U: TROUBLE CODE 38 REAR LEFT OUTLET VALVE MALFUNCTION

- OUTLET SOLENOID VALVE MALFUNCTION -

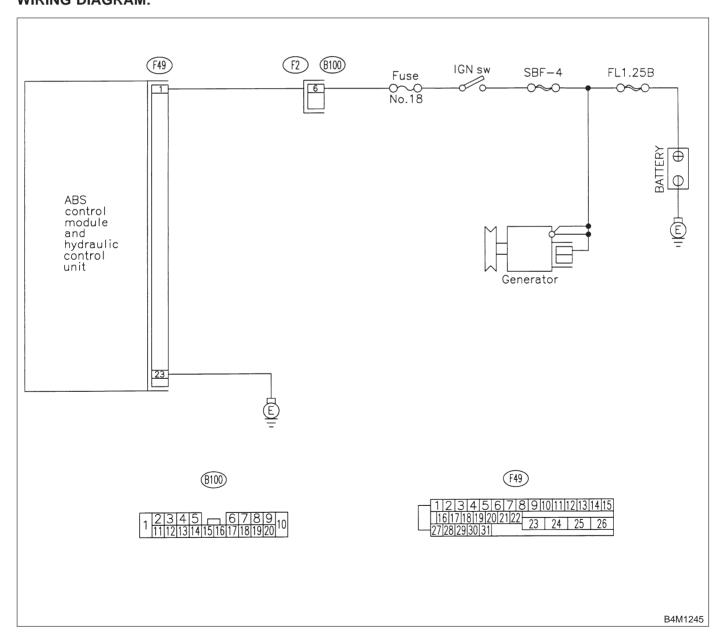
DIAGNOSIS:

- Faulty harness/connector
- Faulty outlet solenoid valve

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:

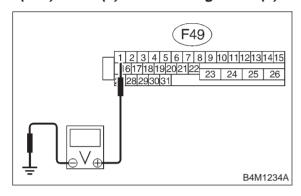


10U1: CHECK INPUT VOLTAGE OF ABSCM&H/U.

- 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 (-):



CHECK : Is the voltage between 10 V and 15 V?

YES: Go to step **10U2**.

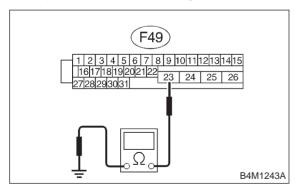
Repair harness connector between battery, ignition switch and ABSCM&H/U.

10U2: 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:



 $\widehat{\mathsf{CHECK}}$: Is the resistance less than 0.5 Ω ?

YES: Go to step **10U3**.

: Repair ABSCM&H/U ground harness.

10U3: CHECK POOR CONTACT IN CONNECTORS.

(CHECK)

Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD IT3C11.>

: Repair connector.
: Go to step 10U4.

10U4: 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?

: Replace ABSCM&H/U.
: Go to step **10U5**.

10U5: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being out-

Proceed with the diagnosis corresponding to the trouble code.

(NO) : A temporary poor contact.

4-4 [T10V0]10. Diagnostics Chart with Select Monitor

V: TROUBLE CODE 41 ABS CONTROL MODULE MALFUNCTION

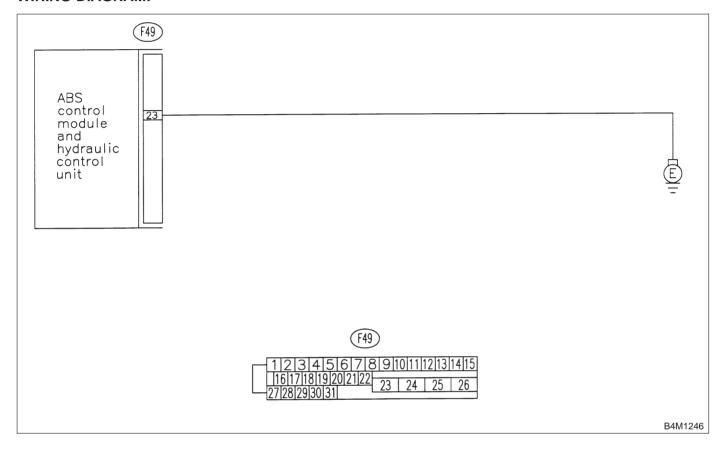
- ABS CONTROL MODULE AND HYDRAULIC CONTROL UNIT MALFUNCTION-

DIAGNOSIS:

• Faulty ABSCM&H/U

TROUBLE SYMPTOM:

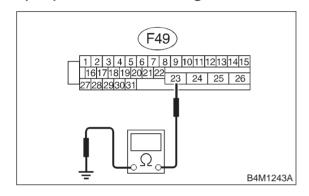
ABS does not operate.



10V1: 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 **10V2**.

No: Repair ABSCM&H/U ground harness.

10V2: CHECK POOR CONTACT IN CONNECTORS.

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

[1301].>

: Repair connector.
: Go to step 10V3.

10V3: CHECK SOURCES OF SIGNAL NOISE.

CHECK : Is the car telephone or the wireless transmitter properly installed?

YES : Go to step **10V4**.

: Properly install the car telephone or the wireless transmitter.

10V4: CHECK SOURCES OF SIGNAL NOISE.

CHECK : Are noise sources (such as an antenna) installed near the sensor harness?

: Install the noise sources apart from the sensor harness.

: Go to step **10V5**.

10V5: 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 10V6.

10V6: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

4-4 [T10W0]10. Diagnostics Chart with Select Monitor

W: TROUBLE CODE 42 POWER SUPPLY VOLTAGE TOO LOW

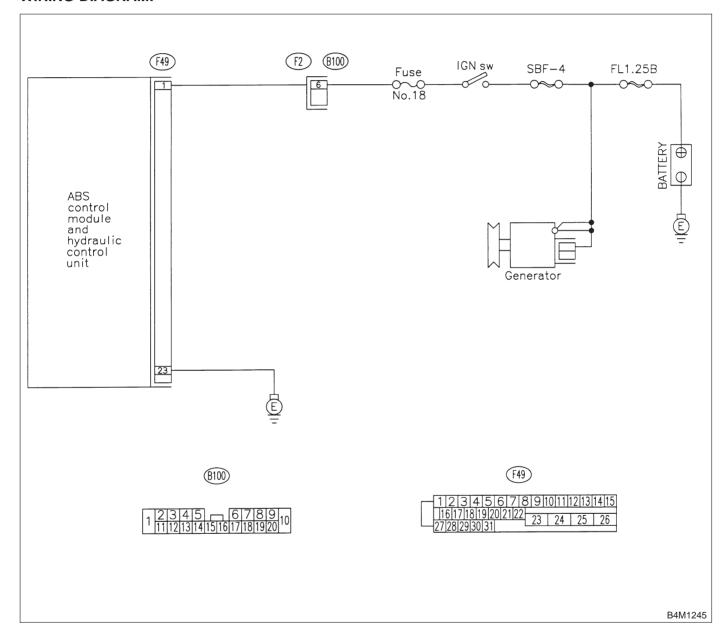
- POWER SUPPLY VOLTAGE TOO LOW -

DIAGNOSIS:

• Power source voltage of the ABSCM&H/U is low.

TROUBLE SYMPTOM:

ABS does not operate.

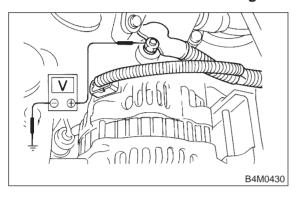


10W1: CHECK GENERATOR.

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

Terminal

Generator B terminal — Chassis ground:



CHECK) : Is the voltage between 10 V and 15 V?

: Go to step **10W2**.

NO : Repair generator.

10W2: CHECK BATTERY TERMINAL.

Turn ignition switch to OFF.

CHECK : Are the positive and negative battery terminals tightly clamped?

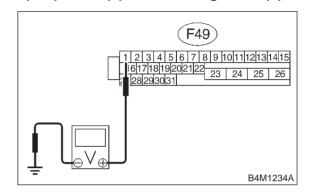
(YES) : Go to step 10W3.

: Tighten the clamp of terminal.

10W3: 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 10W4.

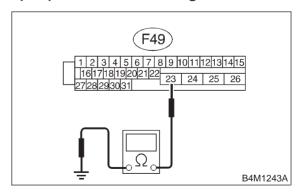
NO

: Repair harness connector between battery, ignition switch and ABSCM&H/U.

10W4: 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 10W5.

: Repair ABSCM&H/U ground harness.

10W5: CHECK POOR CONTACT IN CONNECTORS.

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

[T3C1].>

: Repair connector.
: Go to step **10W6**.

10W6: 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?

: Replace ABSCM&H/U.

NO : Go to step **10W7**.

10W7: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

Proceed with the diagnosis corresponding to the trouble code.

NO : A temporary poor contact.

MEMO:

4-4 [T10X0]10. Diagnostics Chart with Select Monitor

X: TROUBLE CODE 42 POWER SUPPLY VOLTAGE TOO HIGH

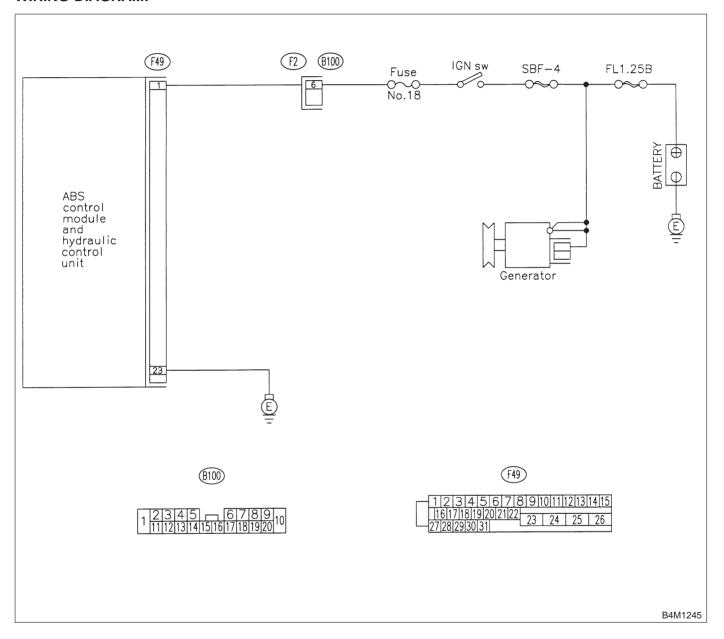
- POWER SUPPLY VOLTAGE TOO HIGH -

DIAGNOSIS:

• Power source voltage of the ABSCM&H/U is high.

TROUBLE SYMPTOM:

ABS does not operate.

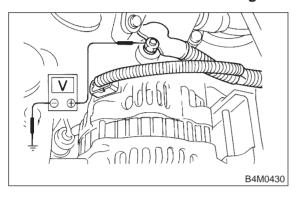


10X1: CHECK GENERATOR.

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

Terminal

Generator B terminal — Chassis ground:



: Is the voltage between 10 V and 17 V?

: Go to step 10X2. YES : Repair generator. NO

10X2: CHECK BATTERY TERMINAL.

Turn ignition switch to OFF.

(YES)

: Are the positive and negative battery terminals tightly clamped?

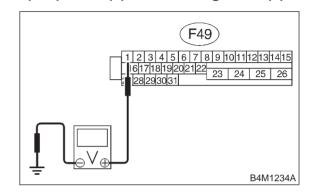
: Go to step 10X3.

: Tighten the clamp of terminal. NO

10X3: **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 (-):



: Is the voltage between 10 V and 17 V? (CHECK)

: Go to step 10X4. (YES)

NO

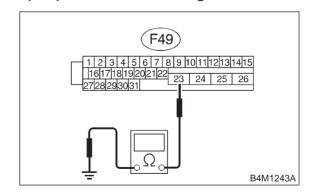
Repair harness connector between battery, ignition switch and ABSCM&H/U.

10X4: **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:



: Is the resistance less than 0.5 Ω ? (CHECK)

: Go to step 10X5. (YES)

: Repair ABSCM&H/U ground harness.

10X5: CHECK POOR CONTACT IN CONNECTORS.

CHECK : Is there poor contact in connectors between generator, battery and

ABSCM&H/U? <Ref. to FOREWORD

[T3C1].>

: Repair connector.

(NO): Go to step 10X6.

10X6: 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.

: Go to step **10X7**.

10X7: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

Proceed with the diagnosis corresponding to the trouble code.

NO : A temporary poor contact.

MEMO:

4-4 [T10Y0]10. Diagnostics Chart with Select Monitor

Y: TROUBLE CODE 44 ABS-AT CONTROL (NON CONTROLLED)

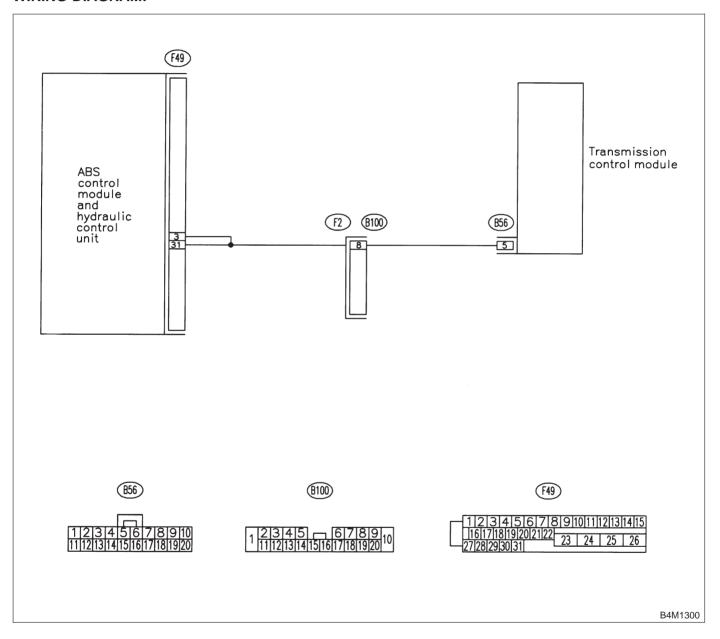
- ABS-AT CONTROL (NON CONTROLLED) -

DIAGNOSIS:

· Combination of AT control faults

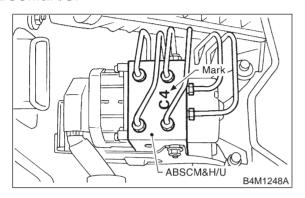
TROUBLE SYMPTOM:

ABS does not operate.



10Y1: CHECK SPECIFICATIONS OF THE ABSCM&H/U.

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



Mark	Model
C1	FWD AT
C3	AWD AT
C4	AWD MT

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

: Replace ABSCM&H/U.

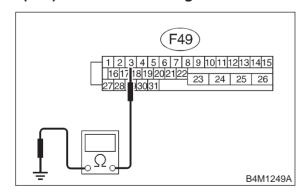
: Go to step **10Y2**.

10Y2: 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:



 m_{CHECK} : Is the resistance more than 1 M Ω ?

So to step **10Y3**.

So to step **10Y3**.

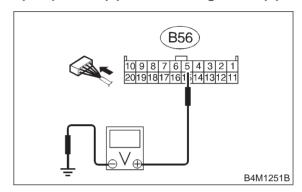
So to step **10Y3**.

: Repair harness between TCM and ABSCM&H/U.

10Y3: CHECK TCM.

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

Connector & terminal (B56) No. 5 (+) — Chassis ground (-):



(CHECK): Is the voltage between 10 V and 15 V?

Go to step 10Y5.

So to step 10Y4.

10Y4: CHECK AT.

CHECK): Is the AT functioning normally?

: Replace TCM.
: Repair AT.

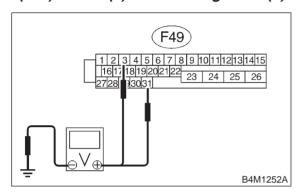
10. Diagnostics Chart with Select Monitor

10Y5: 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 more than 10 V?

(YES) : Go to step 10Y6.

: Repair harness/connector between AT control module and ABSCM&H/U.

10Y6: CHECK POOR CONTACT IN CONNECTORS.

CHECK : Is there poor contact in connectors between AT control module and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>

: Repair connector.
: Go to step **10Y7**.

10Y7: 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?

: Replace ABSCM&H/U.

: Go to step **10Y8**.

10Y8: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

MEMO:

4-4 [T10Z0]10. Diagnostics Chart with Select Monitor

Z: TROUBLE CODE 44 ABS-AT CONTROL (CONTROLLED)

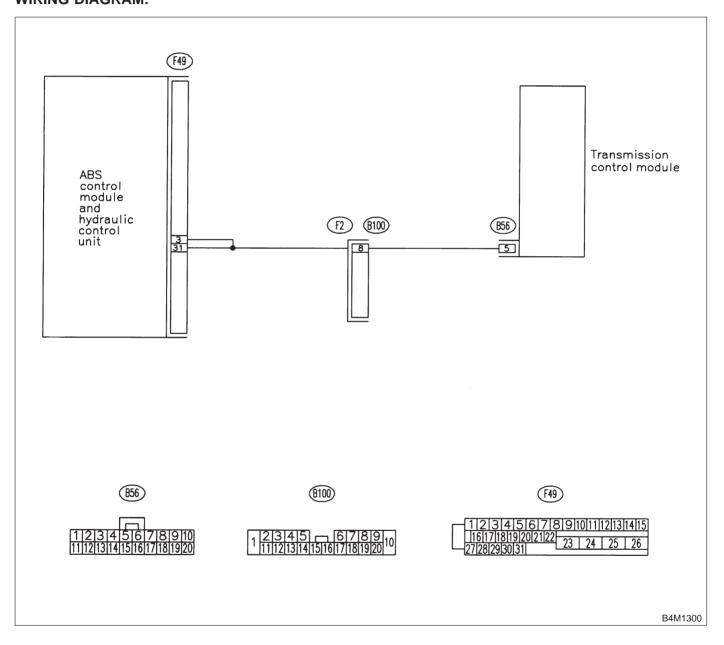
- ABS-AT CONTROL (CONTROLLED) -

DIAGNOSIS:

· Combination of AT control faults

TROUBLE SYMPTOM:

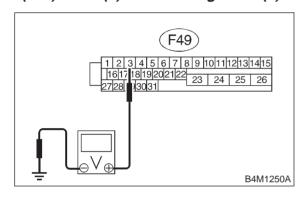
ABS does not operate.



10Z1: CHECK BATTERY SHORT OF HARNESS.

- 1) Turn ignition switch to OFF.
- 2) Disconnect two connectors from AT control module.
- 3) Disconnect connector from ABSCM&H/U.
- 4) 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 10Z2.

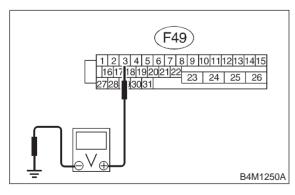
: Repair harness between AT control

module and ABSCM&H/U.

10Z2: CHECK BATTERY SHORT OF HARNESS.

- 1) Turn ignition switch to ON.
- 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 **10Z3**.

: Repair harness between AT control

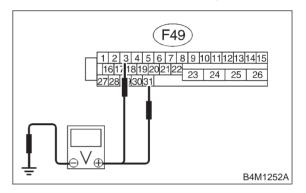
module and ABSCM&H/U.

10Z3: CHECK OPEN CIRCUIT OF HAR-NESS.

- 1) Turn ignition switch to OFF.
- 2) Connect all connectors to TCM.
- 3) Turn ignition switch to ON.
- 4) 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 13 V?

YES: Go to step **10Z4**.

No : Repair harness/connector between

TCM and ABSCM&H/U.

10Z4: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

CHECK : Is there poor contact in connectors between AT control module and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>

: Repair connector.

No : Go to step **10Z5**.

10Z5: 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.

: Go to step **10Z6**.

CHECK ANY OTHER TROUBLE 10Z6: **CODES APPEARANCE.**

(CHECK): Are other trouble codes being output?

: Proceed with the diagnosis correspond-YES

ing to the trouble code.

: A temporary poor contact. NO

MEMO:

AA: TROUBLE CODE 51 VALVE RELAY MALFUNCTION

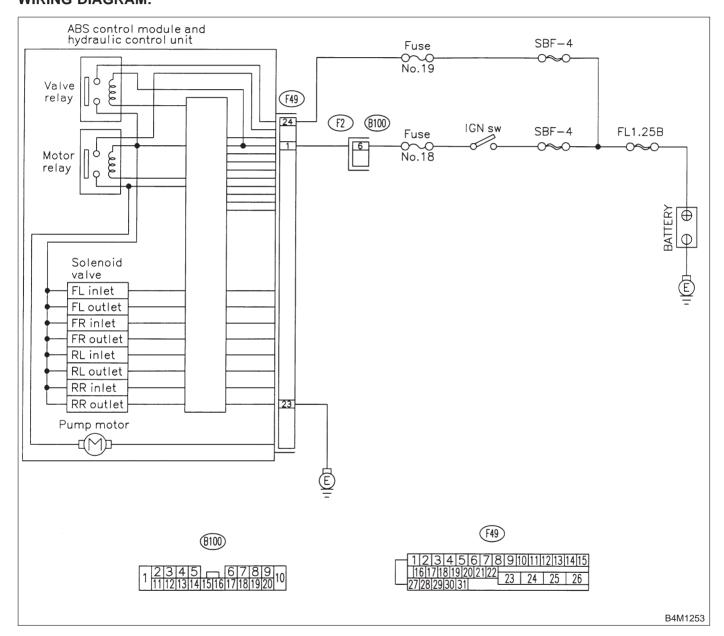
- VALVE RELAY MALFUNCTION -

DIAGNOSIS:

• Faulty valve relay

TROUBLE SYMPTOM:

ABS does not operate.

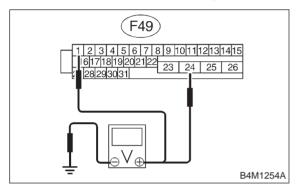


10AA1: **CHECK INPUT VOLTAGE OF** ABSCM&H/U.

- 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 (-):



: Is the voltage between 10 V and 15 V? CHECK)

: Go to step 10AA2. YES

: Repair harness connector between bat-NO)

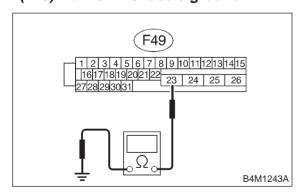
tery and ABSCM&H/U.

10AA2: **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:



: Is the resistance less than 0.5 Ω ? CHECK)

: Go to step **10AA3**. YES

: Repair ABSCM&H/U ground harness. NO

CHECK POOR CONTACT IN CON-10AA3: NECTORS.

(CHECK)

Is there poor contact in connectors between generator, battery and ABSCM&H/U? <Ref. to FOREWORD [T3C11.>

: Repair connector. (YES) : Go to step 10AA4. NO

CHECK ABSCM&H/U. 10AA4:

- 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 (CHECK) current diagnosis still being output?

: Replace ABSCM&H/U. (YES) : Go to step 10AA5. NO

CHECK ANY OTHER TROUBLE 10AA5: CODES APPEARANCE.

: Are other trouble codes being out-(CHECK)

: Proceed with the diagnosis correspond-(YES) ing to the trouble code.

: A temporary poor contact. (NO)

AB: TROUBLE CODE 51 VALVE RELAY ON FAILURE

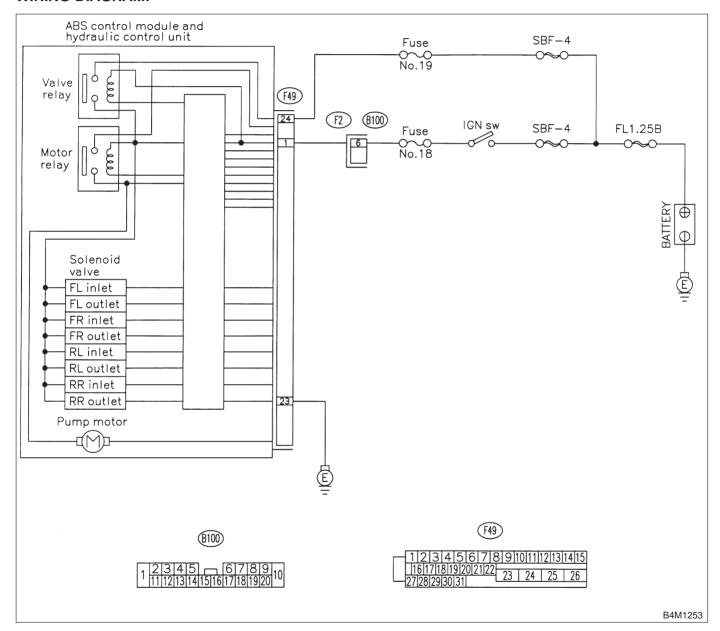
- VALVE RELAY ON FAILURE -

DIAGNOSIS:

Faulty valve relay

TROUBLE SYMPTOM:

ABS does not operate.

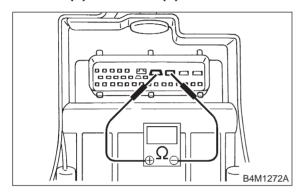


10AB1: CHECK VALVE RELAY IN ABSCM&H/U.

Measure resistance between ABSCM&H/U terminals.

Terminals

No. 23 (+) — No. 24 (-):



(CHECK): Is the resistance more than 1 M Ω ?

Go to step 10AB2.Replace ABSCM&H/U.

10AB2: CHECK POOR CONTACT IN CONNECTORS.

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

10AB3: 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?

: Replace ABSCM&H/U.

: Go to step 10AB4.

10AB4: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

NO : A temporary poor contact.

10. Diagnostics Chart with Select Monitor

AC: TROUBLE CODE 52 OPEN CIRCUIT IN MOTOR RELAY CIRCUIT

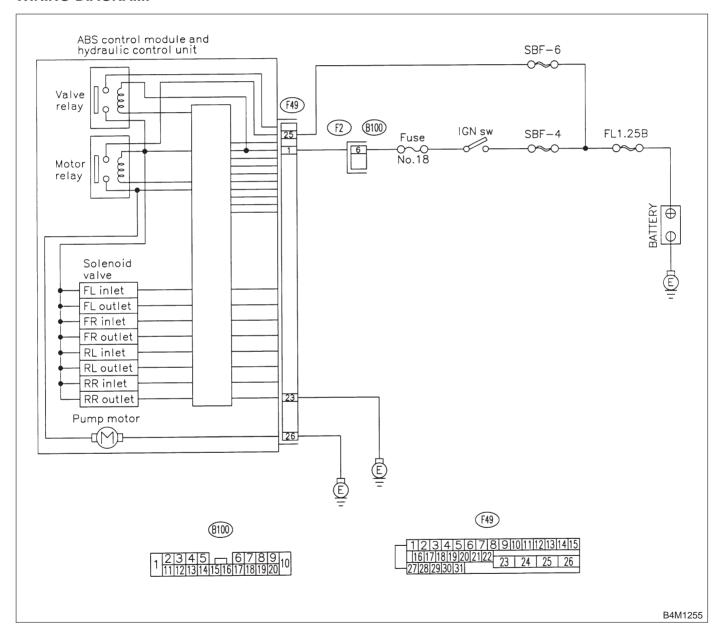
- OPEN CIRCUIT IN MOTOR RELAY CIRCUIT -

DIAGNOSIS:

- Faulty motor
- Faulty motor relay
- Faulty harness connector

TROUBLE SYMPTOM:

• ABS does not operate.

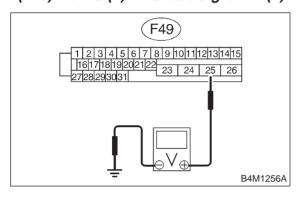


10AC1: CHECK INPUT VOLTAGE OF ABSCM&H/U.

- 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 13 V?

YES: Go to step 10AC2.

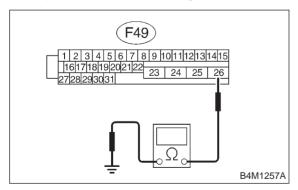
Repair harness/connector between battery and ABSCM&H/U and check fuse SBF6.

10AC2: 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:



 $\widehat{\text{CHECK}}$: Is the resistance less than 0.5 Ω ?

YES: Go to step 10AC3.

: Repair ABSCM&H/U ground harness.

10AC3: CHECK MOTOR OPERATION.

Operate the sequence control. <Ref. to 4-4 [W15D0].>

NOTE:

Use the diagnosis connector to operate the sequence control.

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

: Go to step **10AC4**.

(NO): Replace ABSCM&H/U.

10AC4: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

CHECK : Is there poor contact in connector between hydraclic unit, relay box and ABSCM&H/U? <Ref. to FOREWORD [T3C1].>

Repair connector.

So to step 10AC5.

10AC5: 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?

: Replace ABSCM&H/U.

NO : Go to step **10AC6**.

10AC6: 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.

10. Diagnostics Chart with Select Monitor

AD: TROUBLE CODE 52 MOTOR RELAY ON FAILURE

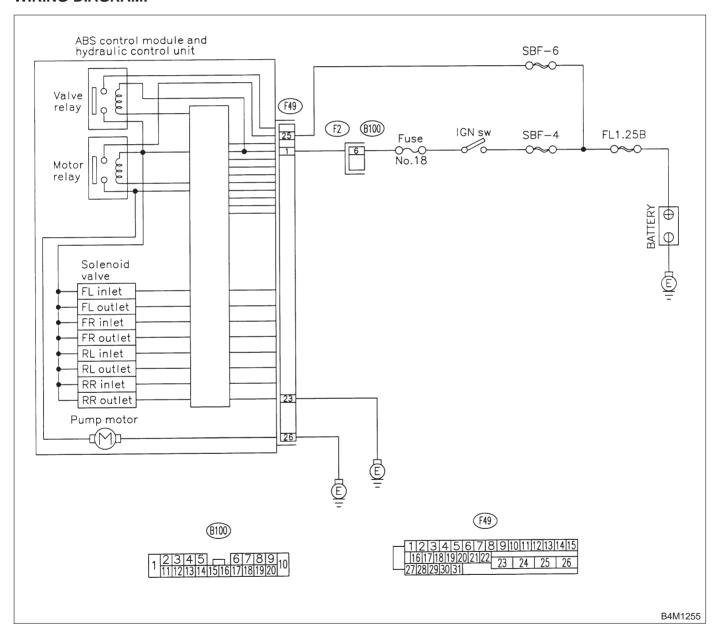
- MOTOR RELAY ON FAILURE -

DIAGNOSIS:

- Faulty motor
- Faulty motor relay
- Faulty harness connector

TROUBLE SYMPTOM:

• ABS does not operate.

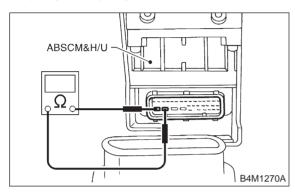


10AD1: CHECK MOTOR RELAY IN ABSCM&H/U.

Measure resistance between ABSCM&H/U terminals.

Terminals

No. 25 — No. 26:



(CHECK): Is the resistance more than 1 M Ω ?

Go to step 10AD2.

Replace ABSCM&H/U.

10AD2: CHECK MOTOR OPERATION.

Operate the sequence control. <Ref. to 4-4 [W15D0].>

NOTE:

Use the diagnosis connector to operate the sequence control.

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

(ND): Go to step 10AD3.
(ND): Replace ABSCM&H/U.

10AD3: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

CHECK : Is there poor contact in connector

between hydraulic unit, relay box and ABSCM&H/U? <Ref. to FOREWORD

[T3C1].>

YES : Repair connector.

: Go to step **10AD4**.

10AD4: 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?

: Replace ABSCM&H/U.

: Go to step **10AD5**.

10AD5: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being out-

Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

10. Diagnostics Chart with Select Monitor

AE: TROUBLE CODE 52 MOTOR MALFUNCTION

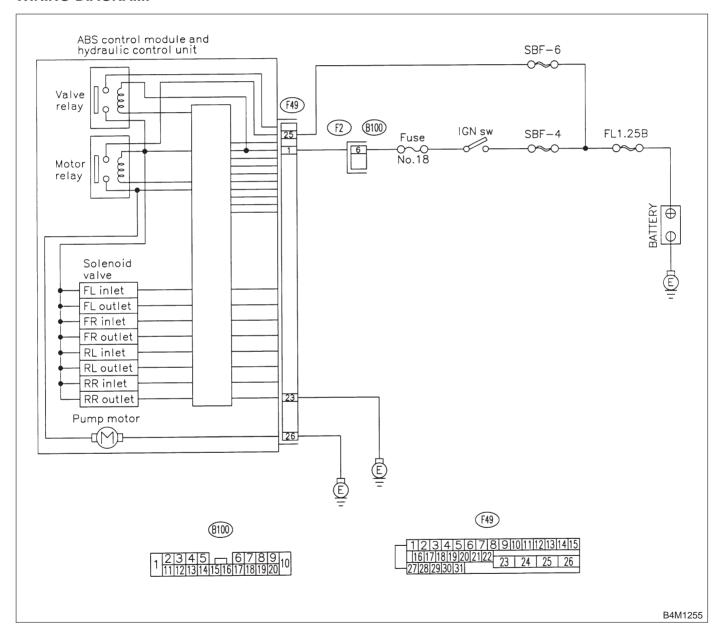
- MOTOR MALFUNCTION -

DIAGNOSIS:

- Faulty motor
- Faulty motor relay
- Faulty harness connector

TROUBLE SYMPTOM:

• ABS does not operate.

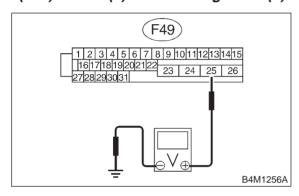


10AE1: CHECK INPUT VOLTAGE OF ABSCM&H/U.

- 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 13 V?

YES

: Go to step 10AE2.

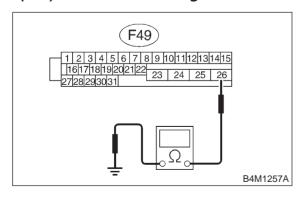
NO

: Repair harness/connector between battery and ABSCM&H/U and check fuse SBF6.

10AE2: 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:



 $\widehat{\text{CHECK}}$: Is the resistance less than 0.5 Ω ?

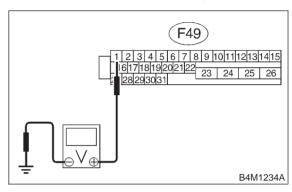
YES: Go to step 10AE3.

: Repair ABSCM&H/U ground harness.

10AE3: 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?

: Go to step 10AE4.

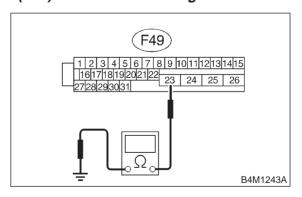
Repair harness

: Repair harness connector between battery, ignition switch and ABSCM&H/U.

10AE4: 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 10AE5.

(NO) : Repair ABSCM&H/U ground harness.

10AE5: CHECK MOTOR OPERATION.

Operate the sequence control. <Ref. to 4-4 [W15D0].>

NOTE:

Use the diagnosis connector to operate the sequence control.

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

Go to step 10AE6.Replace hydraulic unit.

10AE6: 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].>

: Repair connector.: Go to step 10AE7.

10AE7: 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?

: Replace ABSCM&H/U.
: Go to step **10AE8**.

10AE8: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

MEMO:

10. Diagnostics Chart with Select Monitor

AF: TROUBLE CODE 54 STOP LIGHT SWITCH SIGNAL CIRCUIT MALFUNCTION

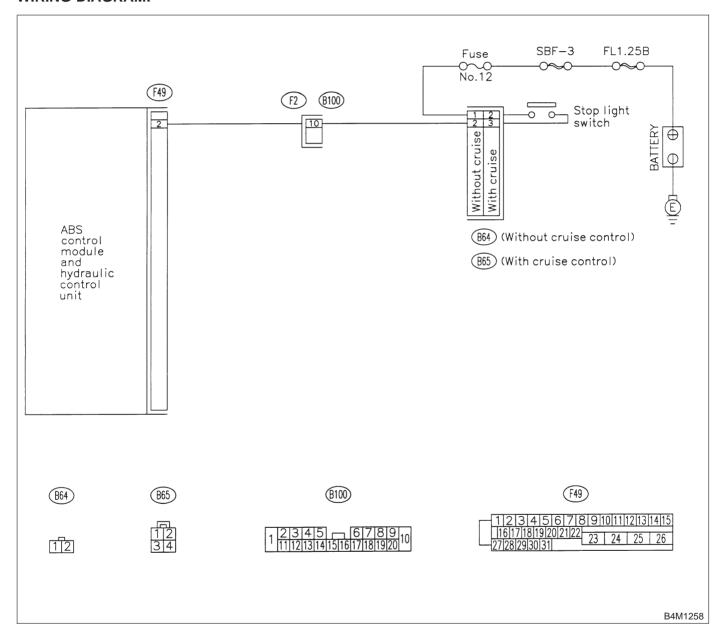
- STOP LIGHT SWITCH SIGNAL CIRCUIT MALFUNCTION -

DIAGNOSIS:

Faulty stop light switch

TROUBLE SYMPTOM:

ABS does not operate.



10AF1: CHECK OUTPUT OF STOP LIGHT SWITCH USING SELECT MONITOR.

- 1) Select "Current data display & Save" on the select monitor.
- 2) Release the brake pedal.
- 3) Read the stop light switch output in the select monitor data display.

CHECK : Is the reading indicated on monitor display less than 1.5 V?

Go to step 10AF2.

Go to step 10AF3.

10AF2: CHECK OUTPUT OF STOP LIGHT SWITCH USING SELECT MONITOR.

1) Depress the brake pedal.

2) Read the stop light switch output in the select monitor data display.

CHECK : Is the reading indicated on monitor display between 10 V and 15 V?

: Go to step 10AF5.

(NO): Go to step 10AF3.

10AF3: CHECK IF STOP LIGHTS COME ON.

Depress the brake pedal.

(CHECK): Do stop lights turn on?

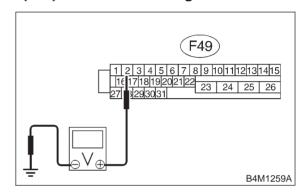
YES : Go to step 10AF4.

: Repair stop lights circuit.

10AF4: CHECK OPEN CIRCUIT IN HAR-NESS.

- 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 10AF5.

NO

: Repair harness between stop light switch and ABSCM&H/U connector.

10AF5: CHECK POOR CONTACT IN CONNECTORS.

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

: Repair connector.
: Go to step 10AF6.

10AF6: 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?

: Replace ABSCM&H/U.

NO : Go to step **10AF7**.

CHECK ANY OTHER TROUBLE 10AF7: **CODES APPEARANCE.**

(CHECK): Are other trouble codes being output?

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

: A temporary poor contact. NO

MEMO:

4-4 [T10AG0]10. Diagnostics Chart with Select Monitor

AG: TROUBLE CODE 56 OPEN OR SHORT CIRCUIT IN G SENSOR CIRCUIT

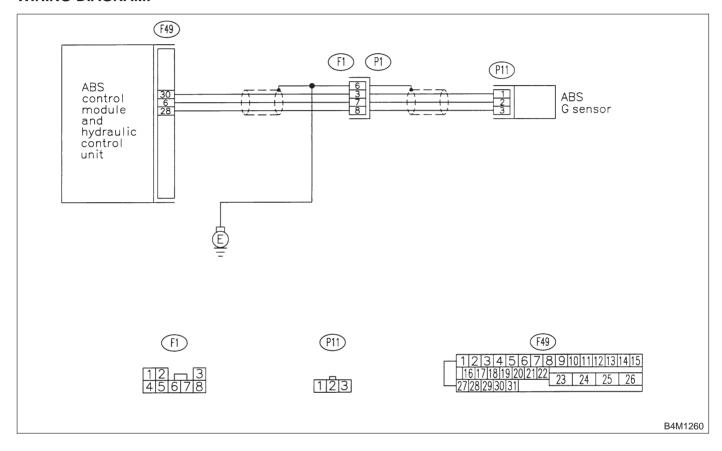
- OPEN OR SHORT CIRCUIT IN G SENSOR CIRCUIT -

DIAGNOSIS:

• Faulty G sensor output voltage

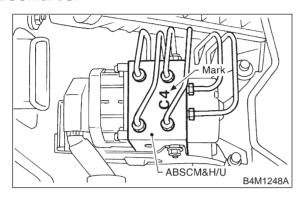
TROUBLE SYMPTOM:

ABS does not operate.



10AG1: CHECK SPECIFICATIONS OF ABSCM&H/U.

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



Mark	Model
C1	FWD AT
C3	AWD AT
C4	AWD MT

CHECK : Is an ABSCM for AWD model installed on a FWD model?

(YES) : Replace ABSCM&H/U.

CAUTION:

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

(NO) : Go to step 10AG2.

10AG2: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

- 1) Select "Current data display & Save" on the select monitor.
- 2) Read the G sensor output in select monitor data display.

CHECK : Is the G sensor output on the monitor display between 2.1 and 2.5 V when the G sensor is in horizontal position?

: Go to step **10AG3**.
: Go to step **10AG6**.

10AG3: CHECK POOR CONTACT IN CONNECTORS.

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

Repair connector.Go to step 10AG4.

10AG4: 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?

: Replace ABSCM&H/U.
: Go to step **10AG5**.

10AG5: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being out-

Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

10AG6: CHECK FREEZE FRAME DATA.

- 1) Select "Freeze frame data" on the select monitor.
- 2) Read front right wheel speed on the select monitor display.

CHECK : Is the front right wheel speed on monitor display 0 km?

YES : Go to step 10AG7.NO : Go to step 10AG15.

10AG7: CHECK FREEZE FRAME DATA.

Read front left wheel speed on the select monitor display.

CHECK : Is the front left wheel speed on monitor display 0 km?

Go to step 10AG8.Go to step 10AG15.

10AG8: CHECK FREEZE FRAME DATA.

Read rear right wheel speed on the select monitor display.

CHECK : Is the rear right wheel speed on monitor display 0 km?

YES : Go to step 10AG9.NO : Go to step 10AG15.

CHECK FREEZE FRAME DATA. 10AG9:

Read rear left wheel speed on the select monitor display.

(CHECK): Is the rear left wheel speed on moni-

tor display 0 km? : Go to step 10AG10.

(YES) : Go to step 10AG15. NO

10AG10: CHECK FREEZE FRAME DATA.

Read G sensor output on the select monitor display.

(CHECK)

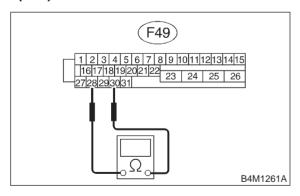
: Is the G sensor output on monitor display more than 3.65 V?

: Go to step **10AG11**. (YES) : Go to step 10AG15. NO

CHECK OPEN CIRCUIT IN G 10AG11: 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:



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

: Go to step 10AG12. (YES)

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

CHECK POOR CONTACT IN 10AG12: CONNECTORS.

(CHECK)

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

: Repair connector. (YES) : Go to step 10AG13.

CHECK ABSCM&H/U. 10AG13:

- 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 CHECK current diagnosis still being output?

: Replace ABSCM&H/U. (YES) : Go to step 10AG14.

10AG14: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

: Are other trouble codes being out-CHECK) put?

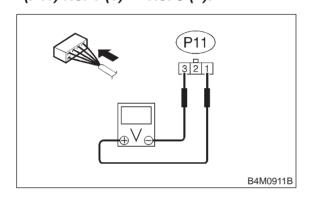
: Proceed with the diagnosis correspond-(YES) ing to the trouble code.

: A temporary poor contact. NO

10AG15: 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

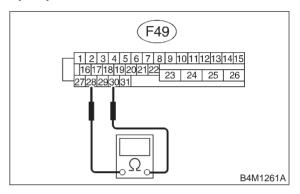
(YES): Go to step 10AG16.

Repair harness/connector between G sensor and ABSCM&H/U.

10AG16: 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 kO.?

: Go to step 10AG17.

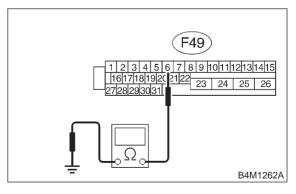
: Repair harness/connector between G sensor and ABSCM&H/U.

10AG17: 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 Ω ?

YES: Go to step 10AG18.

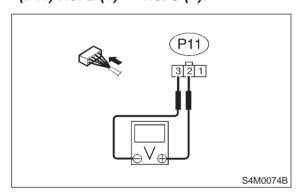
: Repair harness between G sensor and ABSCM&H/U.

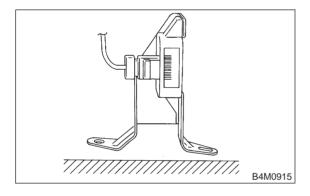
NO

10AG18: CHECK G SENSOR.

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

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





CHECK : Is the voltage between 2.1 and 2.5 V when G sensor is horizontal?

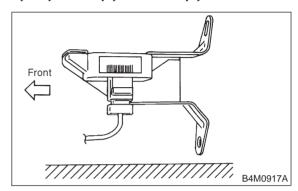
: Go to step **10AG19**.

(NO): Replace G sensor.

10AG19: CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

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



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

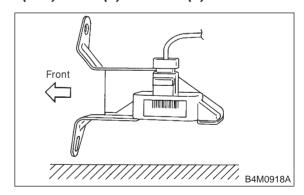
: Go to step **10AG20**.

(NO) : Replace G sensor.

10AG20: 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°?

: Go to step **10AG21**.

NO : Replace G sensor.

10AG21: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

CHECK : Is there poor contact in connector between ABSCM&H/U and G sensor?

<Ref. to FOREWORD [T3C1].>

: Repair connector.
: Go to step 10AG22.

10AG22: 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?

: Replace ABSCM&H/U.

NO : Go to step 10AG23.

10AG23: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

Proceed with the diagnosis corresponding to the trouble code.

(NO) : A temporary poor contact.

4-4 [T10AH0]
10. Diagnostics Chart with Select Monitor

AH: TROUBLE CODE 56 BATTERY SHORT IN G SENSOR CIRCUIT

- BATTERY SHORT IN G SENSOR CIRCUIT -

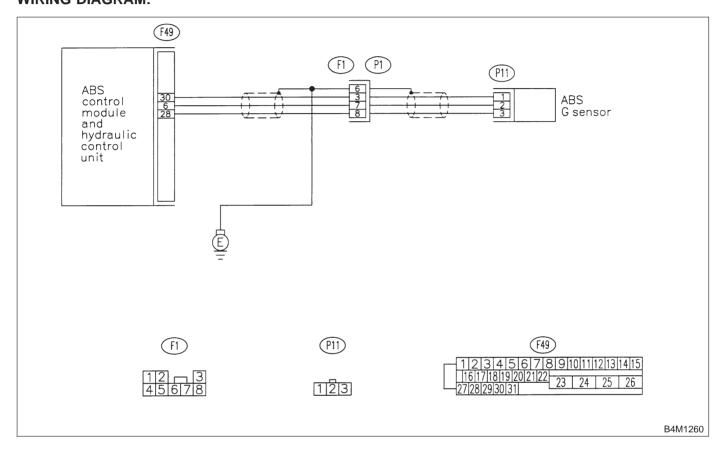
DIAGNOSIS:

• Faulty G sensor output voltage

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



10AH1: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

1) Select "Current data display & Save" on the select monitor.

2) Read G sensor output on the select monitor display.

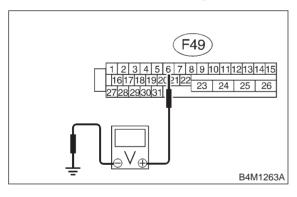
(CHECK): Is the G sensor output on monitor display between 2.1 and 2.5 V when the G sensor is in horizontal position?

: Replace ABSCM&H/U. (YES) : Go to step 10AH2.

10AH2: CHECK BATTERY SHORT OF HARNESS.

- 1) Turn ignition switch to OFF.
- Remove console box.
- 3) Disconnect connector from G sensor.
- 4) Disconnect connector from ABSCM&H/U.
- 5) 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?

: Go to step **10AH3**. YES)

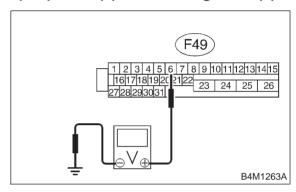
NO

Repair harness between G sensor and ABSCM&H/U.

10AH3: **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 (-):



: Is the voltage less than 1 V? (CHECK)

Go to step 10AH4. (YES)

: Repair harness between G sensor and ABSCM&H/U.

10AH4: CHECK ABSCM&H/U.

- 1) Turn ignition switch to OFF.
- 2) Connect all connectors.
- 3) Erase the memory.

NO

- 4) Perform inspection mode.
- 5) Read out the trouble code.

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

YES : Replace ABSCM&H/U. : Go to step **10AH5**. (NO)

10AH5: **CHECK ANY OTHER TROUBLE** CODES APPEARANCE.

: Are other trouble codes being out-(CHECK) put?

: Proceed with the diagnosis correspond-(YES) ing to the trouble code.

: A temporary poor contact. (NO)

4-4 [T10Al0]10. Diagnostics Chart with Select Monitor

AI: TROUBLE CODE 56 ABNORMAL G SENSOR HIGH μ OUTPUT

— ABNORMAL G SENSOR HIGH μ OUTPUT —

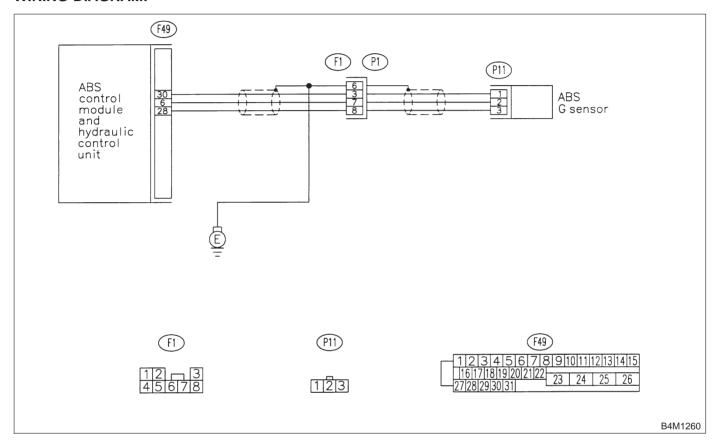
DIAGNOSIS:

• Faulty G sensor output voltage

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



10Al1: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

- 1) Select "Current data display & Save" on the select monitor.
- 2) Read G sensor output on the select monitor display.

CHECK : Is the G sensor output on monitor display 2.3±0.2 V when the G sensor is in horizontal position?

: Go to step 10Al2.

(ND): Go to step 10Al6.

10AI2: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

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

: Repair connector.
: Go to step 10Al3.

10AI3: 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?

: Replace ABSCM&H/U.

: Go to step 10Al4.

10AI4: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

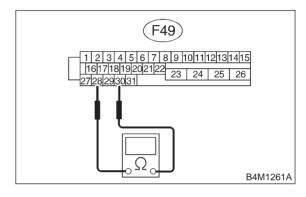
: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

10AI5: CHECK OPEN CIRCUIT IN G SEN-SOR 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

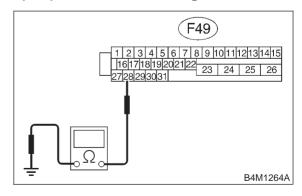
YES : Go to step 10Al6.

: Repair harness/connector between G sensor and ABSCM&H/U.

10Al6: 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 M Ω ?

YES: Go to step 10AI7.

: Repair harness between G sensor and ABSCM&H/U.

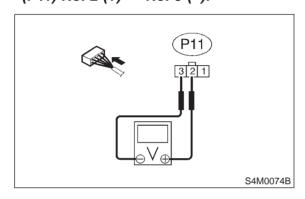
Replace ABSCM&H/U.

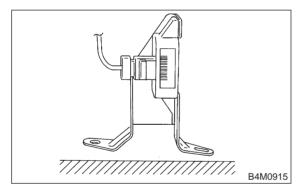
NO

10AI7: CHECK G SENSOR.

- 1) Remove console box.
- 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 2.5 V when G sensor is horizontal?

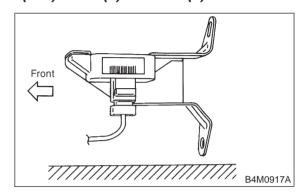
Go to step 10Al8.

Replace G sensor.

10AI8: CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

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



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

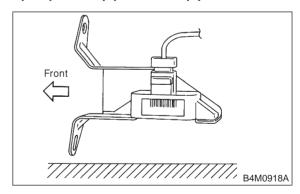
: Go to step **10Al9**.

Replace G sensor.

10AI9: 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°?

: Go to step **10Al10**.
: Replace G sensor.

10AI10: 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?

: Replace ABSCM&H/U.

NO : Go to step 10Al11.

10Al11: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.

4-4 [T10AJ0]
10. Diagnostics Chart with Select Monitor

AJ: TROUBLE CODE 56 DETECTION OF G SENSOR STICK

- DETECTION OF G SENSOR STICK -

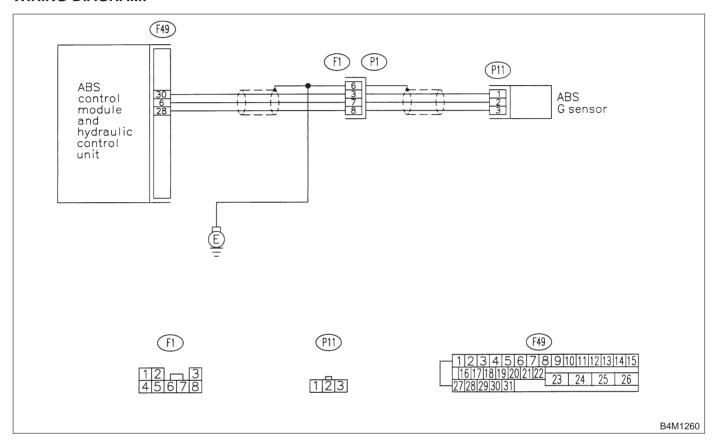
DIAGNOSIS:

• Faulty G sensor output voltage

TROUBLE SYMPTOM:

ABS does not operate.

WIRING DIAGRAM:



10AJ1: 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

(NO) : Go to step 10AJ2.

code.

10AJ2: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

1) Select "Current data display & Save" on the select monitor.

2) Read the select monitor display.

CHECK : Is the G sensor output on the monitor display between 2.1 and 2.5 V when the vehicle is in horizontal position?

: Go to step 10AJ3.
: Go to step 10AJ8.

10AJ3: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

1) Turn ignition switch to OFF.

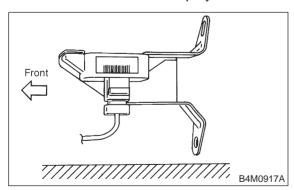
2) Remove console box.

3) Remove G sensor from vehicle. (Do not disconnect connector.)

4) Turn ignition switch to ON.

5) Select "Current data display & Save" on the select monitor.

6) Read the select monitor display.



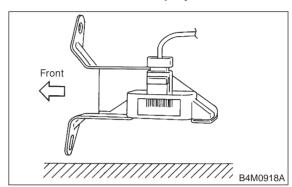
CHECK : Is the G sensor output on the monitor display between 3.7 and 4.1 V when G sensor is inclined forwards to 90°?

: Go to step **10AJ4**.

(NO): Replace G sensor.

10AJ4: CHECK OUTPUT OF G SENSOR USING SELECT MONITOR.

Read the select monitor display.



CHECK : Is the G sensor output on the monitor display between 0.5 and 0.9 V when G sensor is inclined backwards to 90°?

Go to step 10AJ5.Replace G sensor.

10AJ5: CHECK POOR CONTACT IN CONNECTORS.

Turn ignition switch to OFF.

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

: Repair connector.
: Go to step 10AJ6.

10AJ6: 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?

: Replace ABSCM&H/U.
: Go to step 10AJ7.

10AJ7: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

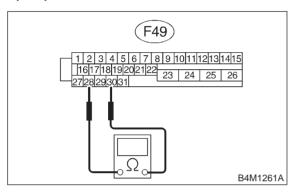
Proceed with the diagnosis corresponding to the trouble code.

NO : A temporary poor contact.

10AJ8: CHECK OPEN CIRCUIT IN G SEN-SOR 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 kO.?

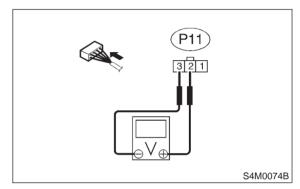
YES : Go to step 10AJ9.

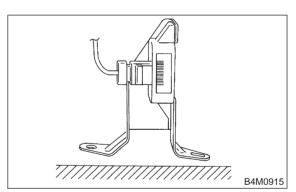
: Repair harness/connector between G sensor and ABSCM&H/U.

10AJ9: CHECK G SENSOR.

- 1) Remove console box.
- 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. 1 (-):





CHECK : Is the voltage between 2.1 and 2.5 V when G sensor is horizontal?

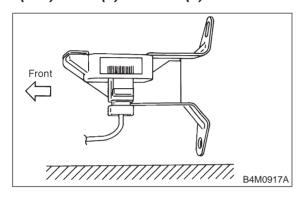
: Go to step **10AJ10**.

NO : Replace G sensor.

10AJ10: CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

Connector & terminal (P11) No. 2 (+) — No. 1 (-):



CHECK : Is the voltage between 3.7 and 4.1 V when G sensor is inclined forwards

to 90°?

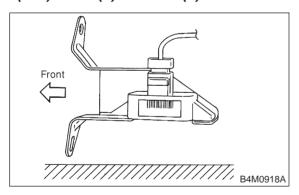
: Go to step 10AJ11.

NO: Replace G sensor.

10AJ11: CHECK G SENSOR.

Measure voltage between G sensor connector terminals.

Connector & terminal (P11) No. 2 (+) — No. 1 (-):



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

: Go to step 10AJ12.

Replace G sensor.

10AJ12: 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?

: Replace ABSCM&H/U.

NO : Go to step 10AJ13.

10AJ13: CHECK ANY OTHER TROUBLE CODES APPEARANCE.

CHECK : Are other trouble codes being output?

: Proceed with the diagnosis corresponding to the trouble code.

: A temporary poor contact.