CHASSIS SECTION

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.
This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.
Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

FRONT SUSPENSION	FS
REAR SUSPENSION	RS
WHEEL AND TIRE SYSTEM	WT
DIFFERENTIALS	DI
TRANSFER CASE	TC
DRIVE SHAFT SYSTEM	DS
ABS	ABS
ABS (DIAGNOSTICS)	ABS(diag)
VEHICLE DYNAMICS CONTROL (VDC)	VDC
VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)	VDC(diag)
BRAKE	BR
PARKING BRAKE	PB
POWER ASSISTED SYSTEM (POWER STEERING)	PS

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS) VDC(diag)

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1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:
When the Subaru Select Monitor is communicating (except when displaying the data), the ABS warning light flashes and VDC warning light illuminates in the combination meter. Do not communicate with the Subaru Select Monitor while driving, because the ABS and VDC functions are disabled. Carefully drive the vehicle, when you have to communicate with the Subaru Select Monitor. When the data is displayed by the {Current Data Display & Save} menu, both the ABS and VDC warning lights are turned off and ABS and VDC functions are enabled.

NOTE:
- To check the harness for broken wires or short circuits, shake problem spot or connector.
- Refer to “Check List for Interview”. <Ref. to VDC(diag)-4, Check List for Interview.>

	Step	Check	Yes	No
1	**CHECK PRE-INSPECTION.** 1) Ask the customer when and how the trouble occurred using the interview checklist. <Ref. to VDC(diag)-4, Check List for Interview.> 2) Before performing diagnostics, check the component which might affect VDC problems. <Ref. to VDC(diag)-8, INSPECTION, General Description.>	Is the component that might influence the VDC problem normal?	Go to step **2.**	Repair or replace each component.
2	**CHECK INDICATION OF DTC.** 1) Turn the ignition switch to OFF. 2) Connect the Subaru Select Monitor to data link connector. 3) Turn the ignition switch to ON, and the Subaru Select Monitor switch to ON. 4) Read the DTC. <Ref. to VDC(diag)-22, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed normally, check the communication circuit. <Ref. to VDC(diag)-19, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.> 5) Record all DTCs and freeze frame data.	Is DTC displayed?	Go to step **4.**	Go to step **3.**
3	**PERFORM GENERAL DIAGNOSTICS.** 1) Inspect using “General Diagnostic Table”. <Ref. to VDC(diag)-132, INSPECTION, General Diagnostic Table.> 2) Perform the clear memory mode. <Ref. to VDC(diag)-24, OPERATION, Clear Memory Mode.> 3) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 4) Read the DTC. <Ref. to VDC(diag)-22, OPERATION, Read Diagnostic Trouble Code (DTC).> 5) Check the DTC does not displayed.	Do the VDC warning light and ABS warning light go off after starting the engine?	Finish the diagnosis.	Check the combination meter circuit. <Ref. to VDC(diag)-30, ABS WARNING LIGHT DOES NOT GO OFF, Warning Light Illumination Pattern.> <Ref. to VDC(diag)-33, VDC WARNING LIGHT AND VDC OFF INDICATOR LIGHT DO NOT GO OFF, Warning Light Illumination Pattern.>

	Step	Check	Yes	No
4	**PERFORM DIAGNOSIS.** 1) Refer to “List of Diagnostic Trouble Code (DTC)”. NOTE: For the DTC list, refer to “List of Diagnostic Trouble Code (DTC)”. <Ref. to VDC(diag)-37, LIST, List of Diagnostic Trouble Code (DTC).> 2) Fix the wrong part. 3) Perform the clear memory mode. <Ref. to VDC(diag)-24, OPERATION, Clear Memory Mode.> 4) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 5) Read the DTC. <Ref. to VDC(diag)-22, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Repeat step 4 until DTC is not shown.	Finish the diagnosis.

2. Check List for Interview

A: CHECK

Check the following items about the vehicle's state.

1. STATE OF ABS WARNING LIGHT

ABS warning light come on.	❑ Always ❑ Sometimes ❑ Only once ❑ Not come on • When / How long does it come on?		
Ignition key position	❑ LOCK ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after engine starting, engine is running) ❑ ON (after engine starting, engine is at a standstill)		
Timing	❑ Immediately after turning the ignition switch to ON ❑ Immediately after turning the ignition switch to START		
	❑ When accelerating	—	km/h
		—	MPH
	❑ When driving at a constant speed	km/h	MPH
	❑ When decelerating	—	km/h
		—	MPH
	❑ When turning to the right	Steering angle:	deg
		Steering time:	Sec.
	❑ When turning to the left	Steering angle:	deg
		Steering time:	Sec.
	❑ When operating other electrical parts		
	• Part name: • Operating condition:		

2. STATE OF VDC WARNING LIGHT AND VDC OFF INDICATOR LIGHT

VDC warning light and VDC OFF indicator light come on.	❑ Always ❑ Sometimes ❑ Only once ❑ Not come on • When / How long does it come on?		
Ignition key position	❑ LOCK ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after engine starting, engine is running) ❑ ON (after engine starting, engine is at a standstill)		
Timing	❑ Immediately after turning the ignition switch to ON ❑ Immediately after turning the ignition switch to START		
	❑ When accelerating	—	km/h
		—	MPH
	❑ When driving at a constant speed	km/h	MPH
	❑ When decelerating	—	km/h
		—	MPH
	❑ When turning to the right	Steering angle:	deg
		Steering time:	Sec.
	❑ When turning to the left	Steering angle:	deg
		Steering time:	Sec.
	❑ When operating other electrical parts		
	• Part name: • Operating condition:		

3. STATE OF VDC INDICATOR LIGHT

VDC operation indicator light comes on.	❑ Always ❑ Sometimes ❑ Only once ❑ Not come on • When / How long does it come on?		
Ignition key position	❑ LOCK ❑ ACC ❑ ON (before starting engine) ❑ START ❑ ON (after engine starting, engine is running) ❑ ON (after engine starting, engine is at a standstill)		
Timing	❑ Immediately after turning the ignition switch to ON ❑ Immediately after turning the ignition switch to START		
	❑ When accelerating	—	km/h
		—	MPH
	❑ When driving at a constant speed	km/h	MPH
	❑ When decelerating	—	km/h
		—	MPH
	❑ When turning to the right	Steering angle:	deg
		Steering time:	Sec.
	❑ When turning to the left	Steering angle:	deg
		Steering time:	Sec.
	❑ When operating other electrical parts		
	• Part name: • Operating condition:		

4. CONDITIONS UNDER WHICH TROUBLE OCCURS

Environment	a) Weather	❑ Fine ❑ Cloudy ❑ Rainy ❑ Snowy ❑ Others:
	b) Ambient temperature	°C (°F)
	c) Road	❑ Inner city ❑ Suburbs ❑ Highway ❑ Local street ❑ Uphill ❑ Downhill ❑ Paved road ❑ Gravel road ❑ Muddy road ❑ Sandy place ❑ Straight road ❑ Sharp curve ❑ Gentle curve ❑ S-curve ❑ Road with a slope on both sides ❑ Others:
	d) Road surface	❑ Dried ❑ Wet ❑ Covered with fresh snow ❑ Covered with hardened snow ❑ Frozen slope ❑ Others:

Condition	a) Brakes	Deceleration:	G
		❑ continuous / ❑ intermittent	
	b) Accelerator	Acceleration:	G
		❑ continuous / ❑ intermittent	
	c) Vehicle speed	km/h	MPH
		❑ Advancing ❑ When accelerating ❑ When decelerating ❑ At low speed ❑ When turning ❑ Others:	
	d) Tire inflation pressure	Front RH tire:	kPa
		Front LH tire:	kPa
		Rear RH tire:	kPa
		Rear LH tire:	kPa
	e) Degree of wear	Front RH tire:	
		Front LH tire:	
		Rear RH tire:	
		Rear LH tire:	
	f) Steering wheel	❑ Sharp turning ❑ Gentle turning ❑ Straight forward motion ❑ Gentle return ❑ Sharp return	
	g) Tire/Wheel size	❑ Specified size ❑ Except specification ( )	
	h) Tire variation	❑ Summer tire ❑ Studless tire (Brand:)	
	i) Tire chains are fitted: ❑ Yes / ❑ No		
	j) T-type tire is used: ❑ Yes / ❑ No		
	k) Condition of suspension alignment:		
	l) Loading state:		
	m) Repair parts are used: ❑ Yes / ❑ No		
	• Contents:		
	n) Others:		

3. General Description

A: CAUTION

1. SUPPLEMENTAL RESTRAINT SYSTEM "AIRBAG"

Airbag system wiring harness is routed near the ABS wheel speed sensor and VDCCM&H/U.

CAUTION:
• All airbag system wiring harness and connectors are colored yellow. Do not use the electrical test equipment on these circuits.
• Be careful not to damage the airbag system wiring harness when servicing the ABS wheel speed sensor and VDCCM&H/U.

B: INSPECTION

Before performing diagnosis, check the following items which might affect VDC problems.

1. BATTERY

Measure battery voltage and check electrolyte.

Standard voltage: 12 V or more

Specific gravity: More than 1.260

2. BRAKE FLUID

1) Check the brake fluid level.
2) Check the brake fluid for leaks.

3. HYDRAULIC UNIT

Check the hydraulic unit.
• With brake tester <Ref. to VDC-8, CHECKING THE HYDRAULIC UNIT ABS OPERATION WITH BRAKE TESTER, INSPECTION, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>
• Without brake tester <Ref. to VDC-8, CHECKING THE HYDRAULIC UNIT ABS OPERATION BY PRESSURE GAUGE, INSPECTION, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>

4. BRAKE DRAG

Check for brake drag.

5. BRAKE PAD AND ROTOR

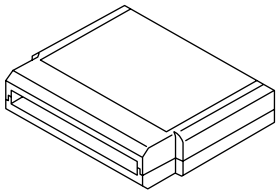
Check the brake pad and rotor.
• FRONT <Ref. to BR-18, INSPECTION, Front Brake Pad.> <Ref. to BR-19, INSPECTION, Front Disc Rotor.>
• REAR <Ref. to BR-25, INSPECTION, Rear Brake Pad.> <Ref. to BR-26, INSPECTION, Rear Disc Rotor.>

6. TIRE

Check the tire specifications, tire wear and air pressure. <Ref. to WT-2, SPECIFICATION, General Description.>

C: PREPARATION TOOL

1. SPECIAL TOOL

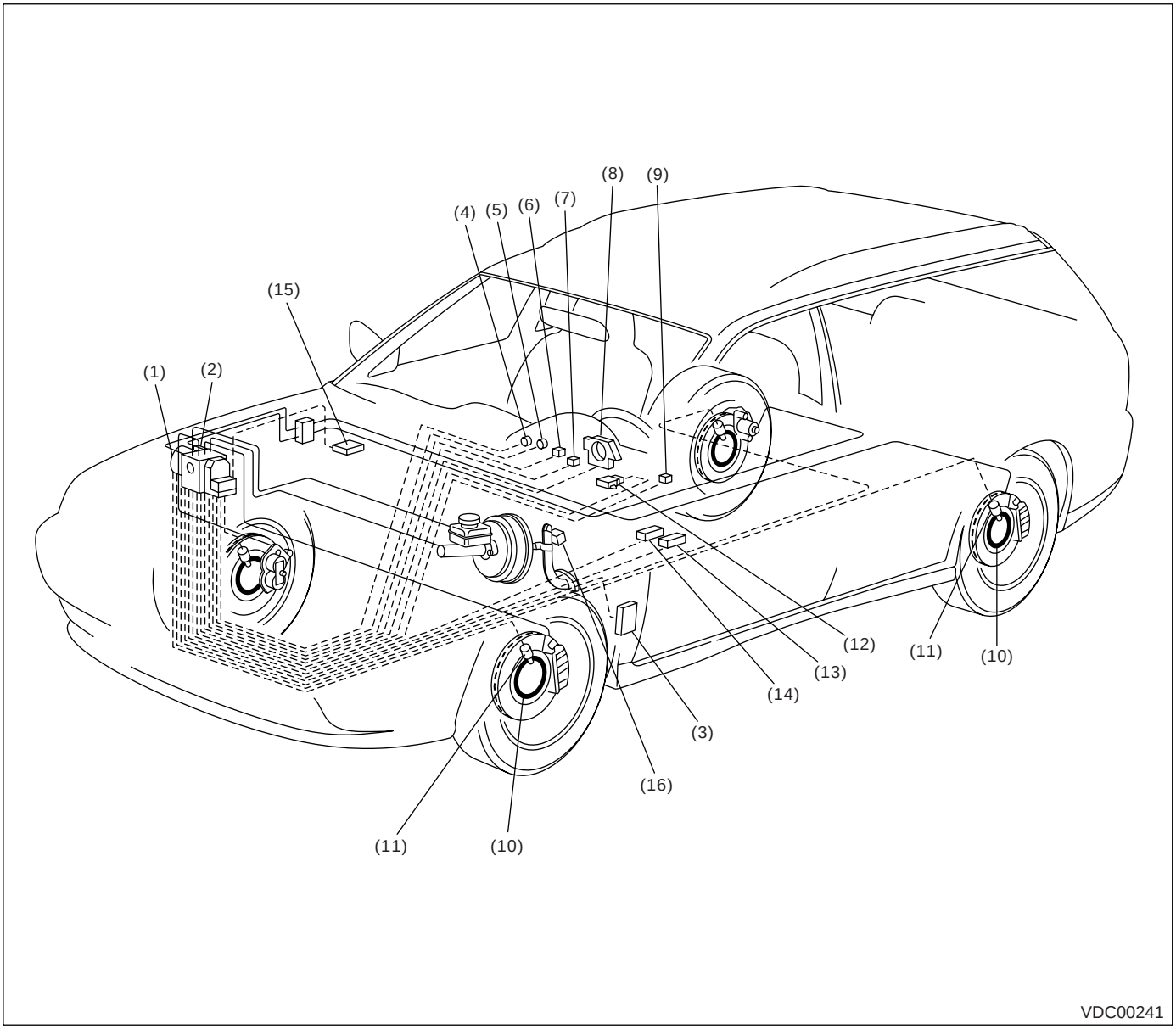
ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST24082AA230	24082AA230	CARTRIDGE	Troubleshooting for electrical system.
 ST22771AA030	22771AA030	SUBARU SELECT MONITOR KIT	Troubleshooting for electrical system. • English: 22771AA030 (Without printer) • German: 22771AA070 (Without printer) • French: 22771AA080 (Without printer) • Spanish: 22771AA090 (Without printer)

2. GENERAL TOOL

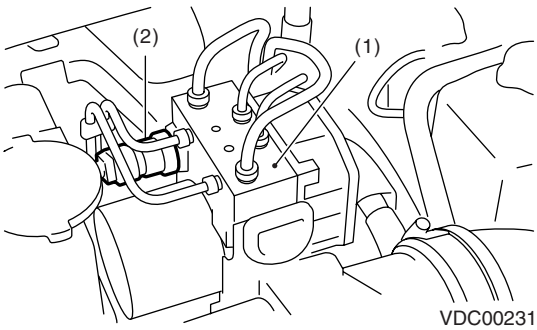
TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Oscilloscope	Used for measuring sensor.

4. Electrical Component Location

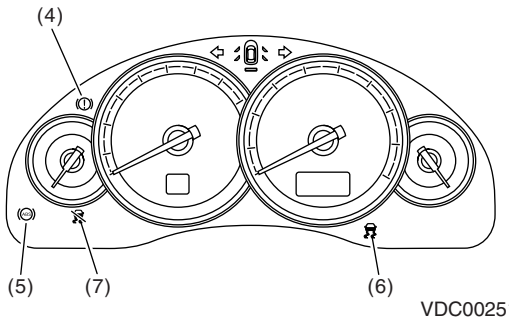
A: LOCATION



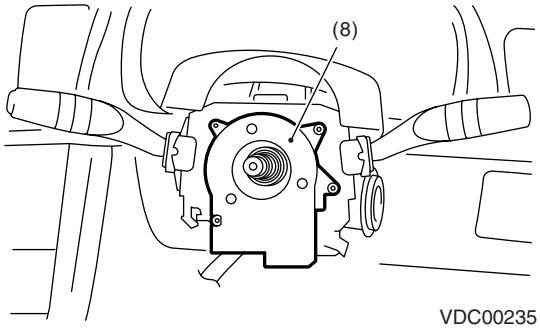
(1) VDC control module and hydraulic control unit (VDCCM&H/U)
(2) Pressure sensor
(3) Transmission control module (TCM)
(4) Brake warning light (EBD warning light)
(5) ABS warning light
(6) VDC indicator light
(7) VDC warning light and VDC OFF indicator light
(8) Steering angle sensor
(9) VDC OFF switch
(10) Magnetic encoder
(11) ABS wheel speed sensor
(12) Yaw rate & lateral G sensor
(13) Data link connector
(14) Diagnosis connector (Used for ABS sequence control)
(15) Engine control module (ECM)
(16) Stop light switch



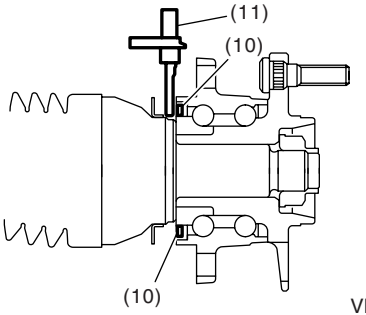
VDC00231



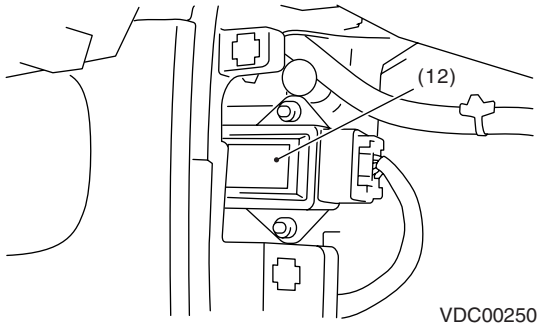
VDC00251



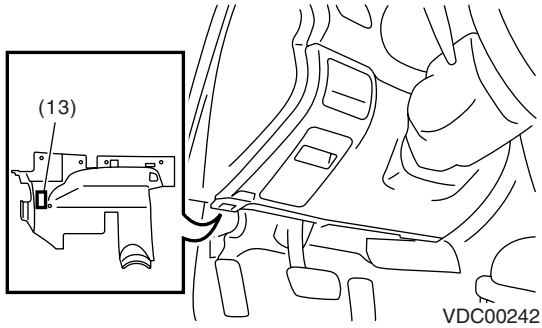
VDC00235



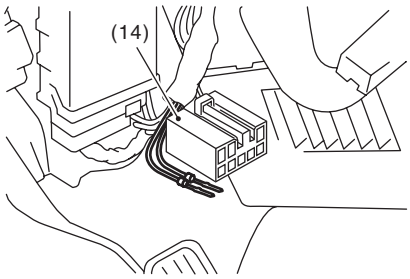
VDC00234



VDC00250



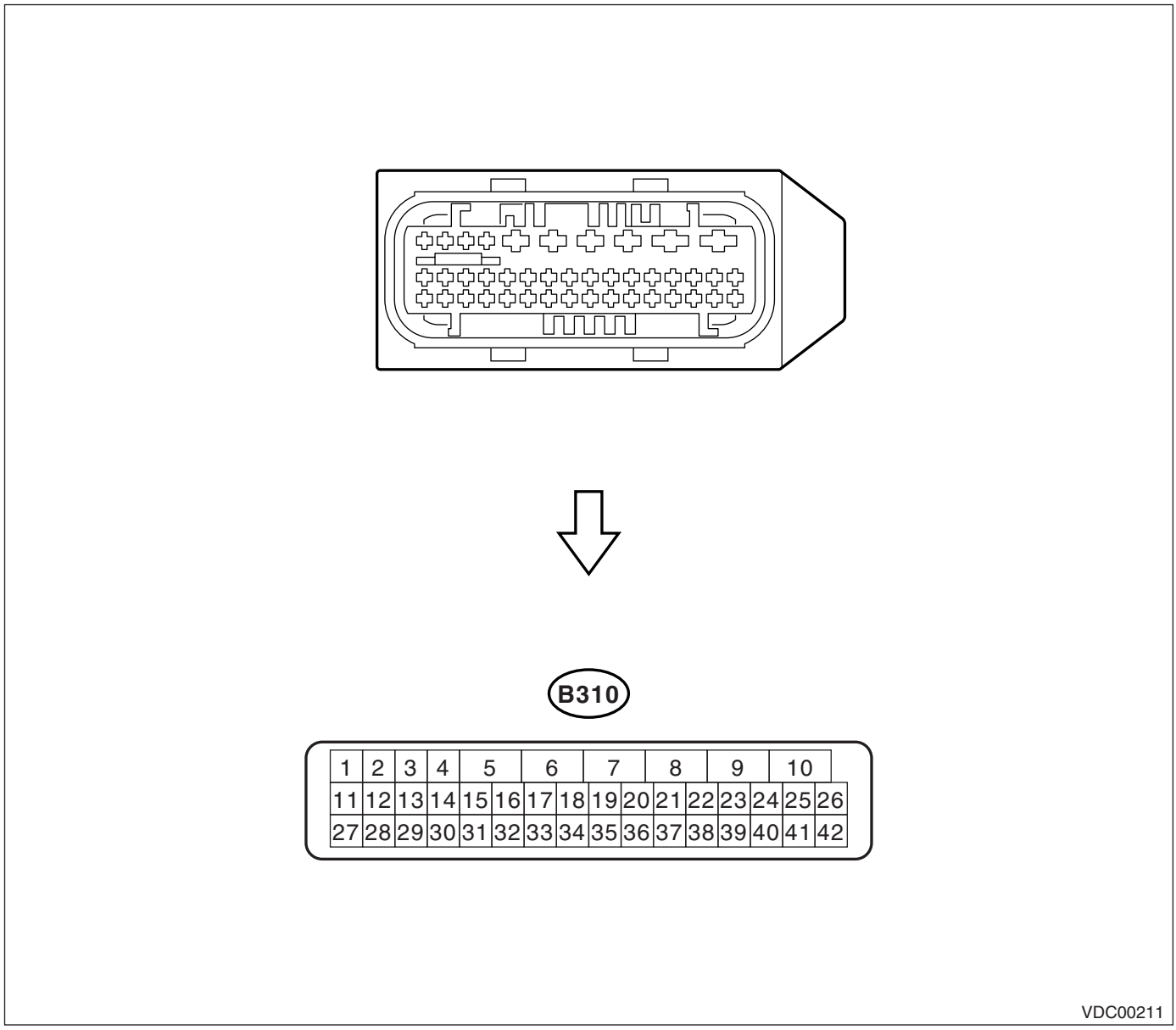
VDC00242



VDC00230

5. Control Module I/O Signal

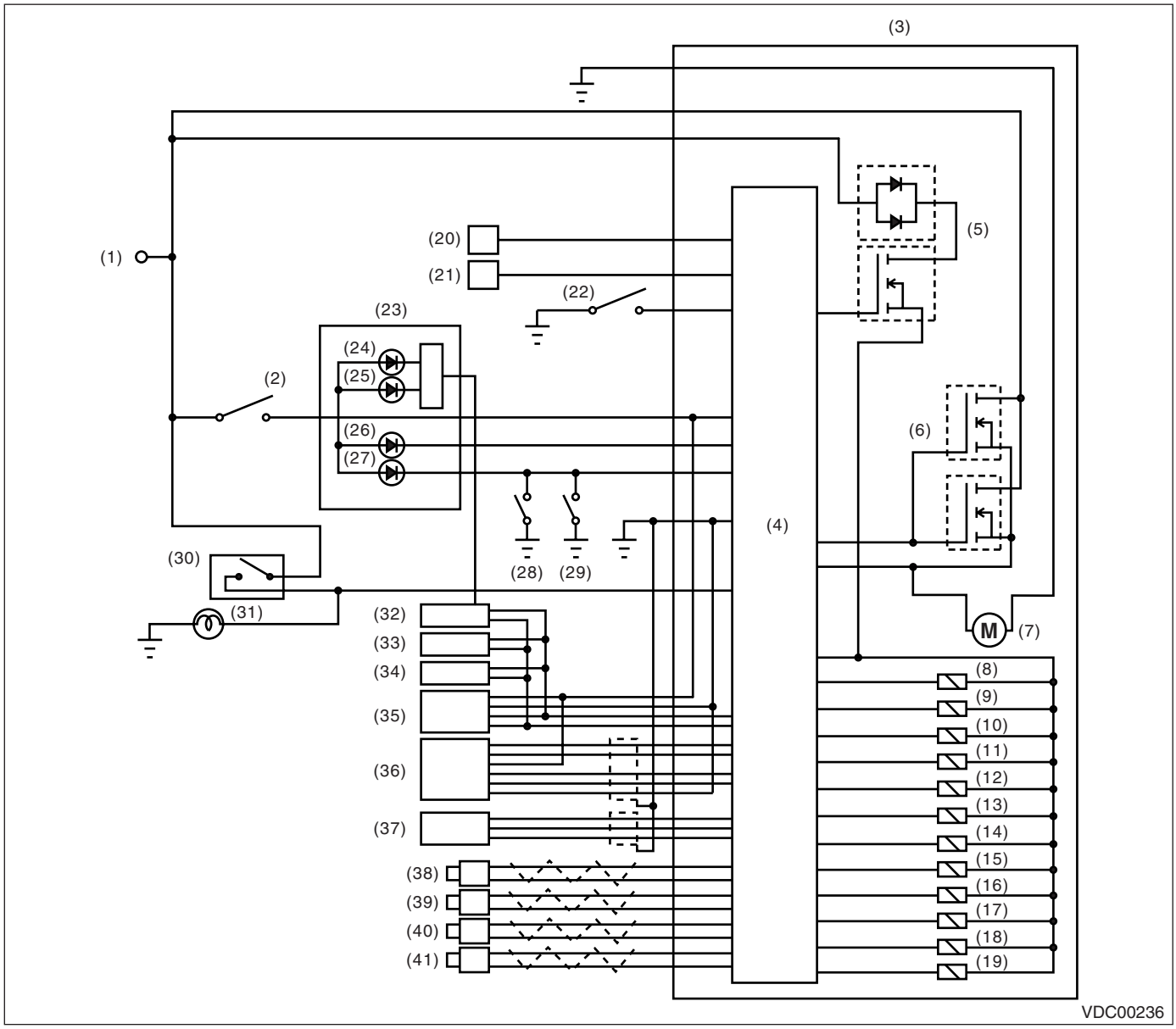
A: ELECTRICAL SPECIFICATION



NOTE:
- Terminal numbers in VDCCM&H/U connector are as shown in the figure.
- When the connector is removed from VDCCM&H/U, the ABS warning light and VDC warning light illuminate.

Content			Terminal No. (+) — (–)	Input/Output signal Measured value and measuring conditions
Power supply			14 — 6	When the ignition switch is ON, 10 — 15 V.
ABS wheel speed sensor	Front LH wheel	Power supply	41 — 6	4.5 — 16.5 V
		Signal	25	5.9 — 16.8 mA: Rectangle waveform
	Front RH wheel	Power supply	22 — 6	4.5 — 16.5 V
		Signal	21	5.9 — 16.8 mA: Rectangle waveform
	Rear LH wheel	Power supply	24 — 6	4.5 — 16.5 V
		Signal	40	5.9 — 16.8 mA: Rectangle waveform
	Rear RH wheel	Power supply	23 — 6	4.5 — 16.5 V
		Signal	38	5.9 — 16.8 mA: Rectangle waveform
Yaw rate & lateral G sensor	Output (Lateral G sensor)		3 — 16	When the vehicle is on level, 2.35 — 2.65 V.
	Power supply		30 — 16	When the ignition switch is ON, 8 — 16 V.
	Output (Yaw rate sensor)		28 — 16	Waveform <Ref. to VDC(diag)-15, WAVEFORM, MEASUREMENT, Control Module I/O Signal.>
	Standard (Yaw rate sensor)		1 — 16	2.1 — 2.9 V
	Test		2 — 16	5 — 1 V cycle for 40 ms pulse signal. <Ref. to VDC(diag)-15, WAVEFORM, MEASUREMENT, Control Module I/O Signal.>
	Ground		16	—
CAN communication line (+)			13	2.5 — 1.5 V pulse signal
CAN communication line (–)			29	3.5 — 2.5 V pulse signal
Valve relay power supply			5 — 6	When the ignition switch is ON, 10 — 15 V.
Motor relay power supply			9 — 10	When the ignition switch is ON, 10 — 15 V.
Pressure sensor	Power supply		27 — 12	When the ignition switch is ON, 4.75 — 5.25 V.
	Output voltage		11 — 12	0.48 — 0.72 V (when releasing the brake pedal)
	Ground		12	—
ABS warning light			35 — 6	After turning the ignition switch to ON, 10 — 15 V during 1.5 seconds and less than 1.5 V after 1.5 seconds passed.
Brake warning light (EBD warning light)			20 — 6	After turning the ignition switch to ON, 10 — 15 V during 1.5 seconds and less than 1.5 V after 1.5 seconds passed.
Stop light switch			37 — 6	Less than 1.5 V when the stop light is OFF; otherwise, 10 — 15 V when the stop light is ON.
Diagnosis connector			17	When the ignition switch is ON, 10 — 15 V.
Subaru Select Monitor			26 — 6	0 ←→ 12 V pulse (in communication)
Vehicle speed output signal			36	0 ←→ 5 V pulse
Ground			6	—

B: WIRING DIAGRAM

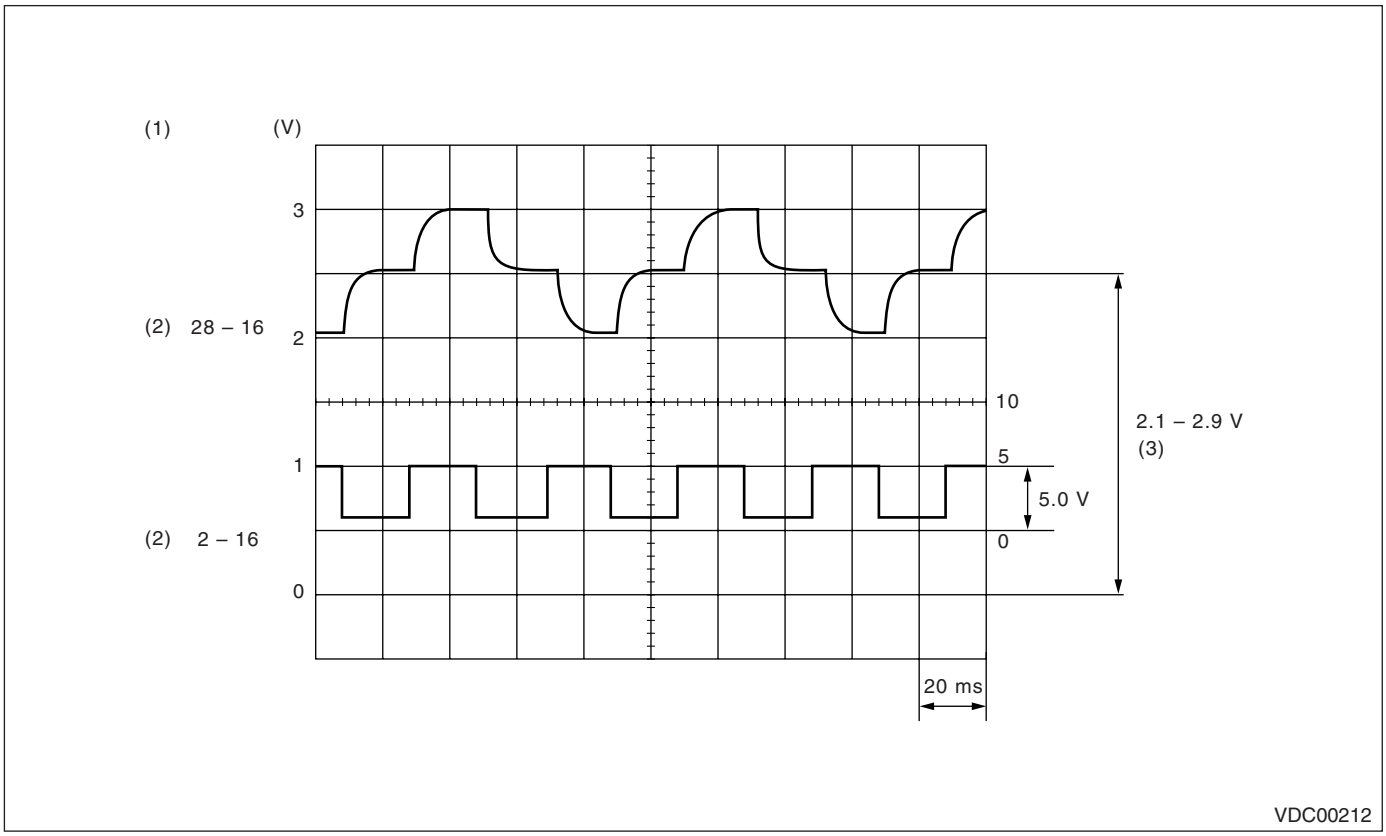


(1) Battery
(2) Ignition switch
(3) VDC control module and hydraulic control unit (VDCCM&H/U)
(4) VDC control module
(5) Valve relay
(6) Motor relay
(7) Motor
(8) Front inlet solenoid valve LH
(9) Front outlet solenoid valve LH
(10) Front inlet solenoid valve RH
(11) Front outlet solenoid valve RH
(12) Rear inlet solenoid valve LH
(13) Rear outlet solenoid valve LH
(14) Rear inlet solenoid valve RH
(15) Rear outlet solenoid valve RH
(16) Primary cut solenoid valve
(17) Primary suction solenoid valve
(18) Secondary cut solenoid valve
(19) Secondary suction solenoid valve
(20) Diagnosis connector
(21) Data link connector
(22) VDC OFF switch
(23) Combination meter
(24) VDC indicator light
(25) VDC warning light and VDC OFF indicator light
(26) ABS warning light
(27) Brake warning light
(28) Parking brake switch
(29) Brake fluid level switch
(30) Stop light switch
(31) Stop light
(32) Body integrated unit
(33) Engine control module (ECM)
(34) Transmission control module (TCM)
(35) Steering angle sensor
(36) Yaw rate & lateral G sensor
(37) Pressure sensor
(38) Front ABS wheel speed sensor LH
(39) Front ABS wheel speed sensor RH
(40) Rear ABS wheel speed sensor LH
(41) Rear ABS wheel speed sensor RH

C: MEASUREMENT

Measure input and output signal voltage.

1. WAVEFORM



(1) Yaw rate sensor
(2) Terminal No.
(3) Vehicle is at a standstill.

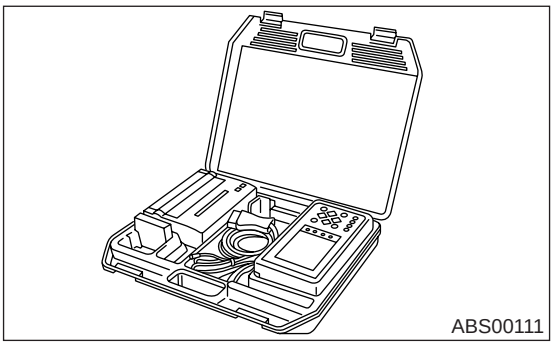
6. Subaru Select Monitor

A: OPERATION

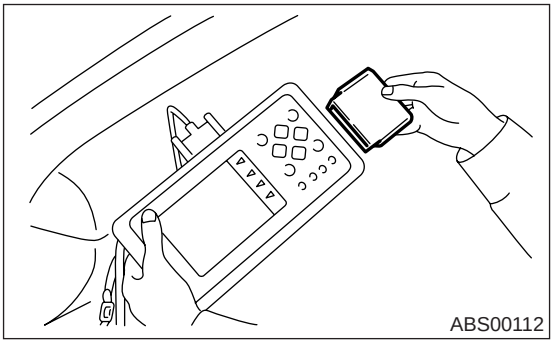
CAUTION:
When the Subaru Select Monitor is communicating (except when displaying the data), the ABS warning light flashes and VDC warning light illuminates in the combination meter. Do not communicate with the Subaru Select Monitor while driving, because the ABS and VDC functions are disabled. Carefully drive the vehicle, when you have to communicate with the Subaru Select Monitor. When the data is displayed by the {Current Data Display & Save} menu, both the ABS and VDC warning lights are turned off and ABS and VDC functions are enabled.

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

1) Prepare the Subaru Select Monitor kit. <Ref. to VDC(diag)-9, SPECIAL TOOL, PREPARATION TOOL, General Description.>

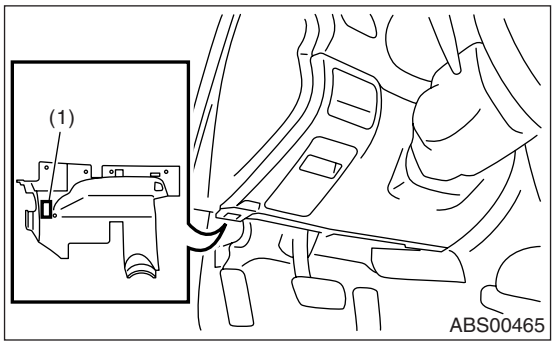


2) Connect the diagnosis cable to Subaru Select Monitor.
3) Insert the cartridge to Subaru Select Monitor. <Ref. to VDC(diag)-9, SPECIAL TOOL, PREPARATION TOOL, General Description.>



4) Connect the Subaru Select Monitor to data link connector.

(1) Data link connector is located in the lower portion of instrument panel (on the driver's side).

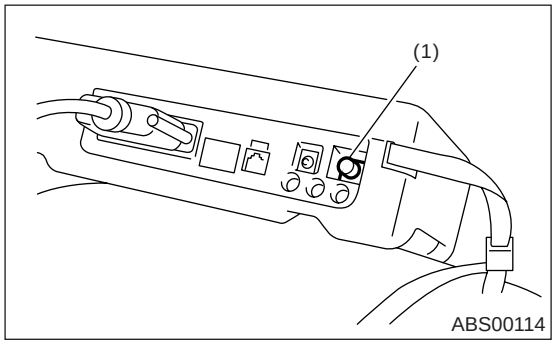


(1) Data link connector

(2) Connect the diagnosis cable to data link connector.

CAUTION:
Do not connect the scan tools except for Subaru Select Monitor.

5) Turn the ignition switch to ON (engine OFF) and turn the Subaru Select Monitor switch to ON.



(1) Power switch

6) On the «Main Menu» display screen, select the {Each System Check} and press the [YES] key.
7) On the «System Selection Menu» display screen, select the {Brake Control} and press the [YES] key.
8) Press the [YES] key after the {VDC AWD AT} is displayed.
9) On the «VDC Diagnosis» display screen, select the {Diagnostic Code(s) Display}, and then press the [YES] key.

NOTE:
• For details concerning operation procedure, refer to "SUBARU SELECT MONITOR OPERATION MANUAL".
• For details concerning DTCs, refer to "List of Diagnostic Trouble Code (DTC)". <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>
• DTCs are displayed up to three in detected order.

• If a particular DTC is not properly stored in memory (due to a drop in VDCCM&H/U power supply, etc.) on the occurrence of a problem, the DTC which is suffixed with a question mark "?" appears on the Subaru Select Monitor display. This shows it may be an unreliable reading.

10) If VDC and Subaru Select Monitor cannot communicate, check the communication circuit. <Ref. to VDC(diag)-19, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, INSPECTION, Subaru Select Monitor.>

Display	Contents to be monitored
Current	Indicate the latest DTC on the Subaru Select Monitor display.
Old	Indicate the latest DTC in previous trouble on the Subaru Select Monitor display.
Older	Indicate the latest DTC in second previous trouble on the Subaru Select Monitor display.
Before 3	Indicate the latest DTC in third previous trouble on the Subaru Select Monitor display.

2. READ CURRENT DATA

1) On the «Main Menu» display screen, select the {Each System Check} and press the [YES] key.
2) On the «System Selection Menu» display screen, select the {Brake Control} and press the [YES] key.
3) Press the [YES] key after {VDC 4WD AT} is displayed.
4) On the «Brake Control Diagnosis» display screen, select the {Current Data Display/Save}, and then press the [YES] key.
5) On the «Data Display Menu» display screen, select the display method, and press the [YES] key.
6) Using a scroll key, scroll the display screen up or down until necessary data is shown.
• A list of the support data is shown in the following table.

Display	Contents to be monitored	Unit of measure
FR Wheel Speed	Wheel speed detected by front ABS wheel speed sensor RH is displayed.	km/h or MPH
FL Wheel Speed	Wheel speed detected by front ABS wheel speed sensor LH is displayed.	km/h or MPH
RR Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor RH is displayed.	km/h or MPH
RL Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor LH is displayed.	km/h or MPH
Steering Angle Sensor	Steering angle detected by steering angle sensor is displayed.	deg
Yaw Rate Sensor	Vehicle angular speed detected by yaw rate sensor is displayed.	deg/s
Pressure Sensor	Brake fluid pressure detected by pressure sensor is displayed.	bar
Lateral G Sensor	Vehicle lateral acceleration detected by lateral G sensor is displayed.	m/s (m/s^2)
IG power supply voltage	Voltage supplied to VDCCM&H/U is displayed.	V
EMA signal	Engine control command signal is displayed.	1 or 0
TCS Operation Light	TCS operation condition is displayed.	ON or OFF
VDC Operation Light	VDC operation condition is displayed.	ON or OFF
VDC OFF Light	ON/OFF condition of VDC OFF indicator light is displayed.	ON or OFF
EBD Warning Light	ON operation of the EBD warning light is displayed.	ON or OFF
ABS Warning Light	ON operation of the ABS warning light is displayed.	ON or OFF
VDC Warning Light	ON operation of the VDC warning light is displayed.	ON or OFF
VDC OK-B signal	Malfunction of VDC sensor (except for vehicle speed sensor) is displayed.	1 or 0
Valve Relay Signal	Valve relay operation signal is displayed.	ON or OFF
Motor Relay Signal	Motor relay operation signal is displayed.	ON or OFF
Motor Relay Monitor	Motor relay monitor signal is displayed.	ON or OFF
PATA Signal	Operation condition of VDC OFF switch is displayed.	ON or OFF
BLS Signal	Brake ON/OFF is displayed.	ON or OFF
Gear position	Present gear position is displayed.	—
Engine Speed	Current engine speed is displayed.	rpm
PW Signal	Acceleration opening is displayed.	%

NOTE:
For details concerning operation procedure, refer to “SUBARU SELECT MONITOR OPERATION MANUAL”.

3. CLEAR MEMORY MODE

1) On the «Main Menu» display screen, select the {Each System Check} and press the [YES] key.
2) On the «System Selection Menu» display screen, select the {Brake Control} and press the [YES] key.
3) Press the [YES] key after {VDC 4WD AT} is displayed.
4) On the «Brake Control Diagnosis» display screen, select the {Memory Clear} and press the [YES] key.

Display	Contents to be monitored
Clear memory?	DTC deleting function

5) When “Done” and “Turn ignition switch OFF” are shown on the display screen, turn the Subaru Select Monitor and ignition switch to OFF.

NOTE:
For details concerning operation procedure, refer to “SUBARU SELECT MONITOR OPERATION MANUAL”.

4. ABS SEQUENCE CONTROL

Display	Contents to be monitored	Reference target
ABS sequence control	Operate the valve and pump motor continuously to perform the ABS sequence control.	<Ref. to ABS-10, ABS Sequence Control.>
VDC confirmation mode	Operate the valve and pump motor continuously to perform the VDC sequence control.	<Ref. to VDC-11, VDC Sequence Control.>

5. FREEZE FRAME DATA

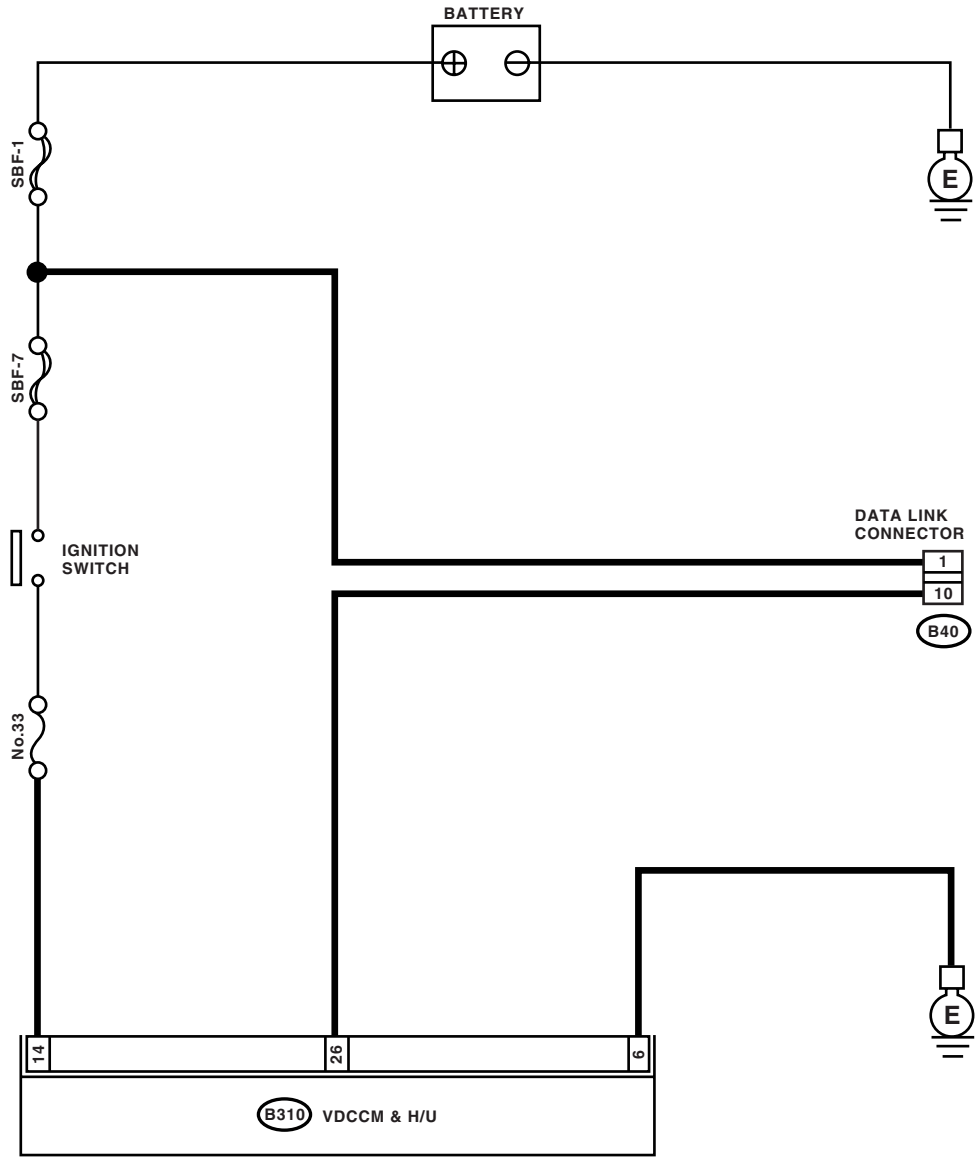
NOTE:
• Data stored at the time of trouble occurrence is shown on display.
• Each time trouble occurs, the latest information is stored in the freeze frame data in memory.
• If a freeze frame data is not properly stored in memory (due to a drop in VDC control module power supply, etc.), the DTC which is suffixed with a question mark “?” appears on the Subaru Select Monitor display. This shows it may be an unreliable reading.

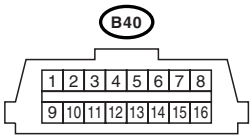
Display	Contents to be monitored
Steering angle sensor	Steering angle detected by steering angle sensor is displayed.
Yaw rate sensor	Vehicle angular speed detected by yaw rate sensor is displayed.
Lateral G sensor	Vehicle lateral acceleration detected by lateral G sensor is displayed.
Pressure sensor	Brake fluid pressure detected by pressure sensor is displayed.
Vehicle Speed	Vehicle speed calculated by VDC control module is displayed.
FR Wheel Speed	Wheel speed detected by front ABS wheel speed sensor RH is displayed in km/h or MPH.
FL Wheel Speed	Wheel speed detected by front ABS wheel speed sensor LH is displayed in km/h or MPH.
RR Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor RH is displayed in km/h or MPH.
RL Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor LH is displayed in km/h or MPH.
Required torque	Engine required torque is displayed.
Current torque	Current engine torque on malfunction occurrence is displayed.
Target torque	Engine target torque is displayed.
PW signal	Acceleration opening is displayed.
Engine Speed	Engine speed on malfunction occurrence is displayed.
Gear position	Gear position on malfunction occurrence is displayed.
IG power supply voltage	Voltage supplied to VDC control module is displayed.
Absolute angle recognition flag	Whether the absolute angle was determined is displayed.
Decreasing required torque	Whether the torque decrease is required to engine is displayed.
EMA signal	Engine control command signal is displayed.
VDC O control flag	VDC oversteer control condition is displayed.
VDC U control flag	VDC understeer control condition is displayed.
BMR control flag	Brake control condition is displayed.
AMR control flag	Engine control condition is displayed.
ABS control flag	ABS control condition is displayed.
VDC OFF light	ON/OFF condition of VDC OFF indicator light is displayed.
Valve Relay Signal	Valve relay operation signal is displayed.
Motor Relay Monitor	Motor relay monitor signal is displayed.
BLS signal	Brake ON/OFF is displayed.

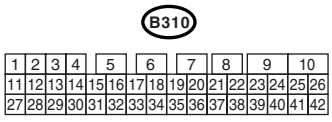
B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

DETECTING CONDITION:
Defective harness connector
TROUBLE SYMPTOM:
Communication is impossible between VDC and Subaru Select Monitor.
WIRING DIAGRAM:







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	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH.**	Is the ignition switch ON?	Go to step **2.**	Turn the ignition switch to ON, and select VDC mode using Subaru Select Monitor.
2	**CHECK BATTERY.** 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage more than 11 V?	Go to step **3.**	Charge or replace the battery.
3	**CHECK BATTERY TERMINAL.**	Is there poor contact at battery terminal?	Repair or tighten the battery terminal.	Go to step **4.**
4	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, check whether communication to other system can be executed normally.	Are the system name and model year displayed on Subaru Select Monitor?	Go to step **8.**	Go to step **5.**
5	**CHECK SUBARU SELECT MONITOR COMMUNICATION.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDCCM&H/U connector. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Are the system name and model year displayed on Subaru Select Monitor?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **6.**
6	**CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDCCM&H/U, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. ***Connector & terminal*** ***(B40) No. 10 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7.**	Repair the harness and connector between each control module and data link connector.
7	**CHECK OUTPUT SIGNAL FOR VDCCM&H/U.** 1) Turn the ignition switch to ON. 2) Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B40) No. 10 (+) — Chassis ground (−):***	Is the voltage less than 1 V?	Go to step **8.**	Repair the harness and connector between each control module and data link connector.
8	**CHECK HARNESS CONNECTOR BETWEEN VDCCM&H/U AND DATA LINK CONNECTOR.** Measure the resistance between VDCCM&H/U connector and data link connector. ***Connector & terminal*** ***(B310) No. 26 — (B40) No. 10:***	Is the resistance less than 0.5 Ω?	Go to step **9.**	Repair the harness and connector between VDCCM&H/U and data link connector.
9	**CHECK INSTALLATION OF VDCCM&H/U CONNECTOR.** Turn the ignition switch to OFF.	Is the VDCCM&H/U connector inserted into VDCCM&H/U until the clamp locks onto it?	Go to step **10.**	Insert the VDCCM&H/U connector into VDCCM&H/U.

	Step	Check	Yes	No
10	**CHECK POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to ON. (engine OFF) 2) Measure the ignition power supply voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 14 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **11.**	Repair the open circuit in harness between VDCCM&H/U and battery.
11	**CHECK HARNESS CONNECTOR BETWEEN VDCCM&H/U AND CHASSIS GROUND.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance of harness between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **12.**	Repair the open circuit in harness between VDCCM&H/U and inhibitor side connector, and poor contact in coupling connector.
12	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in control module power supply, ground circuit and data link connector?	Repair the connector.	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For details concerning DTC reading procedure, refer to “Subaru Select Monitor”. <Ref. to VDC(diag)-16, Subaru Select Monitor.>

8. Inspection Mode

A: PROCEDURE

Reproduce the malfunction occurrence condition as possible.
Drive the vehicle at least ten minutes.

NOTE:
Make sure the vehicle is not dragged to one side under usual driving condition.

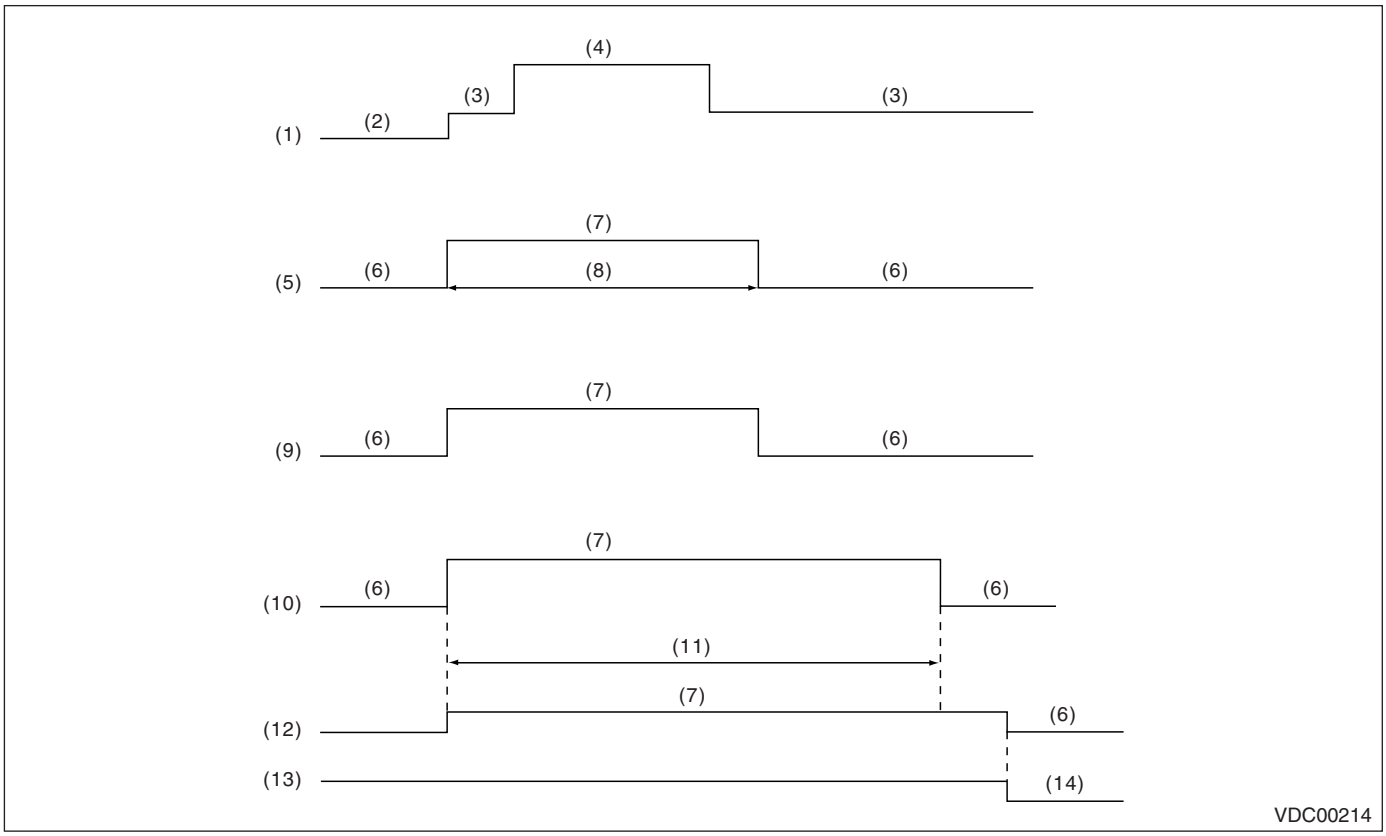
9. Clear Memory Mode

A: OPERATION

For details concerning DTC clear operation, refer to “Subaru Select Monitor”. <Ref. to VDC(diag)-16, Subaru Select Monitor.>

10.Warning Light Illumination Pattern

A: INSPECTION



(1) Ignition switch
(2) OFF
(3) ON
(4) Engine start
(5) ABS warning light
(6) Light OFF
(7) Light ON
(8) 1.5 sec.
(9) VDC indicator light
(10) VDC warning light and VDC OFF indicator light
(11) Several seconds (depending on engine coolant temperature)
(12) Brake warning light (EBD warning light)
(13) Parking brake
(14) Released

1) When warning lights or indicator lights do not illuminate in accordance with this illumination pattern, there must be an electrical malfunction.
2) When warning lights or indicator lights remain constantly OFF, check the combination meter circuit or CAN communication circuit. <Ref. to VDC(diag)-26, VDC WARNING LIGHT, VDC OFF INDICATOR LIGHT AND VDC INDICATOR LIGHT DO NOT COME ON, Warning Light Illumination Pattern.>
3) When ABS warning light does not go off, check the combination meter circuit. <Ref. to VDC(diag)-30, ABS WARNING LIGHT DOES NOT GO OFF, Warning Light Illumination Pattern.>
4) When the VDC indicator light, VDC warning light and VDC OFF indicator light do not go off, check the combination meter circuit or CAN communication circuit. <Ref. to VDC(diag)-32, VDC INDICATOR LIGHT DOES NOT GO OFF, Warning Light Illumination Pattern.>

NOTE:
• Even though the ABS warning light does not go off after 1.5 seconds from ABS warning light illumination, the ABS system operates normally when the warning light goes off while driving at approximately 12 km/h (7 MPH). However, the ABS system does not work while the ABS warning light is illuminated.
• It may take several minutes before VDC warning light and VDC OFF indicator light goes off if the vehicle is parked under low temperature for a specified time. This is not defective because it is resulted from low engine coolant temperature.

• With the vehicle jack-up/lift-up or set on free rollers, when the wheels lock or spin after starting the engine, ABS warning light, VDC warning light and VDC OFF indicator light may illuminate because VDCCM&H/U detects the abnormal conditions from ABS wheel speed sensors. In this case, this is not a malfunction. Perform the clear memory mode.

B: VDC WARNING LIGHT, VDC OFF INDICATOR LIGHT AND VDC INDICATOR LIGHT DO NOT COME ON

DETECTING CONDITION:

- Defective combination meter
- Defective CAN communication

TROUBLE SYMPTOM:

When the ignition switch is turned to ON (engine OFF), VDC indicator light, VDC warning light and VDC OFF indicator light do not come on.

NOTE:
When pressing VDC OFF switch for more than 10 seconds, VDC OFF indicator light goes off and cannot operate any more. When turning the ignition switch from OFF to ON, the OFF operation enabled status is restored.

	Step	Check	Yes	No
1	**CHECK OTHER INDICATOR LIGHT.** Turn the ignition switch to ON.	Does other indicator light illuminate soon after “ON”?	Go to step **2.**	Perform the self-diagnosis of combination meter.
2	**CHECK VDCCM.** When the engine does not start, display the current data of VDCCM using Subaru Select Monitor.	Is “VDC warning light” output set to “ON”?	Go to step **3.**	Replace the VDCCM.
3	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **4.**
4	**CHECK COMBINATION METER.** Check the combination meter.	Is combination meter OK?	Replace the VDCCM&H/U.	Repair the combination meter assembly.

C: ABS WARNING LIGHT DOES NOT COME ON

DETECTING CONDITION:

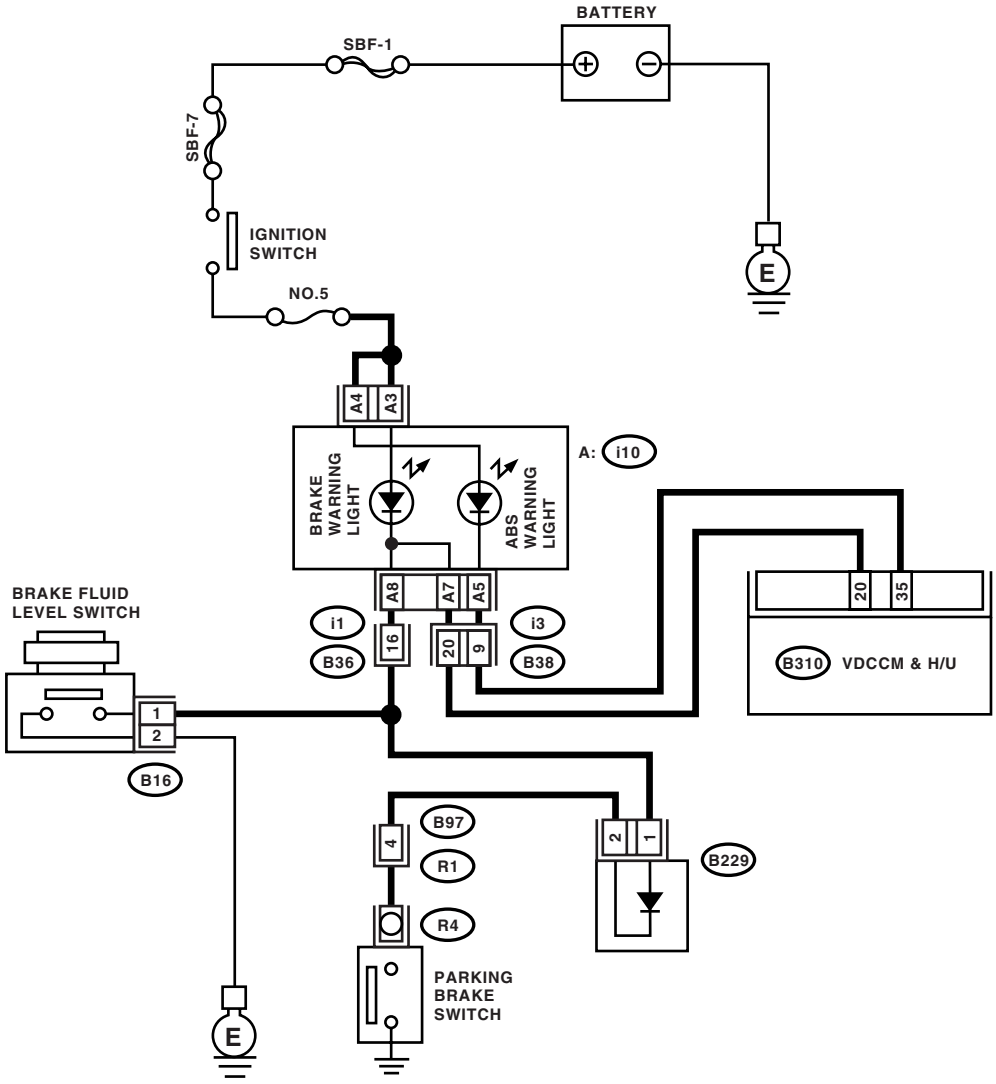
- Defective combination meter
- Defective harness

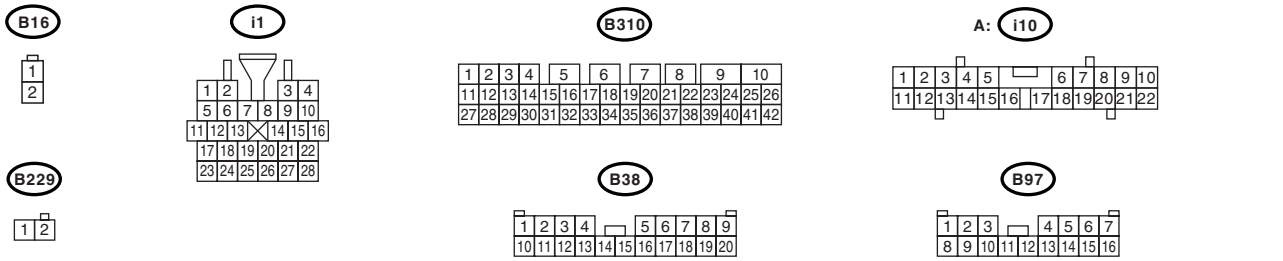
TROUBLE SYMPTOM:

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

WIRING DIAGRAM:

- LHD model





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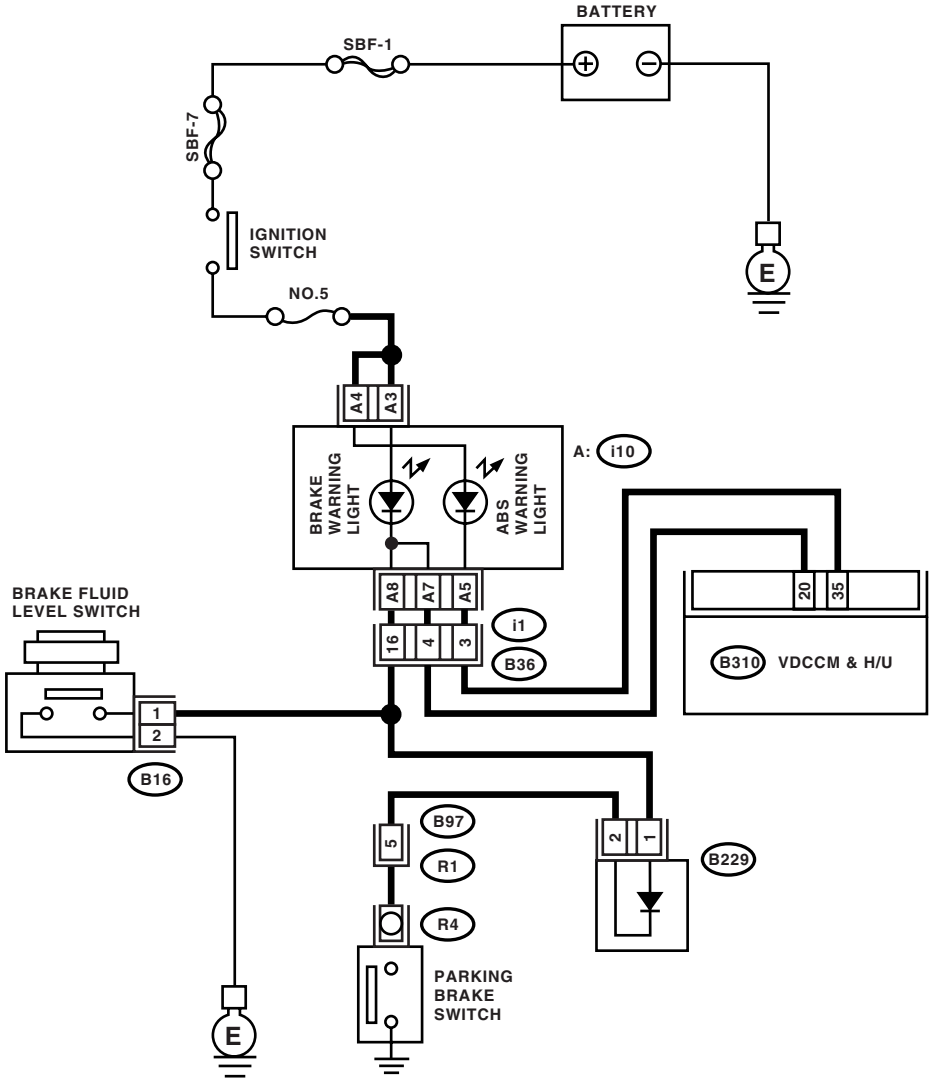
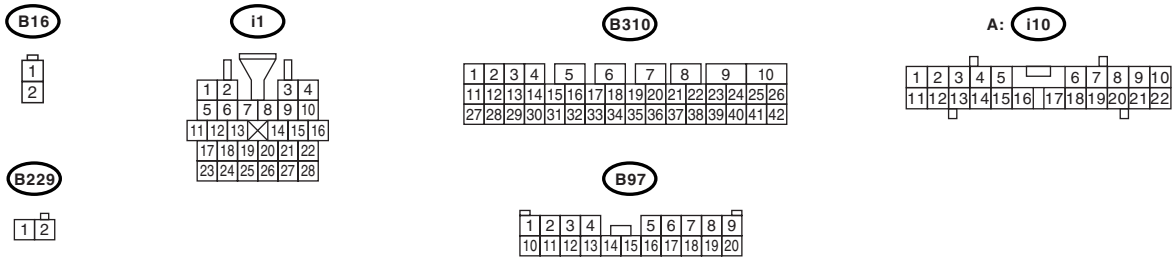
Warning Light Illumination Pattern

- RHD model





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	Step	Check	Yes	No
1	**CHECK OTHER LIGHTS TURN ON.** Turn the ignition switch to ON. (engine OFF)	Do other warning lights illuminate?	Go to step **2.**	Check the combination meter.
2	**READ DTC.** Read the DTC. <Ref. to VDC(diag)-22, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK GROUND SHORT CIRCUIT OF HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector (B310) from VDCCM&H/U. 3) Disconnect the connector (i10) from combination meter. 4) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 35 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Repair the harness connector between VDCCM&H/U and combination meter.
4	**CHECK VDCCM.** 1) Connect the connector (B310) to VDCCM&H/U. 2) Turn the ignition switch to ON. 3) Measure the resistance between the combination meter connector and chassis ground soon after the ignition switch is turned to ON (within 1.5 seconds). ***Connector & terminal*** ***(i10) No. A5 — Chassis ground:***	Is the resistance more than 1 MΩ?	Check the combination meter.	Replace VDCCM&H/U.

D: ABS WARNING LIGHT DOES NOT GO OFF

DETECTING CONDITION:

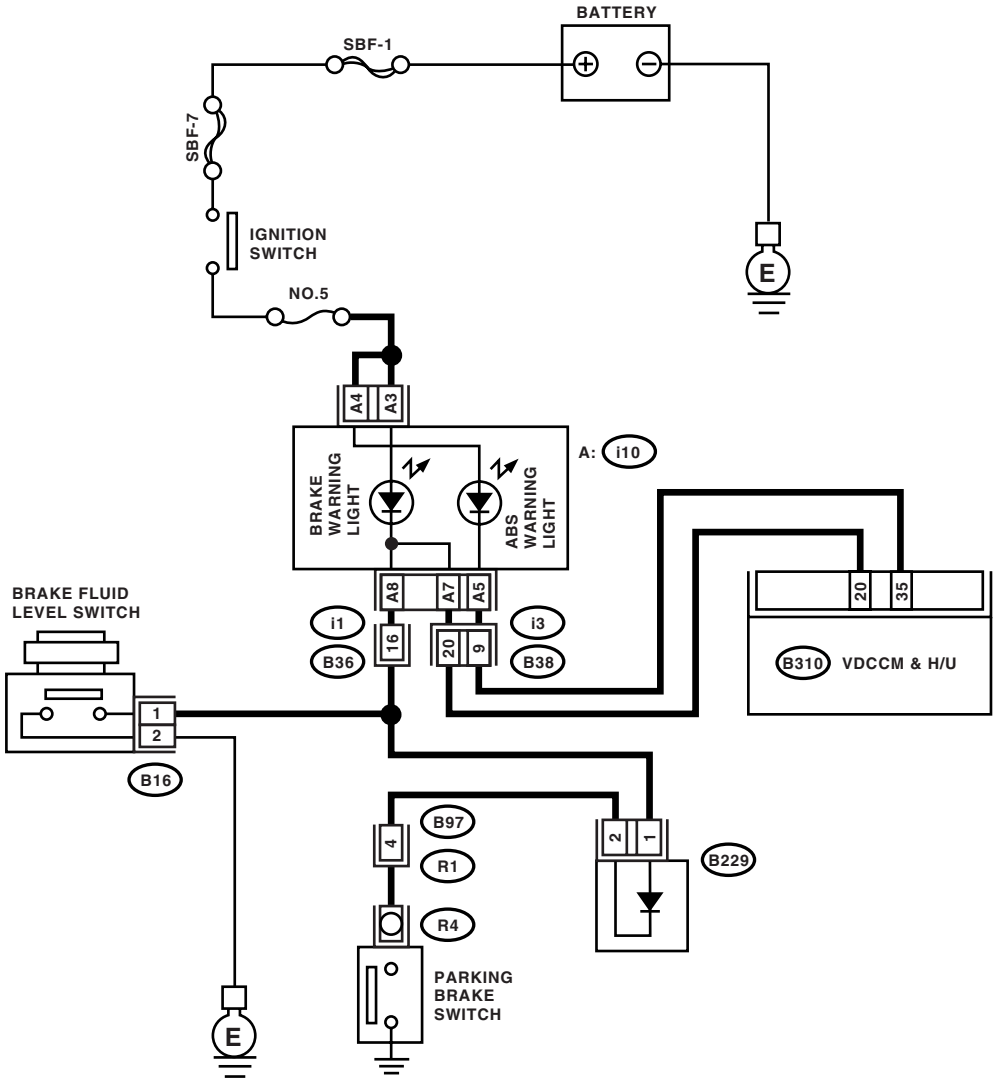
- Defective combination meter
- Open in harness

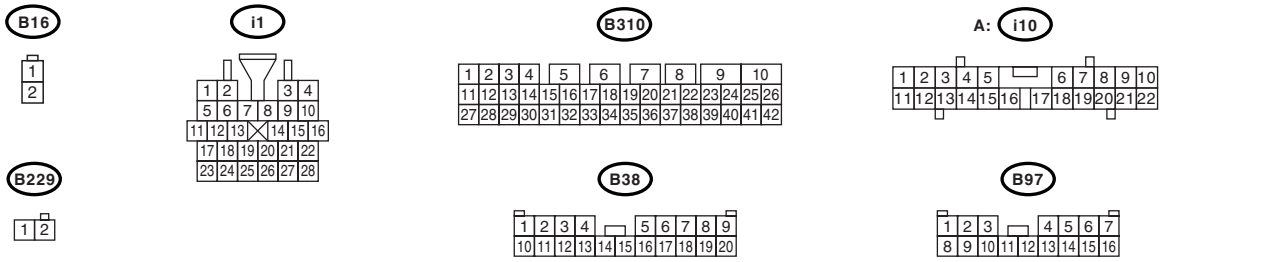
TROUBLE SYMPTOM:

When starting the engine, the ABS warning light is kept ON.

WIRING DIAGRAM:

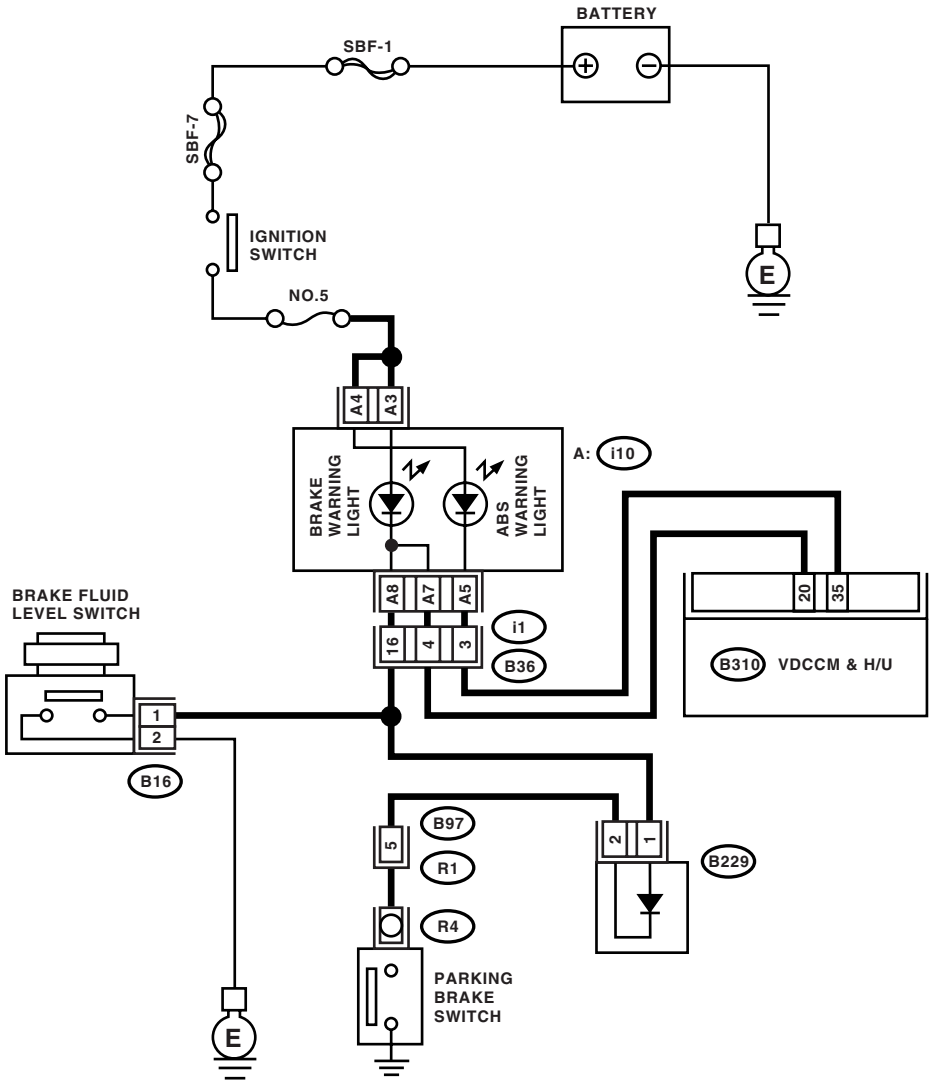
- LHD model

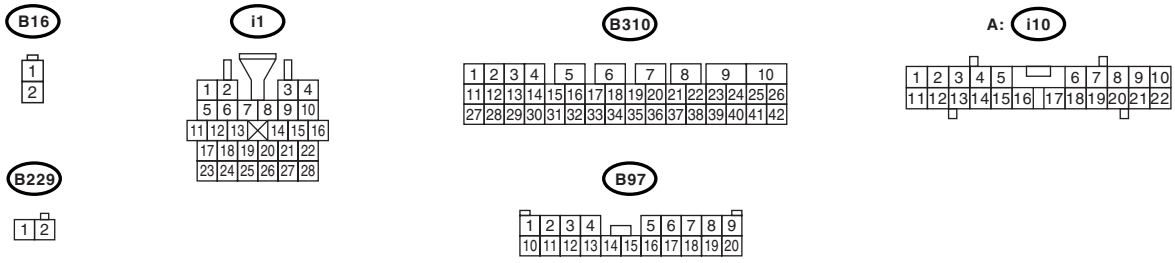




VDC00245

- RHD model





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Step		Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to VDC(diag)-22, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK WIRING HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector (B310) from VDCCM&H/U. 3) Disconnect the connector (i10) from combination meter. 4) Measure the resistance between VDCCM&H/U connector and combination meter connector. ***Connector & terminal*** ***(B310) No. 35 — (i10) No. A5:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the harness connector between VDCCM&H/U and combination meter.
3	**CHECK POOR CONTACT IN CONNECTOR.** Check poor contact in all connectors.	Is there poor contact?	Repair the connector.	Go to step **4.**
4	**CHECK VDCCM.** 1) Connect the connector to VDCCM&H/U (B310). 2) Turn the ignition switch to ON. 3) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. A5 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Check the combination meter.	Replace the VDCCM&H/U.

E: VDC INDICATOR LIGHT DOES NOT GO OFF

DETECTING CONDITION:

- Defective combination meter
- Defective CAN communication

TROUBLE SYMPTOM:

When starting the engine, VDC indicator light is kept ON.

Step		Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to VDC(diag)-22, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **3.**
3	**CHECK COMBINATION METER.** Check the combination meter.	Is combination meter OK?	Replace the VDCCM&H/U.	Repair the combination meter.

F: VDC WARNING LIGHT AND VDC OFF INDICATOR LIGHT DO NOT GO OFF

DETECTING CONDITION:

- Defective combination meter
- Defective CAN communication
- Defective engine
- VDC OFF switch is shorted.

TROUBLE SYMPTOM:

When starting the engine, VDC OFF indicator light is kept ON.

NOTE:
When pressing the VDC OFF switch for more than 10 seconds, the VDC OFF indicator light goes off and cannot operate any more. When turning the ignition switch from OFF to ON, the OFF operation enabled status is restored.

	Step	Check	Yes	No
1	**READ DTC.** Read the DTC. <Ref. to VDC(diag)-22, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **2.**
2	**CHECK ENGINE.**	Does the malfunction indicator light illuminate?	Repair the engine.	Go to step **3.**
3	**CHECK ENGINE COOLANT.** Warm up the engine and check if VDC warning light and VDC OFF indicator light illumination condition changes.	When the engine coolant temperature is too low, VDC warning light and VDC OFF indicator light illuminate. Does the lights go off when the engine is warmed-up?	Normal Operation	Go to step **4.**
4	**CHECK VDC OFF SWITCH.** Remove and check VDC OFF switch.	Is VDC OFF switch normal?	Go to step **5.**	Replace the VDC OFF switch.
5	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **6.**
6	**CHECK COMBINATION METER.** Check the combination meter.	Is combination meter OK?	Replace the VDCCM&H/U.	Repair the combination meter.

G: BRAKE WARNING LIGHT DOES NOT GO OFF

DETECTING CONDITION:

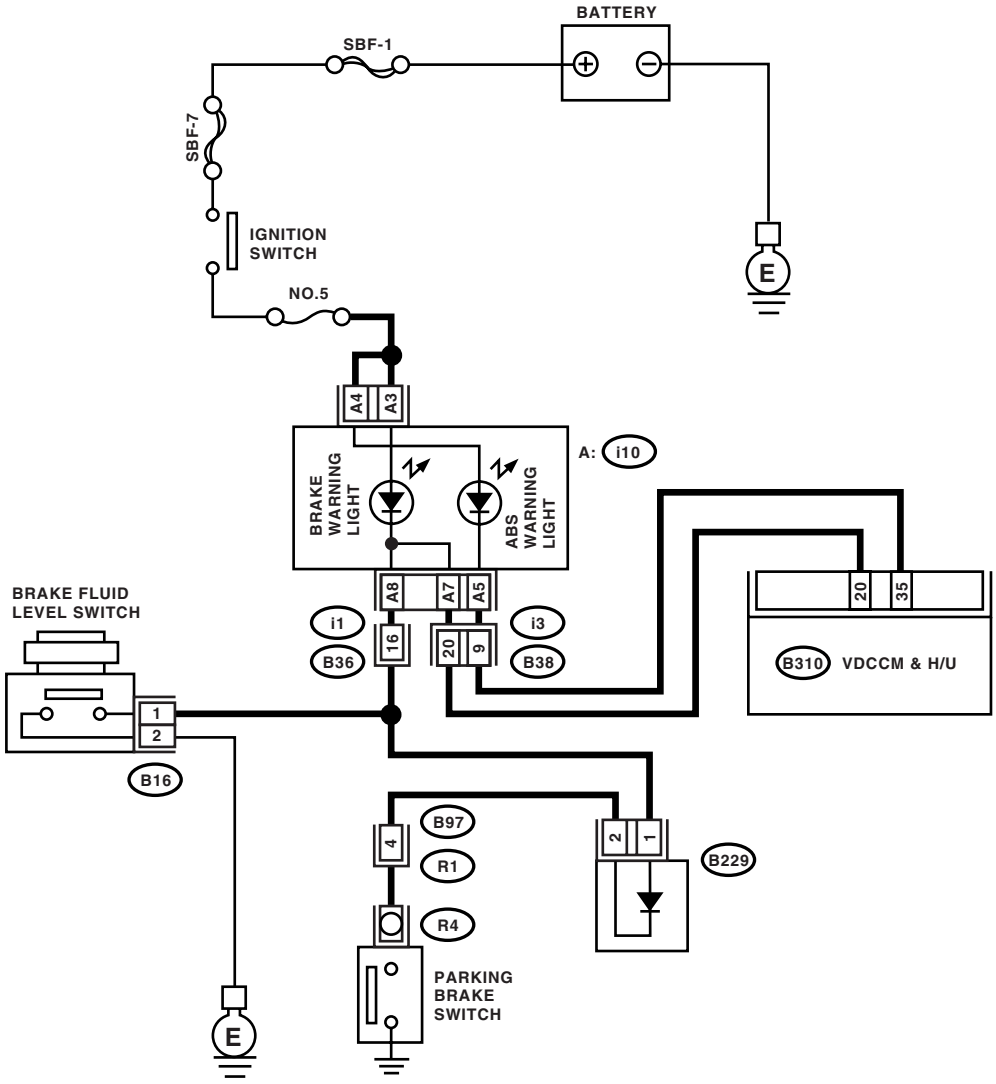
- Brake warning light circuit is shorted.
- Defective sensor/connector

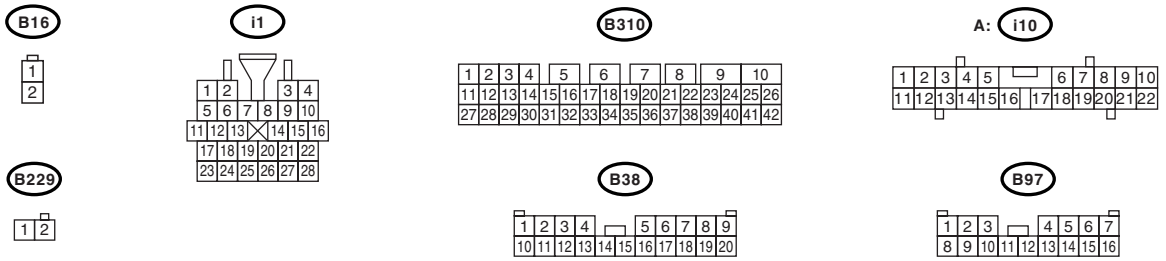
TROUBLE SYMPTOM:

After starting the engine, the brake warning light is kept on though the parking lever is released.

WIRING DIAGRAM:

- LHD model





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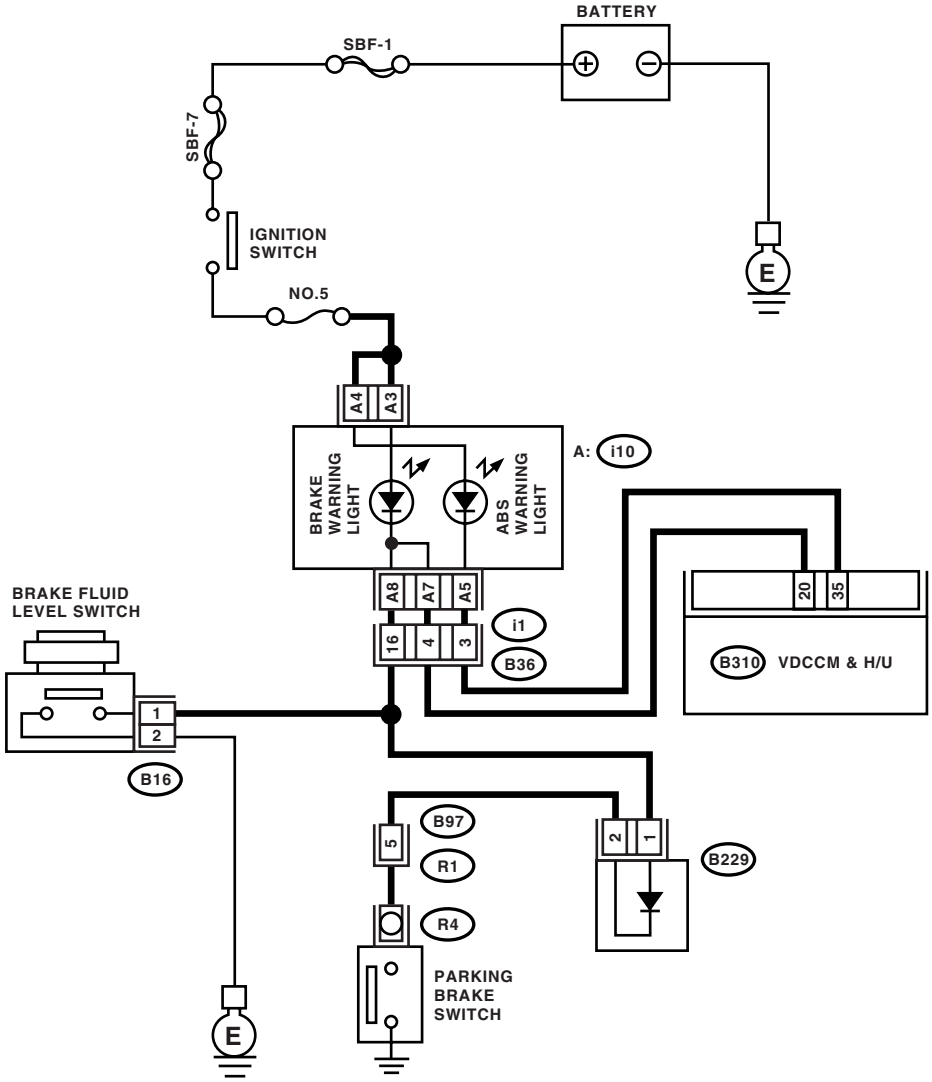
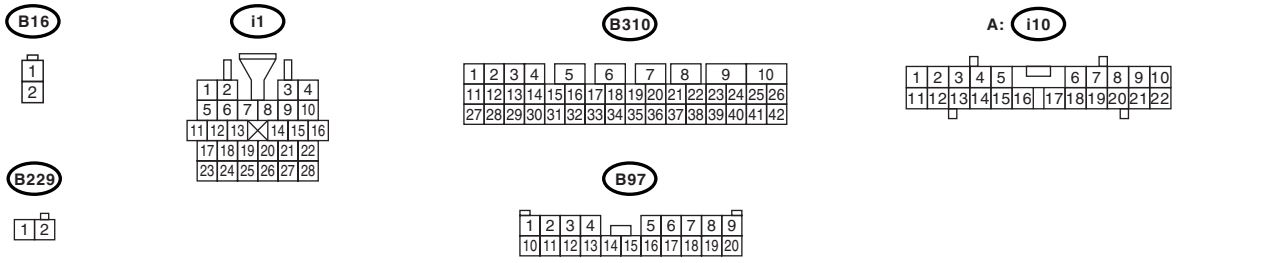
- RHD model





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	Step	Check	Yes	No
1	**CHECK INSTALLATION OF VDCCM&H/U CONNECTOR.** 1) Turn the ignition switch to OFF. 2) Check that VDCCM&H/U connector is inserted until it is locked by clamp.	Is the connector firmly inserted?	Go to step **2.**	Insert the VDCCM&H/U connector until it is locked by clamp.
2	**READ DTC.** Read the DTC. <Ref. to VDC(diag)-22, Read Diagnostic Trouble Code (DTC).>	Is DTC displayed?	Perform the diagnosis according to DTC.	Go to step **3.**
3	**CHECK BRAKE FLUID AMOUNT.** Check the amount of brake fluid in the reservoir tank of master cylinder.	Is the amount of brake fluid between the lines of “MAX” and “MIN”?	Go to step **4.**	Replenish brake fluid to the specified value.
4	**CHECK BRAKE FLUID LEVEL SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the level switch connector (B16) from master cylinder. 3) Measure the resistance of master cylinder terminals. ***Terminals*** ***No. 1 — No. 2:***	Is the resistance more than 1 MΩ?	Go to step **5.**	Replace the master cylinder.
5	**CHECK PARKING BRAKE SWITCH.** 1) Disconnect the connector (R4) from parking brake switch. 2) Release the parking brake. 3) Measure the resistance between parking brake switch terminal and chassis ground.	Is the resistance more than 1 MΩ?	Go to step **6.**	Replace the parking brake switch.
6	**CHECK GROUND SHORT OF HARNESS.** 1) Disconnect the connector (i10) from combination meter. 2) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. A7 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7.**	Repair the harness connector between combination meter brake fluid level switch and parking brake switch.
7	**CHECK HARNESS CONNECTOR.** 1) Disconnect the connector (B310) from VDCCM&H/U. 2) Disconnect the connector (i10) from combination meter. 3) Measure the resistance between VDCCM&H/U connector and combination connector. ***Connector & terminal*** ***(B310) No. 20 — (i10) No. A7:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Repair the harness connector between VDCCM&H/U and combination meter.
8	**CHECK POOR CONTACT IN CONNECTOR.** Check poor contact in all connectors.	Is there poor contact?	Repair the connector.	Go to step **9.**
9	**CHECK VDCCM.** 1) Connect the connector (B310) to VDCCM&H/U. 2) Turn the ignition to ON. 3) Measure the resistance between combination meter connector and chassis ground. ***Connector & terminal*** ***(i10) No. A7 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Check the combination meter.	Replace the VDCCM&H/U.

11.List of Diagnostic Trouble Code (DTC)

A: LIST

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0021	698XH	FR sensor power supply failure	Abnormal power supply of front ABS wheel speed sensor RH	<Ref. to VDC(diag)-43, DTC C0021 FRONT ABS WHEEL SPEED SENSOR RH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	6A0XH	Front Right ABS Sensor Circuit Open or Shorted Battery	Open/high input of front ABS wheel speed sensor RH	<Ref. to VDC(diag)-46, DTC C0021 OPEN/HIGH INPUT OF FRONT ABS WHEEL SPEED SENSOR RH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0022	68CXH 68EXH 690XH 694XH 696XH	Front Right ABS Sensor Signal	Front ABS wheel speed sensor RH signal malfunction	<Ref. to VDC(diag)-51, DTC C0022 FRONT ABS WHEEL SPEED SENSOR RH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0023	618XH	FL sensor power supply failure	Front ABS wheel speed sensor LH power supply malfunction	<Ref. to VDC(diag)-43, DTC C0023 FRONT ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	620XH	Front Left ABS Sensor Circuit Open or Shorted Battery	Open/high input of front ABS wheel speed sensor LH	<Ref. to VDC(diag)-46, DTC C0023 OPEN/HIGH INPUT OF FRONT ABS WHEEL SPEED SENSOR LH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0024	60CXH 60EXH 610XH 614XH 616XH	Front Left ABS Sensor Signal	Front ABS wheel speed sensor LH signal malfunction	<Ref. to VDC(diag)-51, DTC C0024 FRONT ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0025	658XH	RR sensor power supply failure	Rear ABS wheel speed sensor RH power supply malfunction	<Ref. to VDC(diag)-43, DTC C0025 REAR ABS WHEEL SPEED SENSOR RH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	660XH	Rear Right ABS Sensor Circuit Open or Shorted Battery	Open/high input of rear ABS wheel speed sensor RH	<Ref. to VDC(diag)-46, DTC C0025 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR RH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0026	64CXH 64EXH 650XH 654XH 656XH	Rear Right ABS Sensor Signal	Rear ABS wheel speed sensor RH signal malfunction	<Ref. to VDC(diag)-51, DTC C0026 REAR ABS WHEEL SPEED SENSOR RH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0027	6D8XH	RL sensor power supply failure	Rear ABS wheel speed sensor LH power supply malfunction	<Ref. to VDC(diag)-44, DTC C0027 REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	6E0XH	Rear Left ABS Sensor Circuit Open or Shorted Battery	Open/high input of rear ABS wheel speed sensor LH	<Ref. to VDC(diag)-47, DTC C0027 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0028	6CCXH 6CEXH 6D0XH 6D4XH 6D6XH	Rear Left ABS Sensor Signal	Rear ABS wheel speed sensor LH signal malfunction	<Ref. to VDC(diag)-52, DTC C0028 REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0029	608XH 648XH 688XH 6C8XH 704XH 606XH 646XH 686XH 6C6XH 702XH 604XH 644XH 684XH 6C4XH 70CXH 720XH 710XH	Any One of Four ABS Sensors Signal	ABS wheel speed sensor signal malfunction in one of four wheels	<Ref. to VDC(diag)-57, DTC C0029 ABS WHEEL SPEED SENSOR SIGNAL MALFUNCTION IN ONE OF FOUR WHEELS, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0031	320XH	FR hold valve malfunction	Front inlet solenoid valve RH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-61, DTC C0031 FRONT INLET SOLENOID VALVE RH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0032	360XH	FR pressure reducing valve malfunction	Front outlet solenoid valve RH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-61, DTC C0032 FRONT OUTLET SOLENOID VALVE RH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0033	220XH	FL hold valve malfunction	Front inlet solenoid valve LH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-61, DTC C0033 FRONT INLET SOLENOID VALVE LH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0034	260XH	FL pressure reducing valve malfunction	Front outlet solenoid valve LH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-61, DTC C0034 FRONT OUTLET SOLENOID VALVE LH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0035	2A0XH	RR hold valve malfunction	Rear inlet solenoid valve RH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-61, DTC C0035 REAR INLET SOLENOID VALVE RH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0036	2E0XH	RR pressure reducing valve malfunction	Rear outlet solenoid valve RH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0036 REAR OUTLET SOLENOID VALVE RH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0037	3A0XH	RL hold valve malfunction	Rear inlet solenoid valve LH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0037 REAR INLET SOLENOID VALVE LH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0038	3E0XH	RL pressure reducing valve malfunction	Rear outlet solenoid valve LH malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0038 REAR OUTLET SOLENOID VALVE LH MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0061	4A0XH	Normal opening valve 1 malfunction	Secondary cut valve malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0061 SECONDARY CUT VALVE MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0062	4E0XH	Normal opening valve 2 malfunction	Primary cut valve malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0062 PRIMARY CUT VALVE MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0063	520XH	Normal closing valve 1 malfunction	Secondary suction valve malfunction in VDCCM&H/U	<Ref. to VDC(diag)-62, DTC C0063 SECONDARY SUCTION VALVE MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0064	560XH	Normal closing valve 2 malfunction	Primary suction valve malfunction in VDCCM&H/U	<Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDCCM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0041	000XH 002XH 004XH 006XH 010XH 012XH 014XH 016XH 018XH 01AXH 01EXH 024XH 026XH 028XH 02AXH 02CXH 02EXH 030XH 03AXH 03CXH 03DXH 03EXH 034XH 036XH 038XH	ECM	VDC control module (VDCCM) malfunction	<Ref. to VDC(diag)-65, DTC C0041 VDC CONTROL MODULE MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0042	7CEXH 7D0XH	Power supply voltage failure	Power voltage malfunction	<Ref. to VDC(diag)-67, DTC C0042 POWER VOLTAGE MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	7CCXH	Speed sen. power supply failure	ABS wheel speed sensor power malfunction	<Ref. to VDC(diag)-70, DTC C0042 ABS WHEEL SPEED SENSOR POWER MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0044	9A0XH	TCM communication circuit	CAN communication malfunction of transmission control module	<Ref. to VDC(diag)-70, DTC C0044 AT COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0045	970XH 822XH	Incorrect VDC Control Module specifications	Different VDC control module specification	<Ref. to VDC(diag)-71, DTC C0045 DIFFERENT VDC CONTROL MODULE SPECIFICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	972XH	TCM malfunction	AT control module malfunction	<Ref. to VDC(diag)-72, DTC C0045 AT CONTROL MODULE MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0047	788XH 78CXH 7A0XH 7A4XH	Improper CAN communication	Improper CAN communication	<Ref. to VDC(diag)-73, DTC C0047 IMPROPER CAN COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0051	048XH	Valve relay OFF failure	Valve relay OFF malfunction	<Ref. to VDC(diag)-75, DTC C0051 VALVE RELAY OFF MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	04AXH 04CXH	Valve relay	Valve relay system	<Ref. to VDC(diag)-77, DTC C0051 VALVE RELAY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	06AXH	Valve relay test failure	Valve relay test malfunction	<Ref. to VDC(diag)-79, DTC C0051 VALVE RELAY TEST MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	00DXH	Valve relay ON failure	Valve relay ON malfunction	<Ref. to VDC(diag)-81, DTC C0051 VALVE RELAY ON MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0052	58AXH	Motor and motor relay	Motor/motor relay system	<Ref. to VDC(diag)-83, DTC C0052 MOTOR/ MOTOR RELAY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	5A0XH	Motor and motor relay OFF failure	Motor/motor relay OFF malfunction	<Ref. to VDC(diag)-85, DTC C0052 MOTOR/ MOTOR RELAY OFF MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	58EXH	Motor and motor relay ON failure	Motor/motor relay ON malfunction	<Ref. to VDC(diag)-86, DTC C0052 MOTOR/ MOTOR RELAY ON MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	58CXH	Motor malfunction	Motor	<Ref. to VDC(diag)-88, DTC C0052 MOTOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0054	0A0XH	Brake Light Switch	BLS open circuit	<Ref. to VDC(diag)-89, DTC C0054 BLS OPEN CIRCUIT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	08CXH	BLS ON malfunction	BLS ON malfunction	<Ref. to VDC(diag)-91, DTC C0054 BLS ON MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0057	820XH	EGI communication circuit	CAN communication malfunction of engine control module	<Ref. to VDC(diag)-93, DTC C0057 EGI COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0071	148XH	Steering angle sensor offset is too big	Excessive steering angle sensor output offset	<Ref. to VDC(diag)-94, DTC C0071 EXCESSIVE STEERING ANGLE SENSOR OUTPUT OFFSET, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	14AXH	Change range of steering angle sensor is too big	Excessive variation amount of steering angle sensor output	<Ref. to VDC(diag)-96, DTC C0071 EXCESSIVE VARIATION AMOUNT OF STEERING ANGLE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	142XH 144XH 146XH 14EXH 158XH 15AXH 15CXH 15EXH 14CXH 164XH 166XH 16AXH 16CXH 16EXH 170XH	Steering angle sensor malfunction	Steering angle sensor output	<Ref. to VDC(diag)-98, DTC C0071 STEERING ANGLE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	160XH	No signal from steering angle sensor	Steering angle sensor communication	<Ref. to VDC(diag)-100, DTC C0071 STEERING ANGLE SENSOR COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	764XH	Steering angle sensor malfunction	Steering angle sensor power supply malfunction	<Ref. to VDC(diag)-103, DTC C0071 STEERING ANGLE SENSOR POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0072	184XH 188XH 18EXH	Abnormal yaw rate sensor output	Yaw rate sensor output	<Ref. to VDC(diag)-106, DTC C0072 YAW RATE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	180XH 182XH 186XH 190XH 194XH 196XH 198XH 19AXH	Abnormal yaw rate sensor output	Yaw rate sensor output	<Ref. to VDC(diag)-106, DTC C0072 YAW RATE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	192XH	Abnormal yaw rate sensor output	Yaw rate sensor output	<Ref. to VDC(diag)-106, DTC C0072 YAW RATE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	1A0XH 18BXH	Voltage inputted to yaw rate sensor exceeds specification	Yaw rate sensor power supply/output	<Ref. to VDC(diag)-108, DTC C0072 YAW RATE SENSOR POWER/OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	19CXH	Abnormal yaw rate sensor reference voltage	Yaw rate sensor reference	<Ref. to VDC(diag)-111, DTC C0072 YAW RATE SENSOR REFERENCE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	18CXH	Change range of yaw rate sensor signal is too big	Excessive variation amount of yaw rate sensor output	<Ref. to VDC(diag)-114, DTC C0072 EXCESSIVE VARIATION AMOUNT OF YAW RATE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

DTC	Detailed code	Display	Content of diagnosis	Reference target
C0073	1C8XH 1CAXH	Lateral G sensor offset is too big	Excessive amount of lateral G sensor output offset	<Ref. to VDC(diag)-117, DTC C0073 EXCESSIVE AMOUNT OF LATERAL G SENSOR OUTPUT OFFSET, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	1C0XH 1C6XH 1D8XH	Abnormal lateral G sensor output	Lateral G sensor output	<Ref. to VDC(diag)-117, DTC C0073 LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	1CCXH	Change range of lateral G sensor is too big	Excessive variation amount of lateral G sensor output	<Ref. to VDC(diag)-117, DTC C0073 EXCESSIVE VARIATION AMOUNT OF LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	1D2XH	Excessive lateral G sensor signal	Excessive lateral G sensor output	<Ref. to VDC(diag)-118, DTC C0073 EXCESSIVE LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	1E0XH	Voltage inputted to lateral G sensor exceeds specification	Lateral G sensor power/output	<Ref. to VDC(diag)-120, DTC C0073 LATERAL G SENSOR POWER/OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0074	118XH	Pressure sensor test failure	Pressure sensor test malfunction	<Ref. to VDC(diag)-123, DTC C0074 PRESSURE SENSOR TEST MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	110XH	Pressure sensor offset is too big	Excessive pressure sensor output offset	<Ref. to VDC(diag)-125, DTC C0074 EXCESSIVE PRESSURE SENSOR OUTPUT OFFSET, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	120XH 113XH	Pressure sensor power/output	Pressure sensor power/output	<Ref. to VDC(diag)-126, DTC C0074 PRESSURE SENSOR POWER/OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	102XH 108XH	Pressure sensor output	Pressure sensor output	<Ref. to VDC(diag)-127, DTC C0074 PRESSURE SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
	124XH	Pressure sensor power supply malfunction	Pressure sensor power supply malfunction	<Ref. to VDC(diag)-130, DTC C0074 PRESSURE SENSOR POWER MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
C0081	746XH	System failure	System malfunction	<Ref. to VDC(diag)-131, DTC C0081 SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC C0021 FRONT ABS WHEEL SPEED SENSOR RH POWER SUPPLY MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0027 “REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION”. <Ref. to VDC(diag)-44, DTC C0027 REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

B: DTC C0023 FRONT ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0027 “REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION”. <Ref. to VDC(diag)-44, DTC C0027 REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

C: DTC C0025 REAR ABS WHEEL SPEED SENSOR RH POWER SUPPLY MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0027 “REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION”. <Ref. to VDC(diag)-44, DTC C0027 REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

D: DTC C0027 REAR ABS WHEEL SPEED SENSOR LH POWER SUPPLY MALFUNCTION

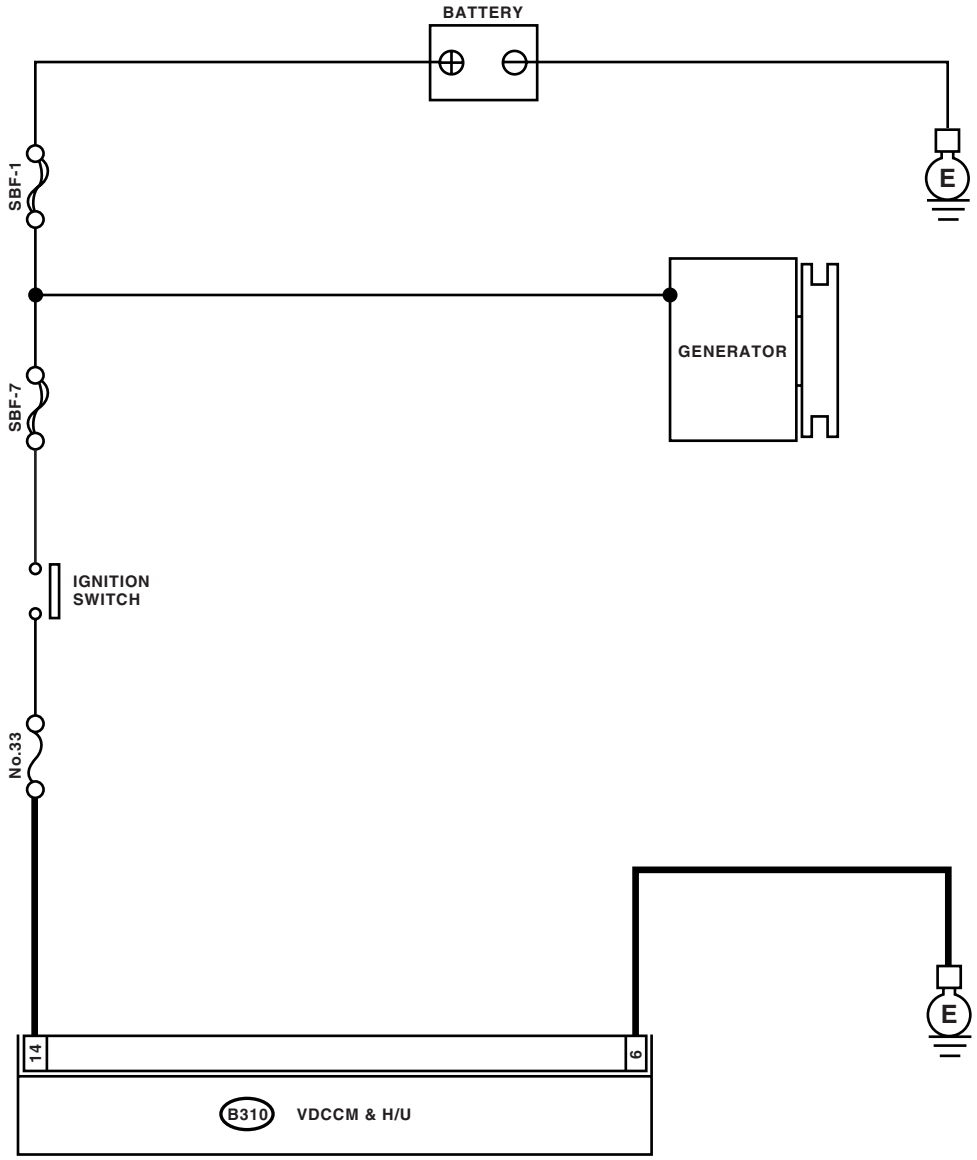
DTC DETECTING CONDITION:

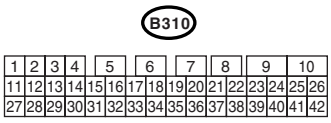
Defective ABS wheel speed sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00216

	Step	Check	Yes	No
1	**CHECK POOR CONTACT IN CONNECTOR.** Check if there is poor contact in VDCCM&H/U power supply circuit.	Is there poor contact?	Repair the connector.	Go to step **2.**
2	**CHECK VDCCM&H/U POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDCCM&H/U connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector terminals. ***Terminals*** ***(B310) No. 14 (+) — (B310) No. 6 (–):***	Is the voltage 10 — 15 V?	Go to step **3.**	Check the generator, battery and VDCCM&H/U power supply circuit.
3	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U.	Go to step **4.**
4	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

E: DTC C0021 OPEN/HIGH INPUT OF FRONT ABS WHEEL SPEED SENSOR RH

NOTE:
For the diagnostic procedure, refer to DTC C0027 “OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH”. <Ref. to VDC(diag)-47, DTC C0027 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

F: DTC C0023 OPEN/HIGH INPUT OF FRONT ABS WHEEL SPEED SENSOR LH

NOTE:
For the diagnostic procedure, refer to DTC C0027 “OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH”. <Ref. to VDC(diag)-47, DTC C0027 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

G: DTC C0025 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR RH

NOTE:
For the diagnostic procedure, refer to DTC C0027 “OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH”. <Ref. to VDC(diag)-47, DTC C0027 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

H: DTC C0027 OPEN/HIGH INPUT OF REAR ABS WHEEL SPEED SENSOR LH

DTC DETECTING CONDITION:

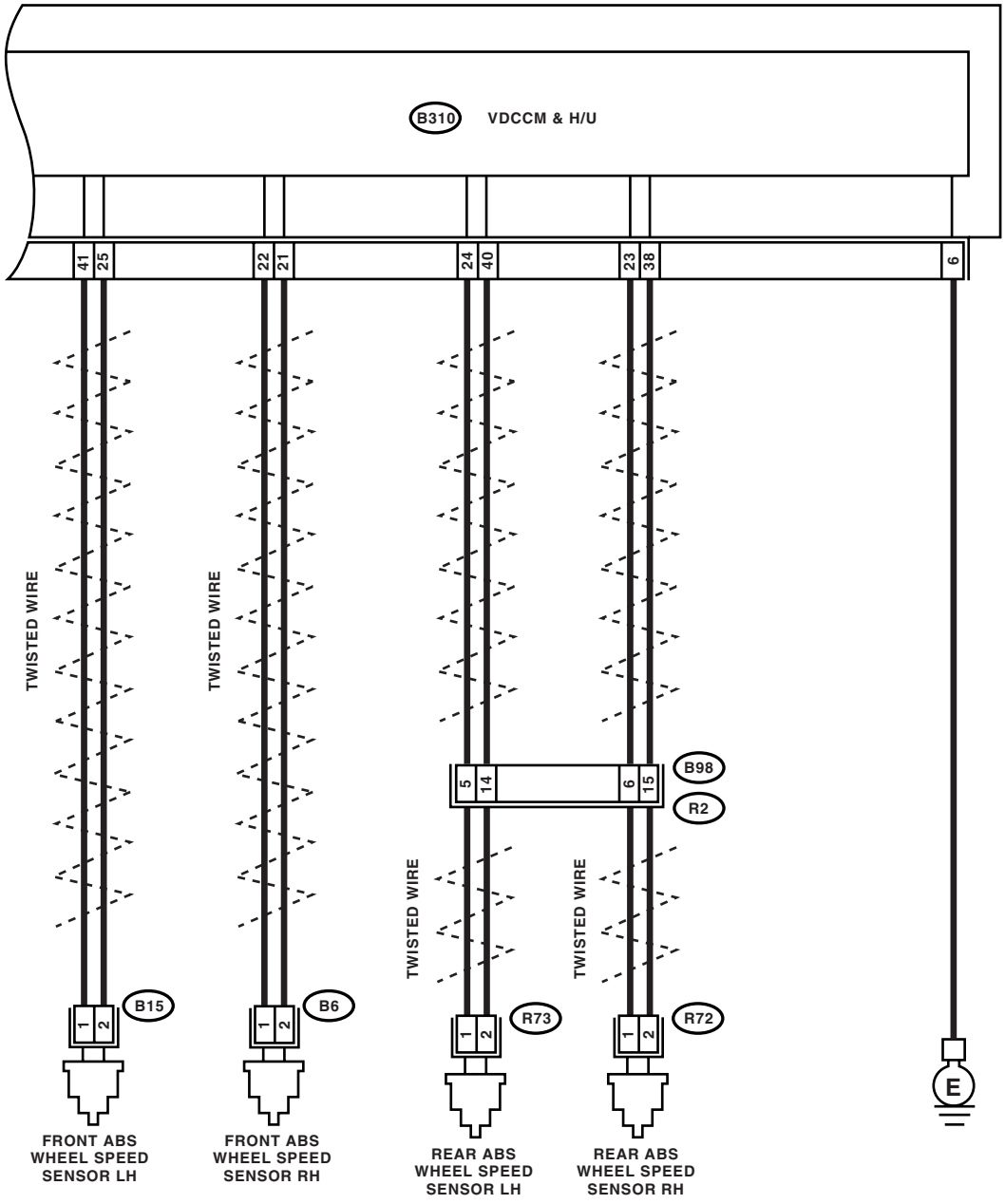
- Defective ABS wheel speed sensor (broken wire, input voltage too high)
- Defective harness connector

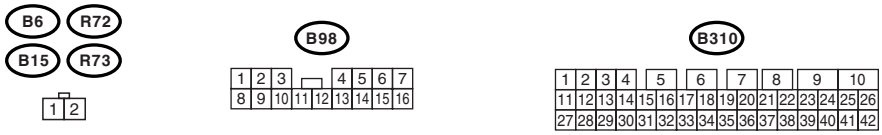
TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:

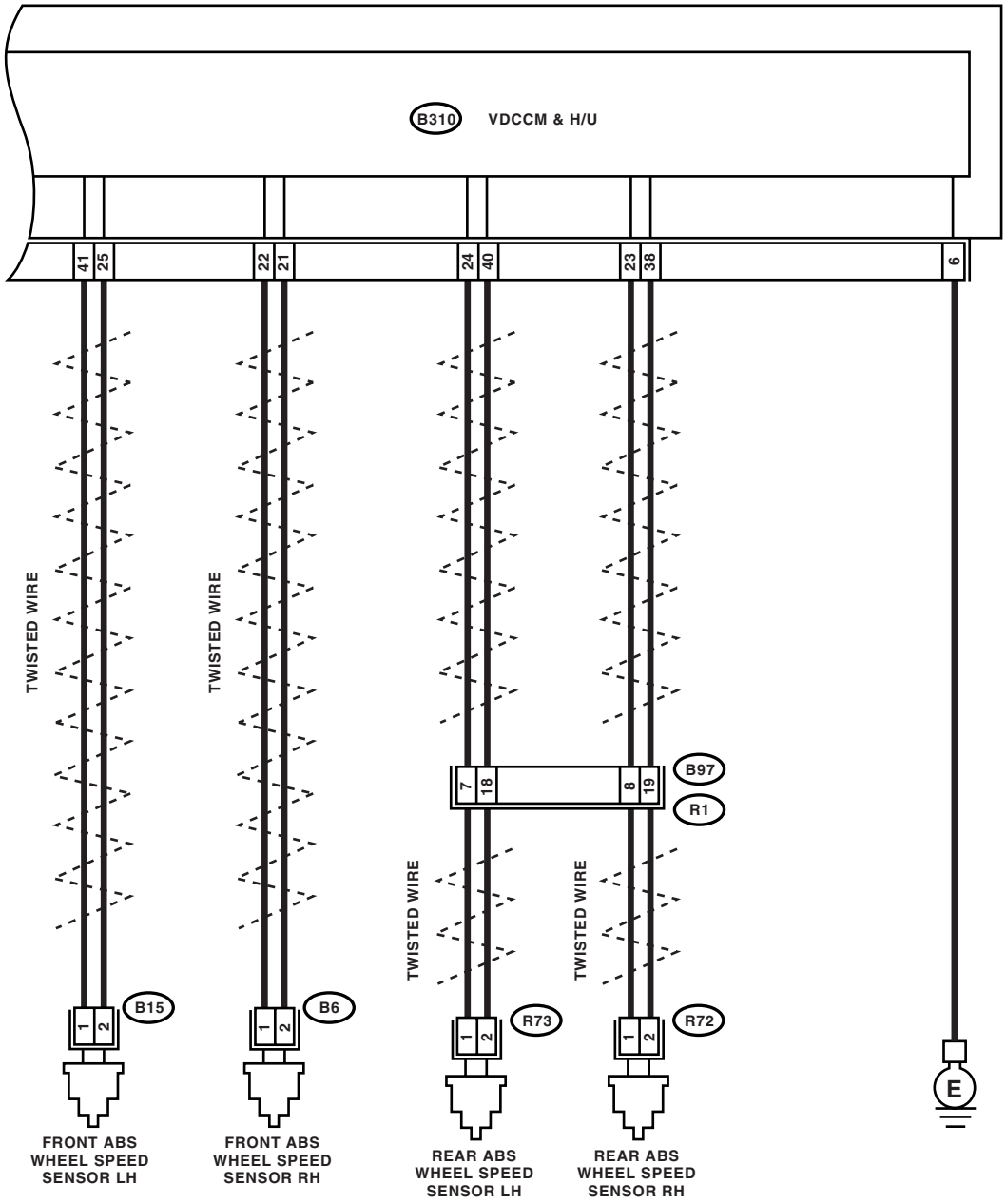
- LHD model

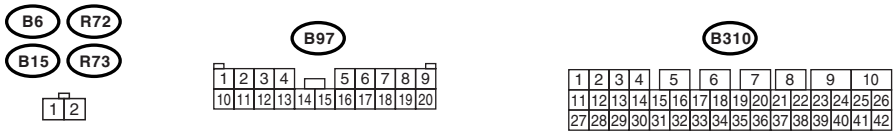




VDC00246

- RHD model





VDC00215

	Step	Check	Yes	No
1	**CHECK POOR CONTACT IN CONNECTOR.** Check if there is poor contact between VDCCM&H/U and ABS wheel speed sensor.	Is there poor contact?	Repair the connector.	Go to step **2.**
2	**CHECK HARNESS CONNECTOR BETWEEN VDCCM&H/U AND ABS WHEEL SPEED SENSOR.** 1) Disconnect the connector (B310) from VDCCM&H/U. 2) Disconnect the connector from ABS wheel speed sensor. 3) Measure the resistance between VDCCM&H/U connector and ABS wheel speed sensor connector. ***Connector & terminal*** ***DTC C0021*** ***(B310) No. 22 — (B6) No. 1:*** ***(B310) No. 21 — (B6) No. 2:*** ***DTC C0023*** ***(B310) No. 41 — (B15) No. 1:*** ***(B310) No. 25 — (B15) No. 2:*** ***DTC C0025*** ***(B310) No. 23 — (R72) No. 1:*** ***(B310) No. 38 — (R72) No. 2:*** ***DTC C0027*** ***(B310) No. 24 — (R73) No. 1:*** ***(B310) No. 40 — (R73) No. 2:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the harness connector between VDCCM&H/U and ABS wheel speed sensor.
3	**CHECK GROUND SHORT OF HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***DTC C0021*** ***(B310) No. 21 — Chassis ground:*** ***DTC C0023*** ***(B310) No. 25 — Chassis ground:*** ***DTC C0025*** ***(B310) No. 38 — Chassis ground:*** ***DTC C0027*** ***(B310) No. 40 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Repair the harness connector between VDCCM&H/U and ABS wheel speed sensor.
4	**CHECK ABS WHEEL SPEED SENSOR POWER SUPPLY CIRCUIT.** 1) Connect the VDCCM&H/U connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between ABS wheel speed sensor connector and chassis ground. ***Connector & terminal*** ***DTC C0021*** ***(B6) No. 1 (+) — Chassis ground (−):*** ***DTC C0023*** ***(B15) No. 1 (+) — Chassis ground (−):*** ***DTC C0025*** ***(R72) No. 1 (+) — Chassis ground (−):*** ***DTC C0027*** ***(R73) No. 1 (+) — Chassis ground (−):***	Is the voltage 5 — 16 V?	Go to step **6.**	Go to step **5.**

	Step	Check	Yes	No
5	**CHECK VDCCM&H/U POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDCCM&H/U connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 14 (+) — (B310) No. 6 (–):***	Is the voltage 10 — 15 V?	Go to step **7.**	Check the generator, battery and VDCCM&H/U power supply circuit.
6	**CHECK ABS WHEEL SPEED SENSOR SIGNAL.** 1) Install the ABS wheel speed sensor. 2) Prepare an oscilloscope. 3) Check the ABS wheel speed sensor. <Ref. to ABS-15, ABS WHEEL SPEED SENSOR, INSPECTION, Rear ABS Wheel Speed Sensor.>	Is waveform pattern same as shown in the figure.	Go to step **7.**	Replace the ABS wheel speed sensor.
7	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **8.**
8	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

I: DTC C0022 FRONT ABS WHEEL SPEED SENSOR RH SIGNAL MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0028 “REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION”. <Ref. to VDC(diag)-52, DTC C0028 REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

J: DTC C0024 FRONT ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0028 “REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION”. <Ref. to VDC(diag)-52, DTC C0028 REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

K: DTC C0026 REAR ABS WHEEL SPEED SENSOR RH SIGNAL MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0028 “REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION”. <Ref. to VDC(diag)-52, DTC C0028 REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

L: DTC C0028 REAR ABS WHEEL SPEED SENSOR LH SIGNAL MALFUNCTION

DTC DETECTING CONDITION:

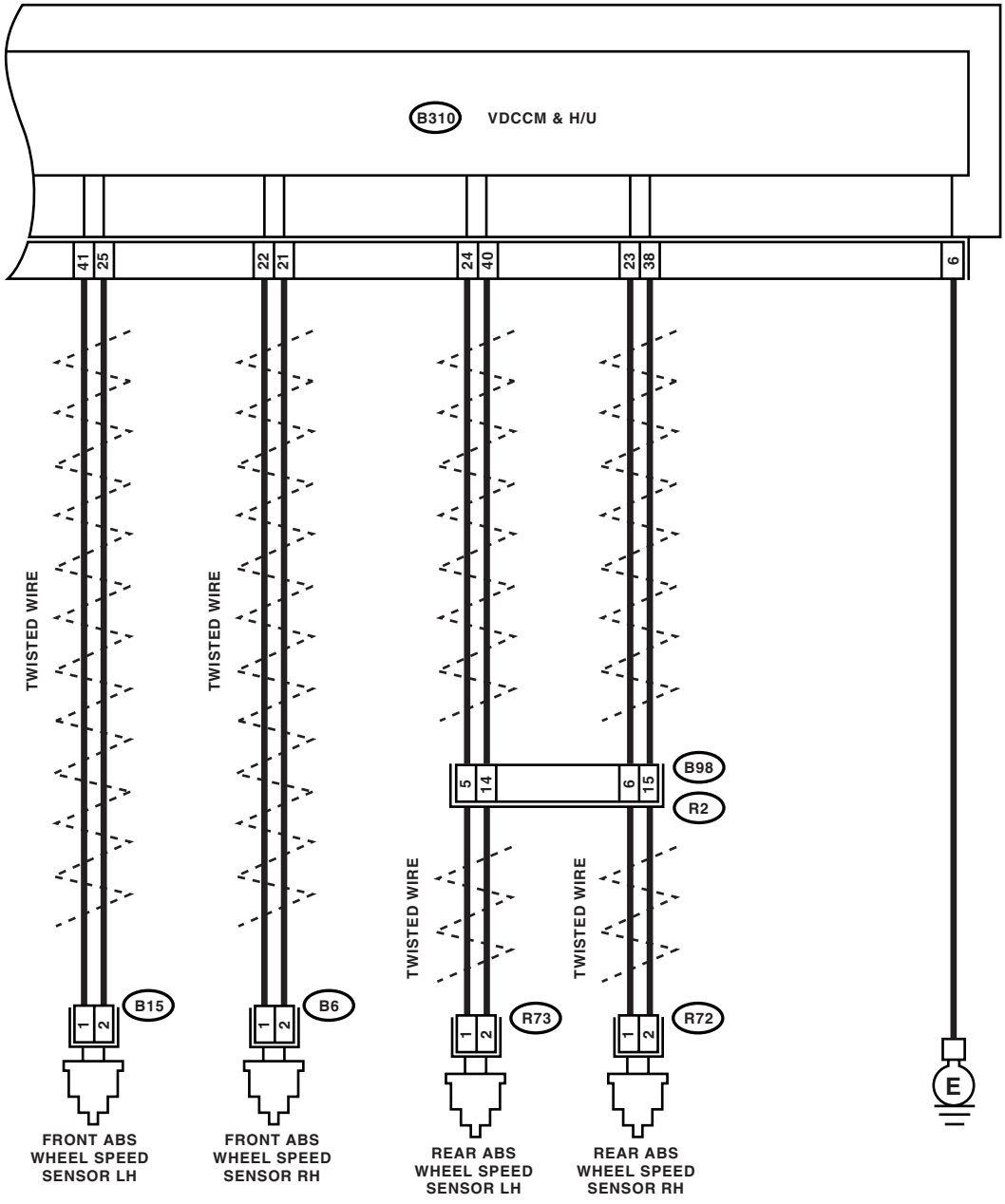
- Defective ABS wheel speed sensor signal (noise, irregular signal, etc.)
- Defective harness connector

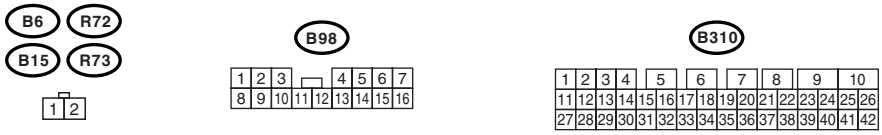
TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:

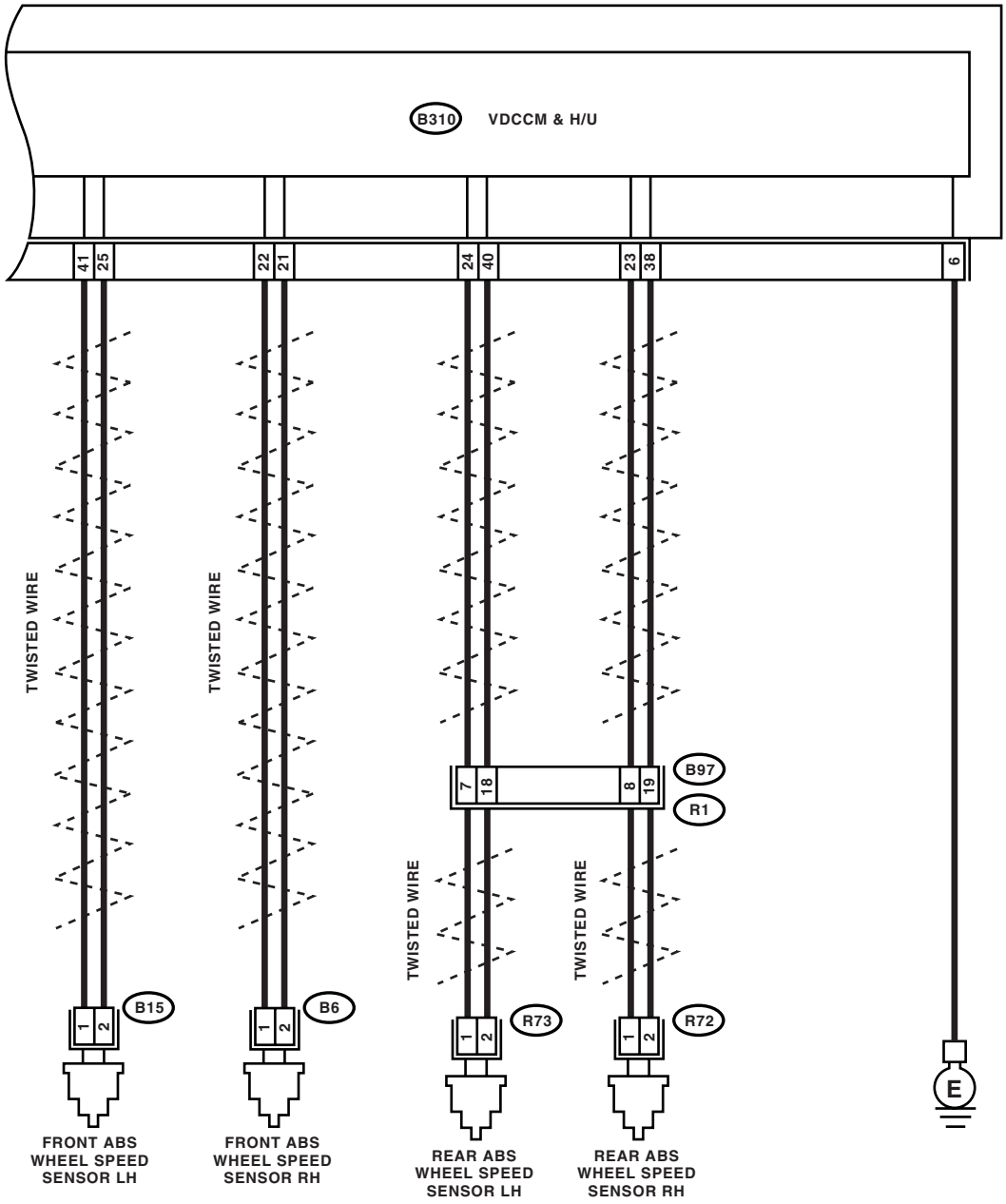
- LHD model

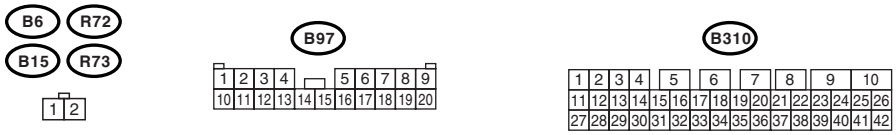




VDC00246

- RHD model





VDC00215

	Step	Check	Yes	No
1	**CHECK OUTPUT OF ABS WHEEL SPEED SENSOR USING SUBARU SELECT MONITOR.** 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Read the ABS wheel speed sensor output corresponding to the faulty wheel in Subaru Select Monitor data display mode.	Does the speed indicated on the display change in response to the speedometer reading during acceleration/deceleration when the steering wheel is in the straight-ahead position?	Go to step **2.**	Go to step **7.**
2	**CHECK POOR CONTACT IN CONNECTOR.** Turn the ignition switch to OFF.	Is there poor contact in connectors between VDCCM&H/U and ABS wheel speed sensor?	Repair the connector.	Go to step **3.**
3	**CHECK SOURCES OF SIGNAL NOISE.** Make sure the car phone, radio wave device like radio and etc., or electric device are installed correctly.	Are the car phone, radio wave device like radio and etc., or electric device installed correctly?	Go to step **4.**	Install the radio wave device and electric device properly.
4	**CHECK SOURCES OF SIGNAL NOISE.** Check if the noise sources (such as an antenna) are installed near the sensor harness.	Are noise sources installed?	Install the noise sources apart from the sensor harness.	Go to step **5.**
5	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **6.**
6	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.
7	**CHECK INSTALLATION OF ABS WHEEL SPEED SENSOR.**	Is the ABS wheel speed sensor installation bolt tightened 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)?	Go to step **8.**	Tighten the ABS wheel speed sensor installation bolts.
8	**CHECK ABS WHEEL SPEED SENSOR SIGNAL.** 1) Install the ABS wheel speed sensor. 2) Prepare an oscilloscope. 3) Check ABS wheel speed sensor. <Ref. to ABS-13, ABS WHEEL SPEED SENSOR, INSPECTION, Front ABS Wheel Speed Sensor.>	Is the oscilloscope pattern the same waveform as shown in the figure when the tire is rotated? Is the pattern as shown in the figure displayed regularly in the oscilloscope when the tire is slowly rotated more than one revolution with even speed?	Go to step **9.**	Go to step **13.**
9	**CHECK ABS WHEEL SPEED SENSOR OR MAGNETIC ENCODER.**	Are there foreign materials, breakage or damage in the protrusion of ABS wheel speed sensor or magnetic encoder?	Remove dirt thoroughly. Replace the ABS wheel speed sensor or magnetic encoder as a unit with hub unit bearing when it is broken or damaged.	Go to step **10.**
10	**CHECK SOURCES OF SIGNAL NOISE.** Make sure the car phone, radio wave device like radio and etc., or electric device are installed correctly.	Is the car phone, radio wave device like radio and etc., or electric device installed correctly?	Go to step **11.**	Install the radio wave device and electric device properly.
11	**CHECK SOURCES OF SIGNAL NOISE.** Check if the noise sources are (such as an antenna) installed near the sensor harness.	Are noise sources installed?	Go to step **12.**	Install the noise sources apart from the sensor harness.

	Step	Check	Yes	No
12	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **13.**
13	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference. NOTE: Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at more than 12 km/h (7 MPH) in order to turn ABS warning light off. Be sure to drive the vehicle and check the warning light goes off.

M: DTC C0029 ABS WHEEL SPEED SENSOR SIGNAL MALFUNCTION IN ONE OF FOUR WHEELS

DTC DETECTING CONDITION:

- Defective ABS wheel speed sensor signal (noise, irregular signal, etc.)
- Defective magnetic encoder
- When a wheel is turned freely for a long time

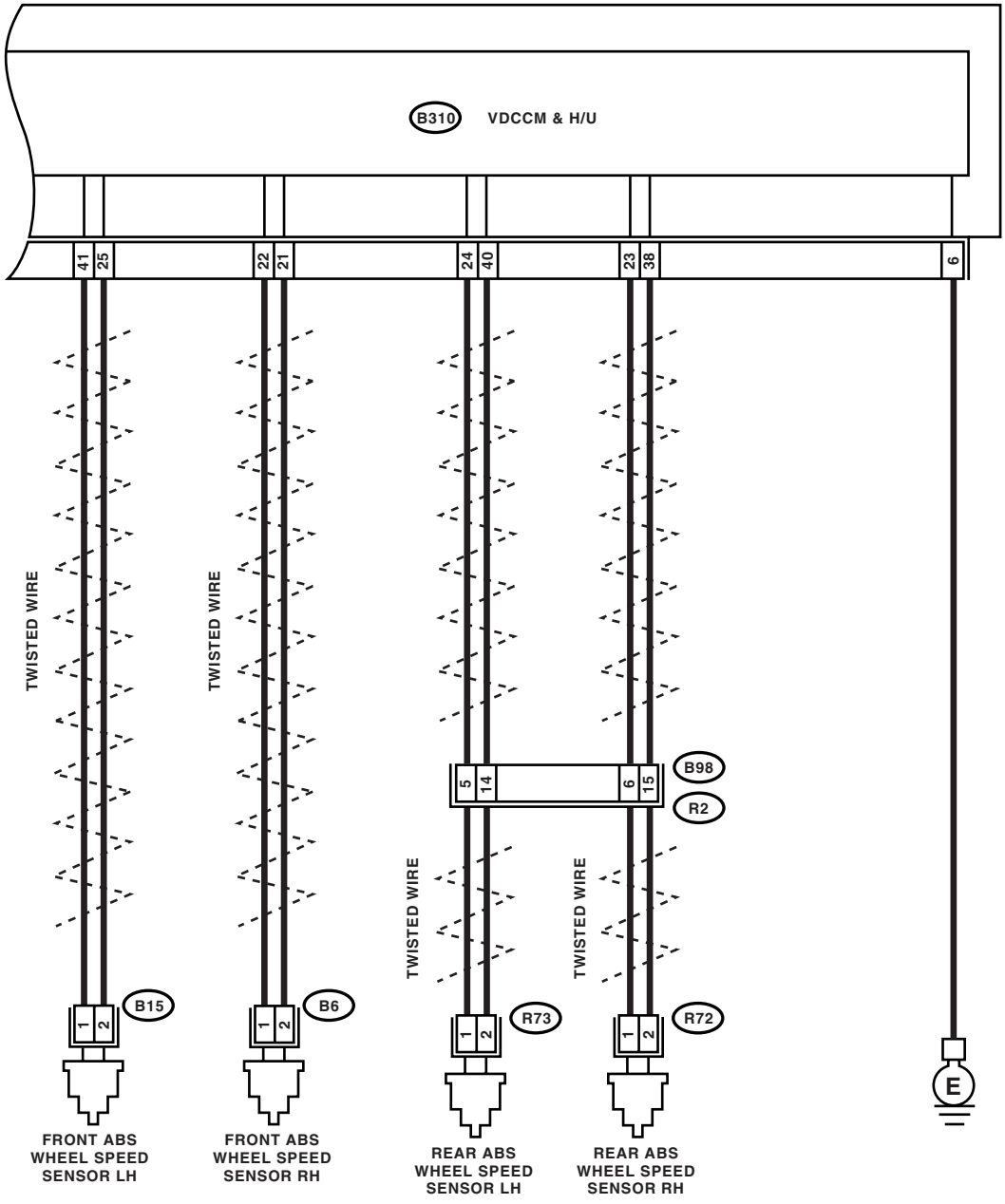
TROUBLE SYMPTOM:

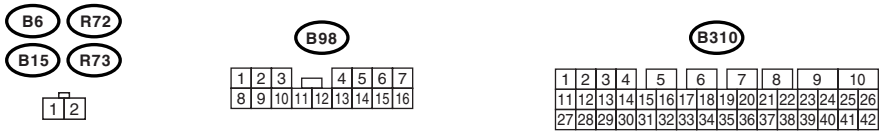
- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

NOTE:
Brake warning light comes on as well as ABS warning light when EBD does not operate.

WIRING DIAGRAM:

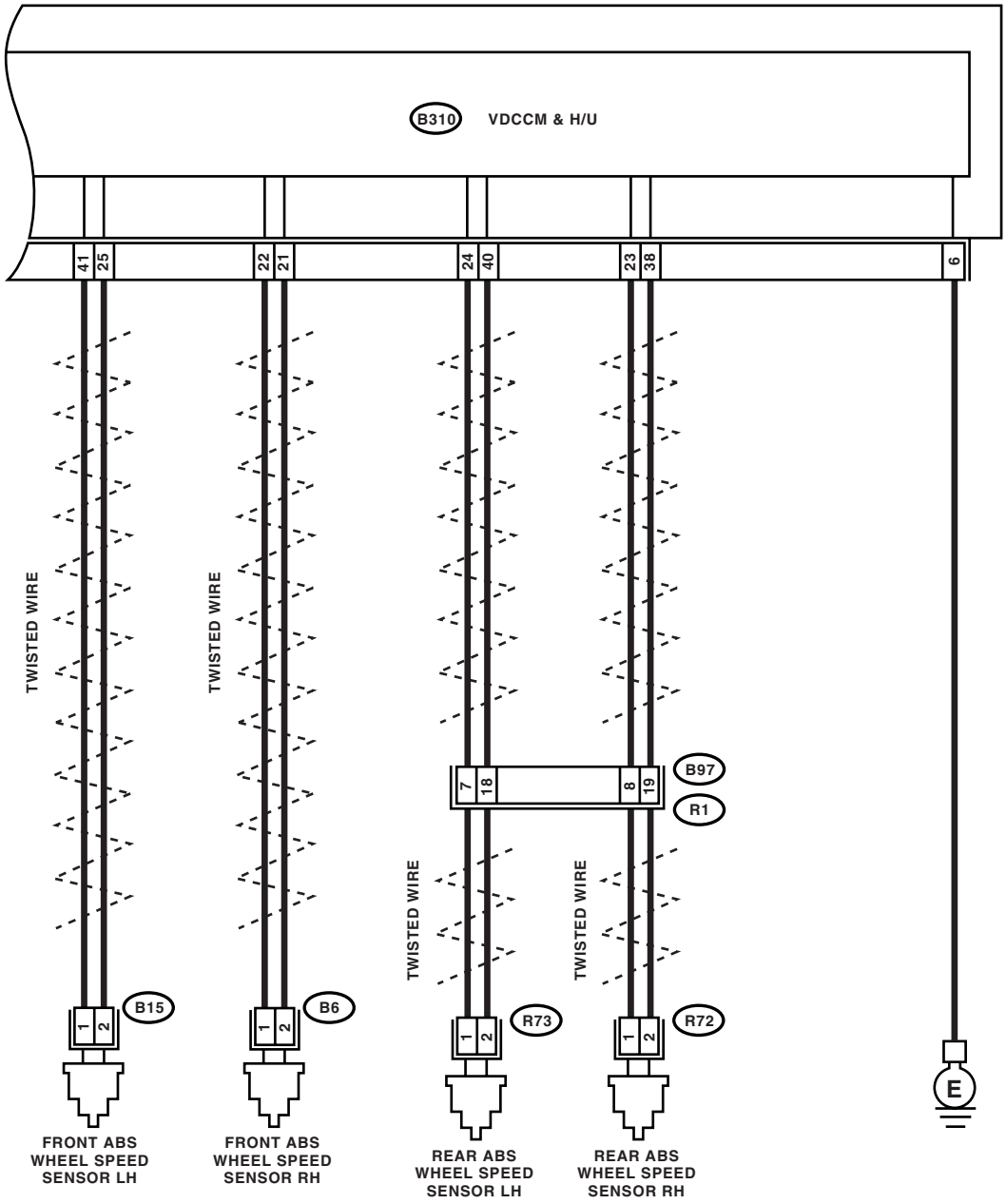
- LHD model

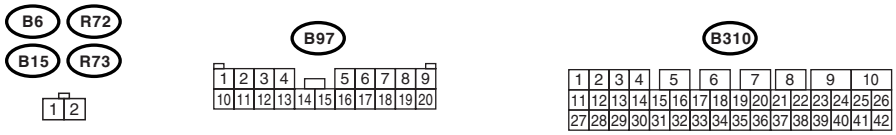




VDC00246

- RHD model





VDC00215

	Step	Check	Yes	No
1	**WHETHER A WHEEL TURNED FREELY OR NOT.** 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 the wheels are not in contact with road surface.	Did the wheels turn freely?	VDC is normal. Erase the memory. NOTE: When the wheels turn freely for a long time, such as when the vehicle is towed or jacked-up, or when steering wheel is continuously turned all the way, this diagnostic trouble code may sometimes occur.	Go to step **2.**
2	**CHECK TIRE SPECIFICATIONS.** Turn the ignition switch to OFF.	Are the tire specifications correct?	Go to step **3.**	Replace the tire.
3	**CHECK WEAR OF TIRE.**	Is the tire worn excessively?	Replace the tire.	Go to step **4.**
4	**CHECK TIRE INFLATION PRESSURE.**	Is the tire pressure correct?	Go to step **5.**	Adjust the tire pressure.
5	**CHECK INSTALLATION OF ABS WHEEL SPEED SENSOR.**	Are the ABS wheel speed sensor installation bolts tightened to 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)? (For four wheels)	Go to step **6.**	Tighten the ABS wheel speed sensor installation bolts.
6	**CHECK ABS WHEEL SPEED SENSOR SIGNAL.** 1) Install the ABS wheel speed sensor. 2) Prepare an oscilloscope. 3) Check the ABS wheel speed sensor. <Ref. to ABS-13, ABS WHEEL SPEED SENSOR, INSPECTION, Front ABS Wheel Speed Sensor.>	Is the oscilloscope pattern the same waveform as shown in the figure when the tire is rotated? Is the pattern as shown in the figure displayed regularly in the oscilloscope when the tire is slowly rotated more than one revolution with even speed?	Go to step **8.**	Go to step **7.**
7	**CHECK ABS WHEEL SPEED SENSOR OR MAGNETIC ENCODER.**	Are there foreign materials, breakage or damage in the protrusion of ABS wheel speed sensor or magnetic encoder?	Remove dirt thoroughly. Replace the ABS wheel speed sensor or magnetic encoder as a unit with hub unit bearing if there is breakage or damage.	Go to step **8.**
8	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. <Ref. to VDC(diag)-23, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **9.**

Step		Check	Yes	No
9	CHECK OTHER DTC DETECTION.	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference. NOTE: Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at more than 12 km/h (7 MPH) in order to turn off the ABS warning light. Be sure to drive the vehicle and check the warning light goes off.

N: DTC C0031 FRONT INLET SOLENOID VALVE RH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

O: DTC C0032 FRONT OUTLET SOLENOID VALVE RH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

P: DTC C0033 FRONT INLET SOLENOID VALVE LH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Q: DTC C0034 FRONT OUTLET SOLENOID VALVE LH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

R: DTC C0035 REAR INLET SOLENOID VALVE RH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

S: DTC C0036 REAR OUTLET SOLENOID VALVE RH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

T: DTC C0037 REAR INLET SOLENOID VALVE LH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

U: DTC C0038 REAR OUTLET SOLENOID VALVE LH MALFUNCTION IN VDC-CM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

V: DTC C0061 SECONDARY CUT VALVE MALFUNCTION IN VDCCM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

W: DTC C0062 PRIMARY CUT VALVE MALFUNCTION IN VDCCM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

X: DTC C0063 SECONDARY SUCTION VALVE MALFUNCTION IN VDCCM&H/U

NOTE:
For the diagnostic procedure, refer to DTC C0064 “PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U”. <Ref. to VDC(diag)-63, DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDC-CM&H/U, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Y: DTC C0064 PRIMARY SUCTION VALVE MALFUNCTION IN VDCCM&H/U

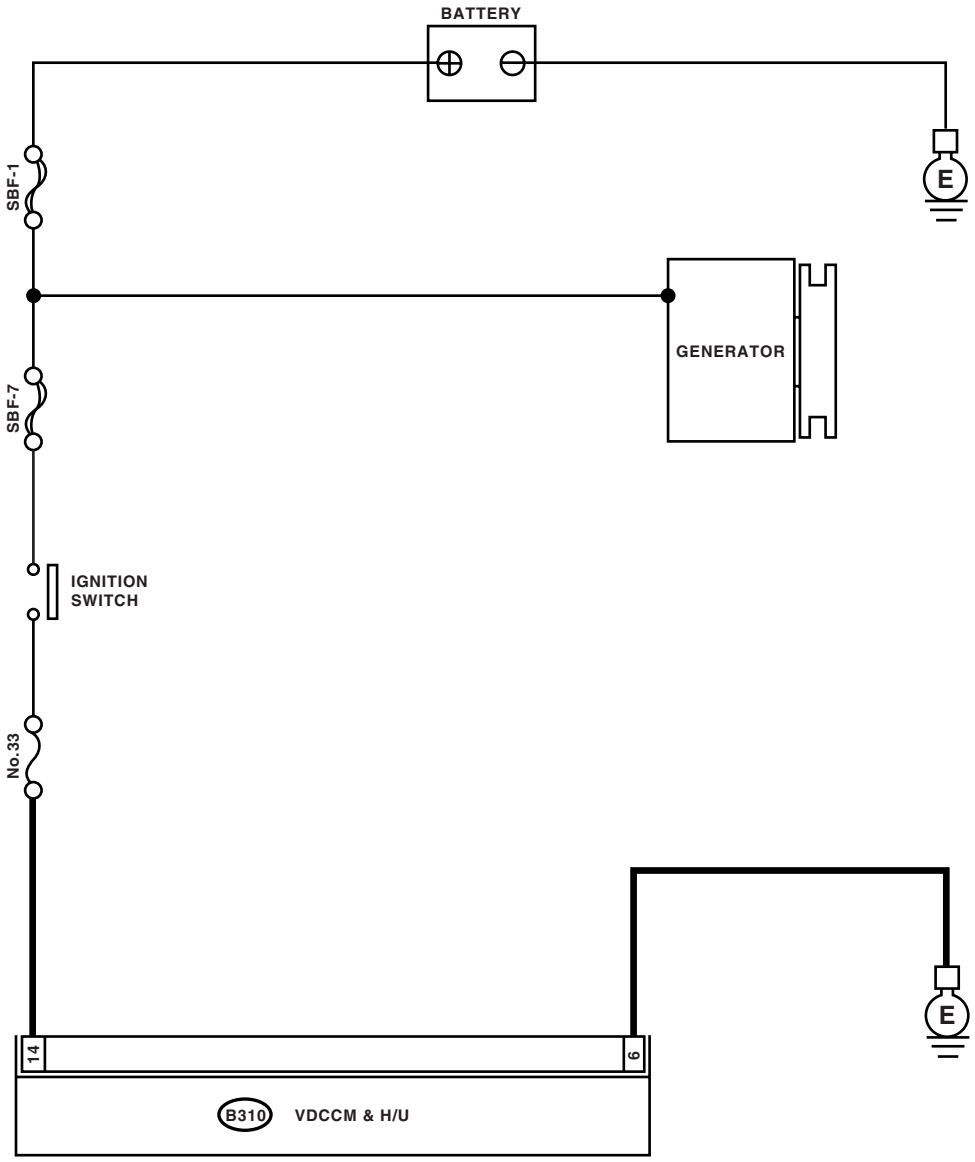
DTC DETECTING CONDITION:

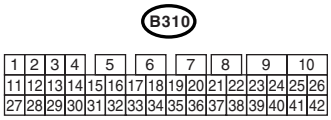
- Defective harness connector
- Defective VDCH/U solenoid valve

TROUBLE SYMPTOM:

- ABS does not operate.
- EBD does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00216

	Step	Check	Yes	No
1	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 14 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the power supply circuit.
2	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the VDCCM&H/U ground harness.
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **4.**
4	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **5.**
5	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

Z: DTC C0041 VDC CONTROL MODULE MALFUNCTION

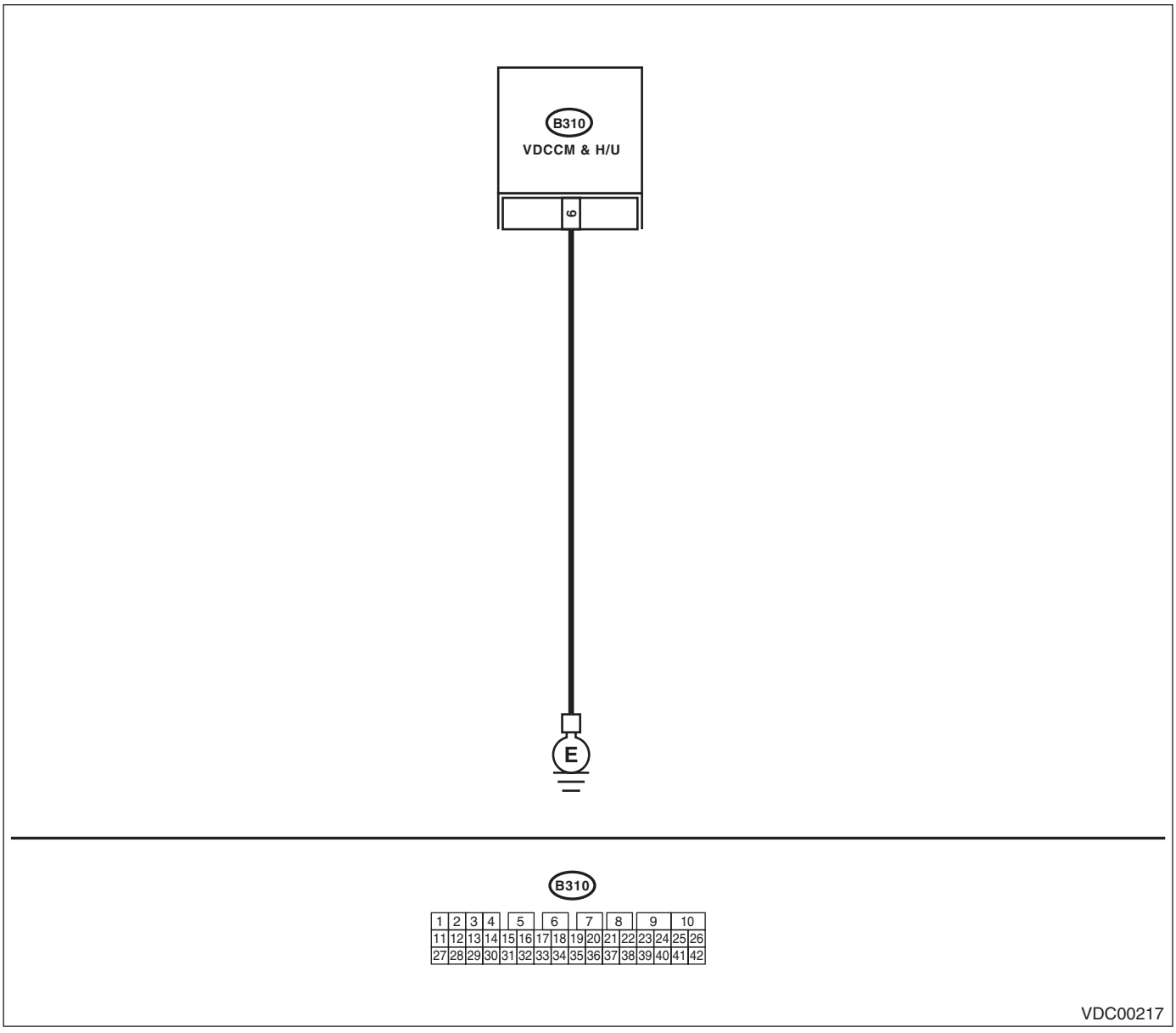
DTC DETECTING CONDITION:

Defective VDCCM&H/U

TROUBLE SYMPTOM:

- ABS does not operate.
- EBD does not operate.
- VDC does not operate.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **2.**	Repair the VDCCM&H/U ground harness.
2	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connectors between battery, ignition switch and VDCCM&H/U?	Repair the connector.	Go to step **3.**
3	**CHECK SOURCES OF SIGNAL NOISE.**	Is the car phone or radio properly installed?	Go to step **4.**	Install the car phone or radio properly.
4	**CHECK SOURCES OF SIGNAL NOISE.**	Are noise sources (such as an antenna) installed near the sensor harness?	Install the noise sources apart from the sensor harness.	Go to step **5.**
5	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **6.**
6	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AA:DTC C0042 POWER VOLTAGE MALFUNCTION

DTC DETECTING CONDITION:

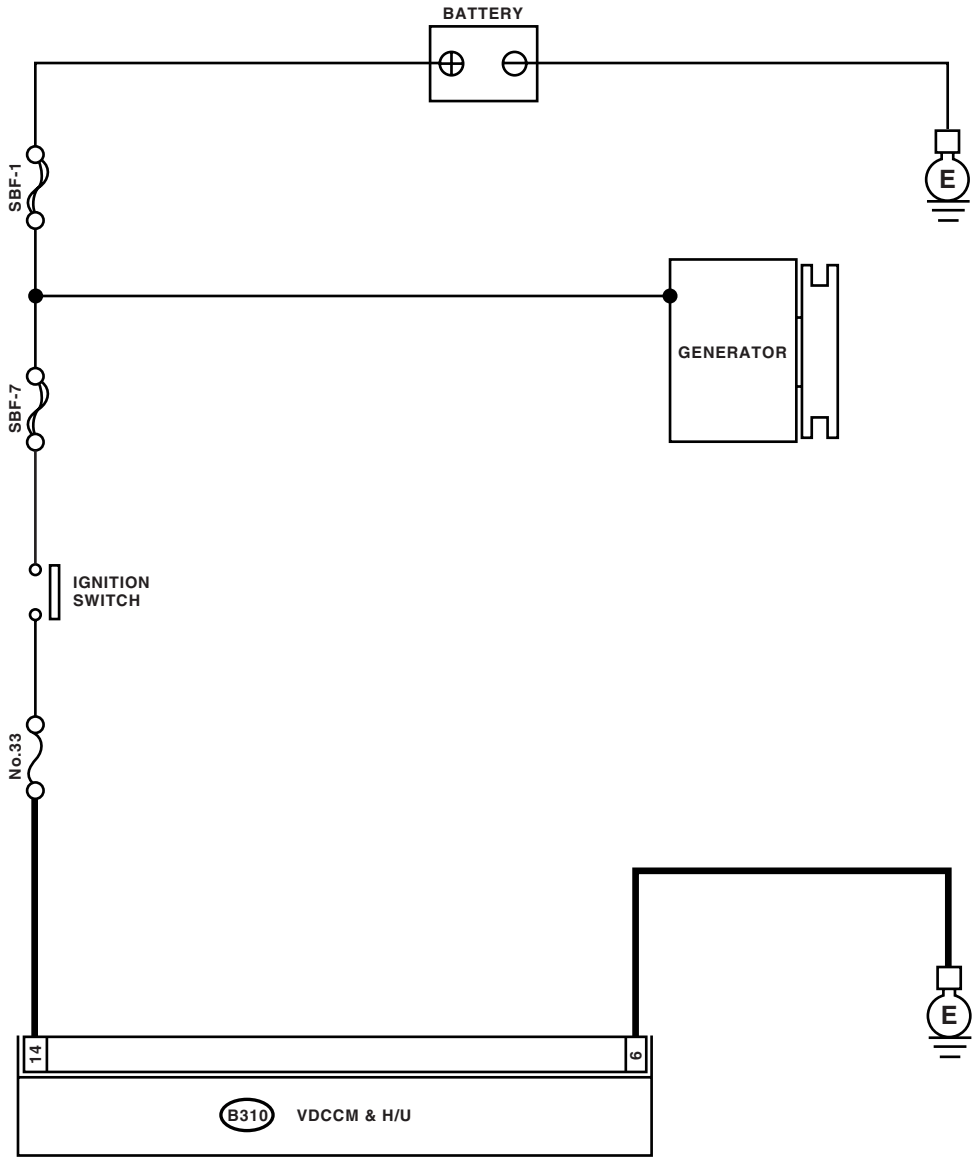
Defective VDCCM&H/U power voltage

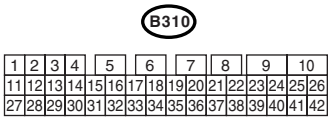
TROUBLE SYMPTOM:

- ABS does not operate.
- EBD may not operate.
- VDC does not operate.

NOTE:
Warning lights go off if voltage returns.

WIRING DIAGRAM:





VDC00216

	Step	Check	Yes	No
1	**CHECK GENERATOR.** 1) Start the engine. 2) Run the engine at idle after warming up. 3) Measure the voltage between generator B terminal and chassis ground. ***Terminals*** ***Generator B terminal (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the generator. <Ref. to SC(H4SO 2.0)-14, Generator.>
2	**CHECK BATTERY TERMINAL.** Turn the ignition switch to OFF.	Are the positive and negative battery terminals clamped tightly?	Go to step **3.**	Tighten the terminal.
3	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Disconnect the connector from VDCCM&H/U. 2) Run the engine at idle. 3) Operate the devices such as headlights, air conditioner, defogger, etc. which produce much electrical loading. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 14 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **4.**	Repair the power supply circuit.
4	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **5.**	Repair the VDCCM&H/U ground harness.
5	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **6.**
6	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **7.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AB:DTC C0042 ABS WHEEL SPEED SENSOR POWER MALFUNCTION

NOTE:
For the diagnostic procedure, refer to DTC C0042 “POWER VOLTAGE MALFUNCTION”. <Ref. to VDC(diag)-67, DTC C0042 POWER VOLTAGE MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AC:DTC C0044 AT COMMUNICATION

DTC DETECTING CONDITION:
No CAN signal from TCM.
TROUBLE SYMPTOM:
- ABS does not operate.
- VDC does not operate.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **2.**
2	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in TCM connector?	Repair the connector.	Go to step **3.**
3	**CHECK TCM.**	Is the TCM normal?	Go to step **4.**	Replace the TCM. <Ref. to 4AT-65, Transmission Control Module (TCM).> <Ref. to 5AT-61, Transmission Control Module (TCM).>
4	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U.	Go to step **5.**
5	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

AD:DTC C0045 DIFFERENT VDC CONTROL MODULE SPECIFICATION

DTC DETECTING CONDITION:

Different control module specification

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

	Step	Check	Yes	No
1	**CHECK VDCCM&H/U SPECIFICATION.** Check the identification mark of VDCCM&H/U. ***Identification mark of VDCCM&H/U*** ***OUTBACK 3.0 R: G2*** ***Wagon model 2.5 i: G3*** ***Wagon model 3.0 R: G4*** ***Sedan model 2.5 i: G9*** ***Sedan model 3.0 R: GA***	Is the identification mark of VDCCM&H/U the same as vehicle specification?	Go to step **2.**	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>
2	**CHECK TCM SPECIFICATION.** Check the TCM specification.	Is the specification of TCM same as vehicle specification?	Go to step **3.**	Replace the TCM. <Ref. to 4AT-65, Transmission Control Module (TCM).> <Ref. to 5AT-61, Transmission Control Module (TCM).>
3	**CHECK AT SYSTEM.** 1) Start the engine. 2) Check the DTC in AT system.	Is DTC of AT system displayed?	Repair the AT system.	Go to step **4.**
4	**CHECK ECM SPECIFICATION.** Check the ECM specification.	Is the specification of ECM same as vehicle specification?	Go to step **5.**	Replace the ECM. <Ref. to FU(H4SO 2.0)-34, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-35, Engine Control Module (ECM).> <Ref. to FU(H6DO)-34, Engine Control Module (ECM).>
5	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U.	Go to step **6.**
6	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

AE:DTC C0045 AT CONTROL MODULE MALFUNCTION

DTC DETECTING CONDITION:

Defective TCM

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

	Step	Check	Yes	No
1	**CHECK AT SYSTEM.** 1) Start the engine. 2) Check the DTC in AT system.	Is DTC of AT system displayed?	Repair the AT system.	Go to step **2.**
2	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U.	Go to step **3.**
3	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

AF:DTC C0047 IMPROPER CAN COMMUNICATION

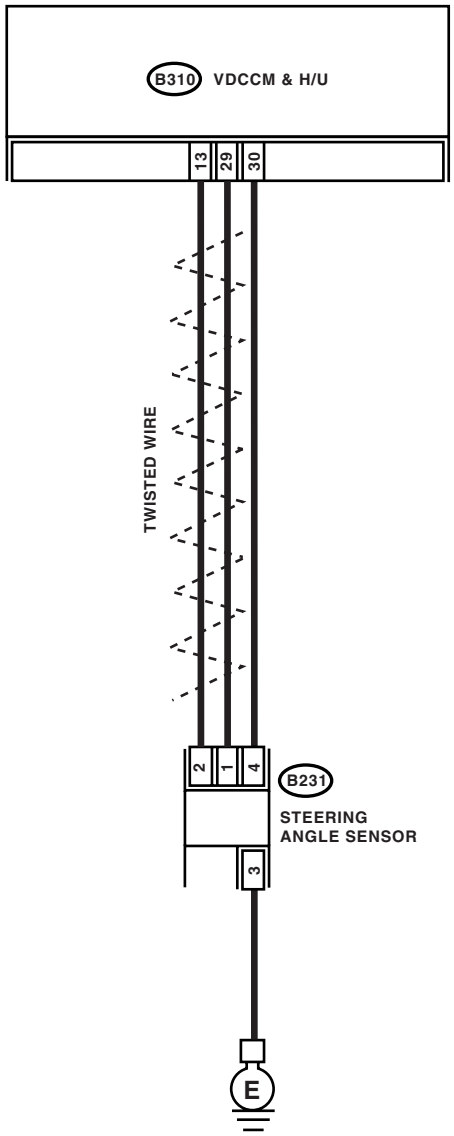
DTC DETECTING CONDITION:

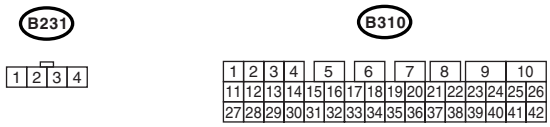
CAN communication line circuit is open or shorted.

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00247

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **2.**
2	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in VDCCM&H/U connector?	Repair the connector.	Go to step **3.**
3	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Temporary poor contact occurs.

AG:DTC C0051 VALVE RELAY OFF MALFUNCTION

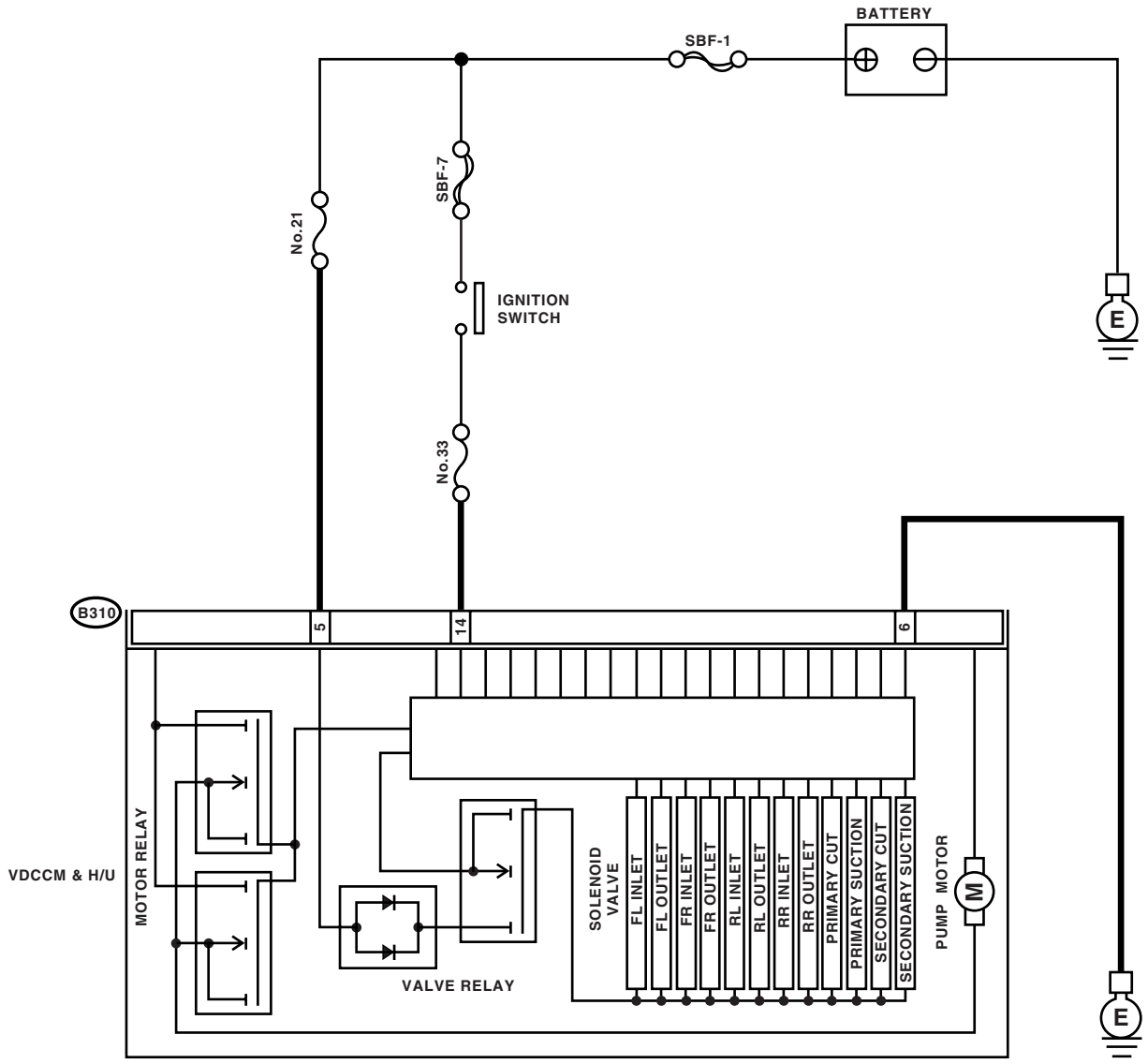
DTC DETECTING CONDITION:

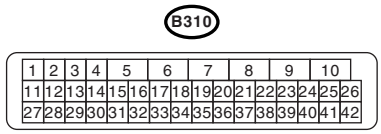
Defective valve relay

TROUBLE SYMPTOM:

- ABS does not operate.
- EBD does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00219

	Step	Check	Yes	No
1	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 5 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the harness connector between battery and VDCCM&H/U.
2	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the VDCCM&H/U ground harness.
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **4.**
4	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **5.**
5	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AH:DTC C0051 VALVE RELAY MALFUNCTION

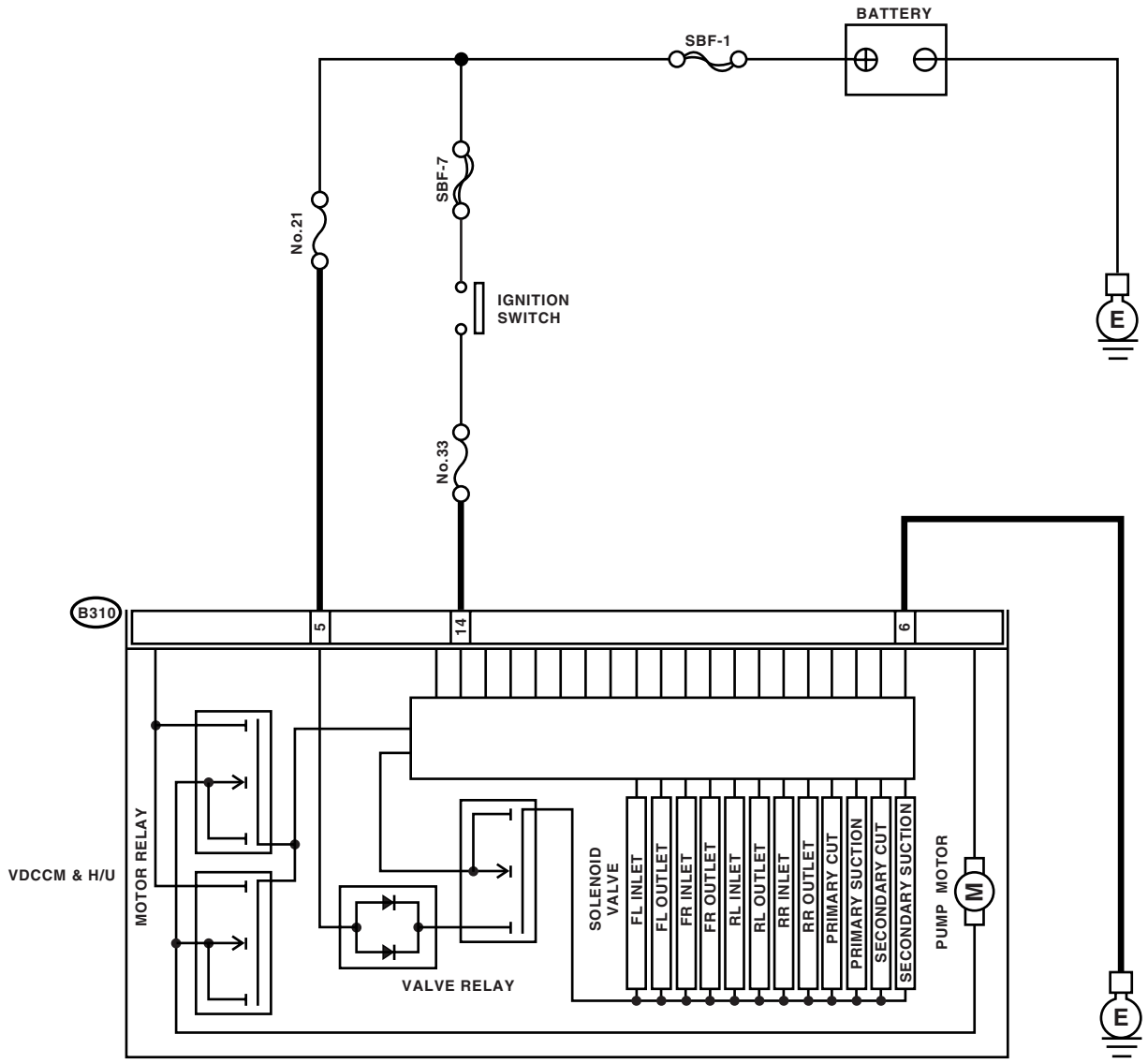
DTC DETECTING CONDITION:

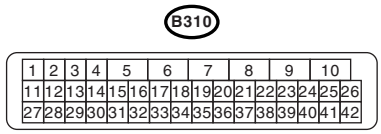
Defective valve relay

TROUBLE SYMPTOM:

- ABS does not operate.
- EBD does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00219

	Step	Check	Yes	No
1	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 14 (+) —Chassis ground (–):*** ***(B310) No. 5 (+) — Chassis ground (–):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the power supply circuit.
2	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** Calculate the voltage difference measured in step 1. A:(B310) No. 14 (+) — Chassis ground (–): B:(B310) No. 5 (+) — Chassis ground (–):	Is the voltage difference between A and B more than 2 V?	Repair the power supply circuit.	Go to step **3.**
3	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **4.**	Repair the VDCCM&H/U ground harness.
4	**CHECK VALVE RELAY FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 5 — (B310) No. 6:***	Is the resistance more than 1 MΩ?	Go to step **5.**	Replace the VDCCM&H/U.
5	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **6.**
6	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **7.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AI: DTC C0051 VALVE RELAY TEST MALFUNCTION

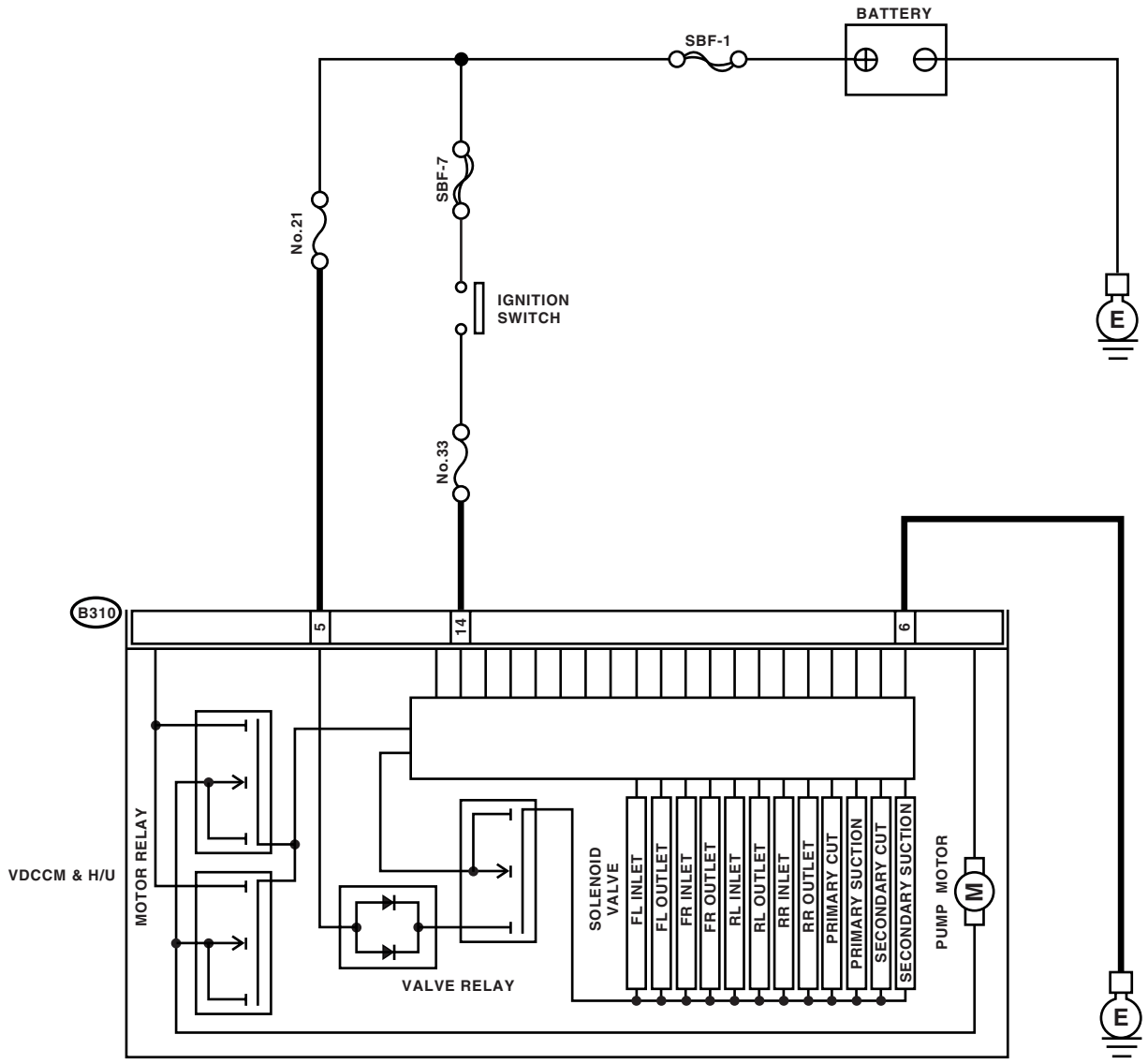
DTC DETECTING CONDITION:

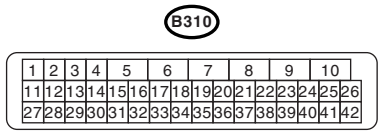
Defective valve relay

TROUBLE SYMPTOM:

- ABS does not operate.
- EBD does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00219

	Step	Check	Yes	No
1	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 5 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the power supply circuit in VDCCM&H/U.
2	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the ground circuit in VDCCM&H/U.
3	**CHECK VALVE RELAY FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 5 — (B310) No. 6:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the H/U.
4	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **5.**
5	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **6.**
6	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AJ:DTC C0051 VALVE RELAY ON MALFUNCTION

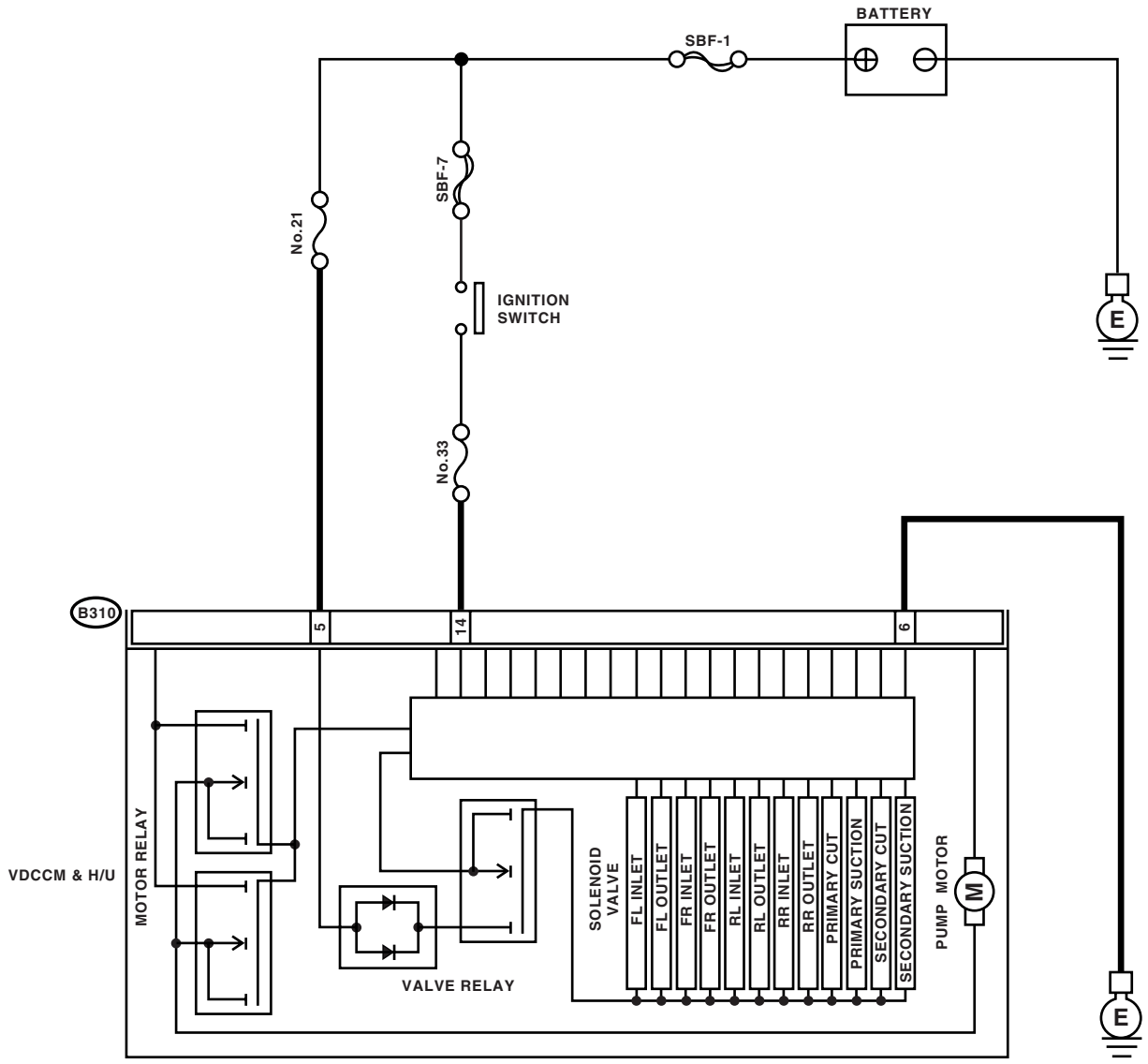
DTC DETECTING CONDITION:

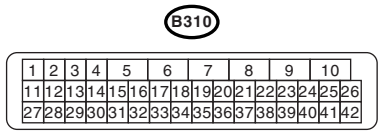
Defective valve relay

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

WIRING DIAGRAM:





VDC00219

	Step	Check	Yes	No
1	**CHECK VALVE RELAY FOR VDCCM&H/U.** 1) Disconnect the connector from VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U connector terminals. ***Terminals*** ***No. 5 — No. 6:***	Is the resistance more than 1 MΩ?	Go to step **2.**	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>
2	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **3.**
3	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4.**
4	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AK:DTC C0052 MOTOR/MOTOR RELAY MALFUNCTION

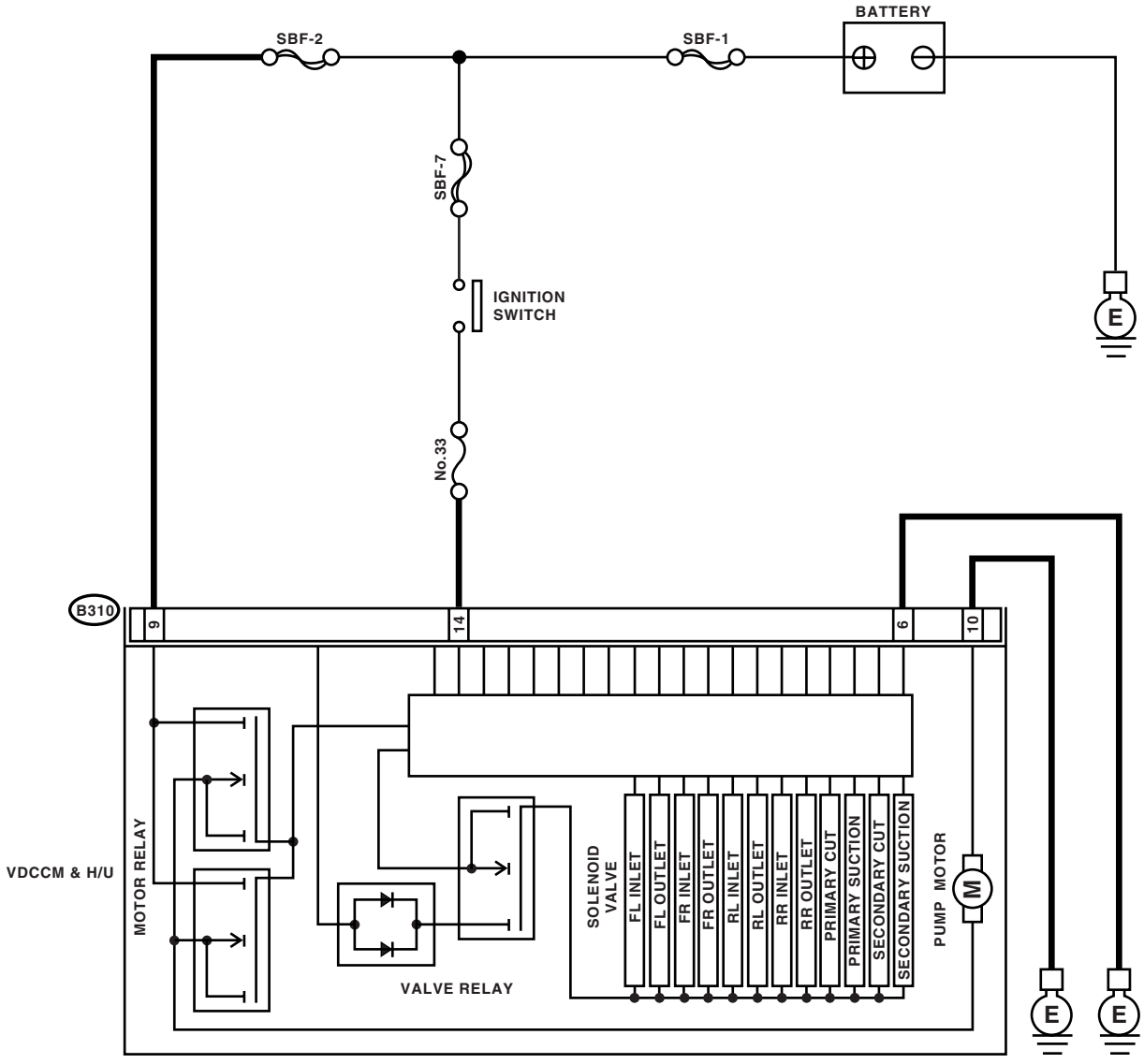
DTC DETECTING CONDITION:

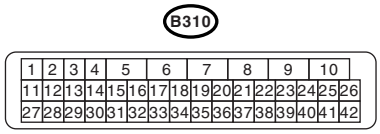
- Defective motor and motor relay
- Defective harness connector

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

WIRING DIAGRAM:





VDC00220

	Step	Check	Yes	No
1	**CHECK INPUT VOLTAGE FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 9 (+) — Chassis ground (−):*** ***(B310) No. 14 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **2.**	Repair the power supply circuit in VDCCM&H/U.
2	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 6 — Chassis ground:*** ***(B310) No. 10 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **3.**	Repair the VDCCM&H/U ground harness.
3	**CHECK MOTOR RELAY FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U connector terminals. ***Terminals*** ***No. 9 — No. 10:***	Is the resistance more than 1 MΩ?	Go to step **4.**	Replace the VDCCM&H/U.
4	**CHECK MOTOR OPERATION.** Operate the sequence control.	Is the motor revolution noise (buzz) heard when carrying out the sequence control?	Go to step **5.**	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>
5	**CHECK POOR CONTACT IN CONNECTORS.** Turn the ignition switch to OFF.	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step **6.**
6	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **7.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs. NOTE: Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at more than 12 km/h (7 MPH) in order to turn ABS warning light off. Be sure to drive the vehicle and check the warning light goes off.

AL:DTC C0052 MOTOR/MOTOR RELAY OFF MALFUNCTION

DTC DETECTING CONDITION:

- Defective motor relay
- Defective harness connector

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

NOTE:
For the diagnostic procedure, refer to DTC C0052 “MOTOR/MOTOR RELAY MALFUNCTION” <Ref. to VDC(diag)-83, DTC C0052 MOTOR/MOTOR RELAY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AM:DTC C0052 MOTOR/MOTOR RELAY ON MALFUNCTION

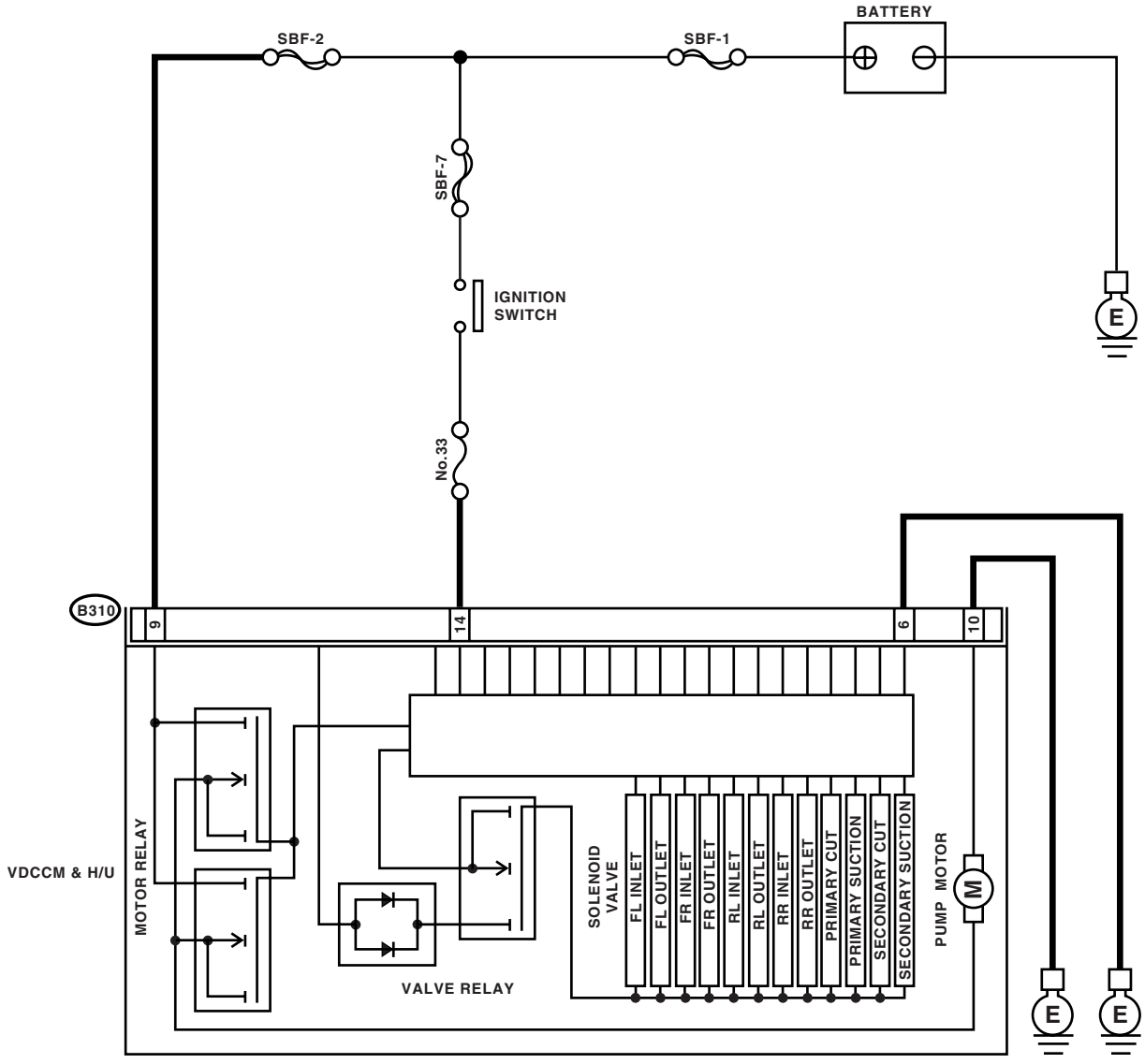
DTC DETECTING CONDITION:

- Defective motor relay
- Defective harness connector

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

WIRING DIAGRAM:



B310

1	2	3	4	5		6		7		8		9		10											
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26										
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42										

VDC00220

	Step	Check	Yes	No
1	**CHECK MOTOR RELAY FOR VDCCM&H/U.** 1) Disconnect the connector from VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U connector terminals. ***Terminals*** ***No. 9 — No. 10:***	Is the resistance more than 1 MΩ?	Go to step **2.**	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>
2	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **3.**
3	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs. NOTE: Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at more than 12 km/h (7 MPH) in order to turn ABS warning light off. Be sure to drive the vehicle and check the warning light goes off.

AN:DTC C0052 MOTOR

DTC DETECTING CONDITION:

- Defective motor
- Defective motor relay
- Defective harness connector

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.
- EBD may not operate.

NOTE:
For the diagnostic procedure, refer to DTC C0052 “MOTOR/MOTOR RELAY MALFUNCTION” <Ref. to VDC(diag)-83, DTC C0052 MOTOR/MOTOR RELAY MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

AO:DTC C0054 BLS OPEN CIRCUIT

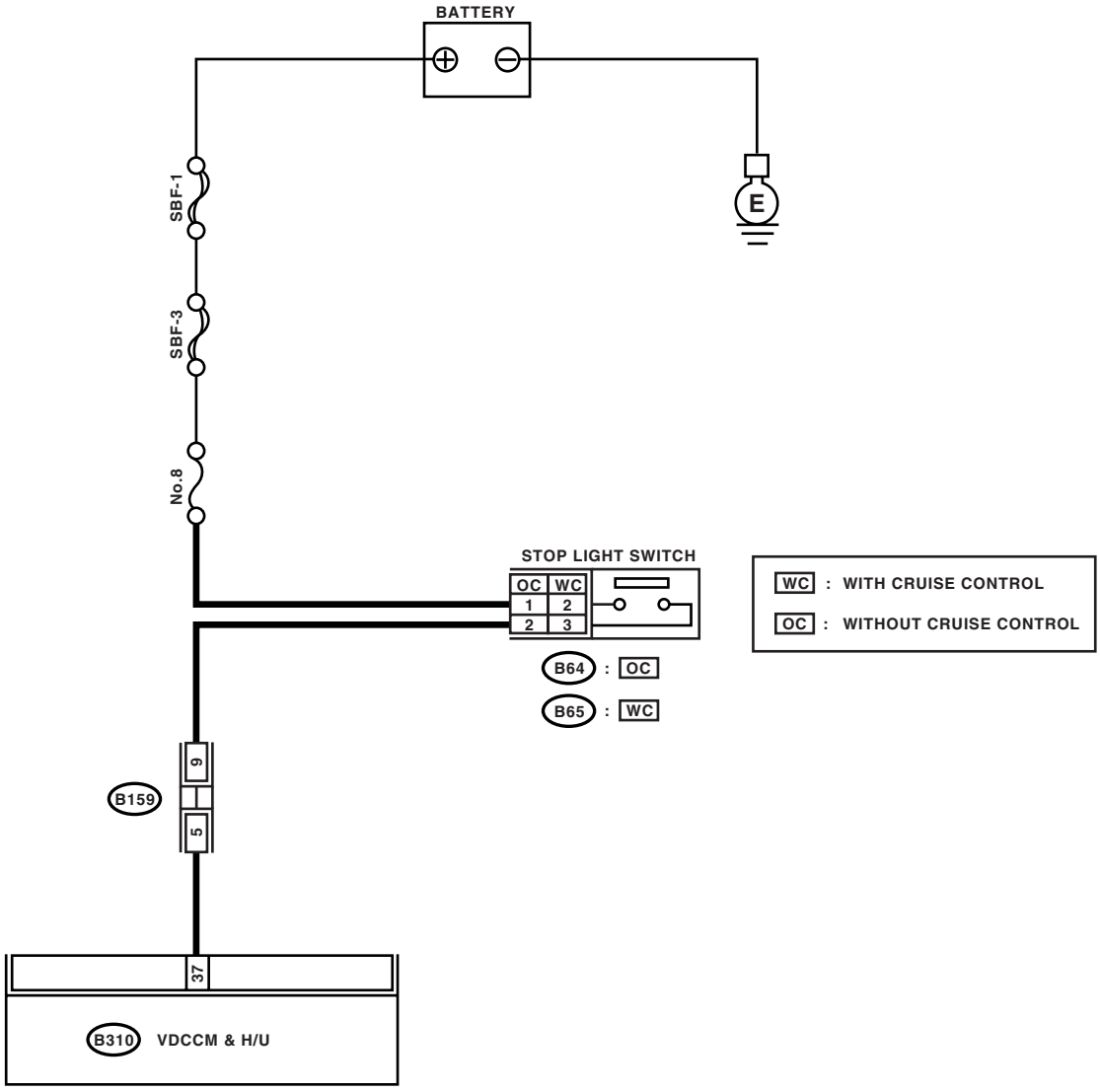
DTC DETECTING CONDITION:

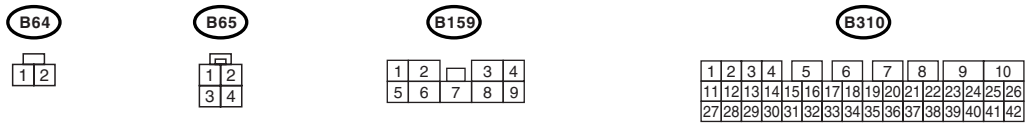
Defective stop light switch

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00221

	Step	Check	Yes	No
1	**CHECK OUTPUT OF STOP LIGHT SWITCH WITH SUBARU SELECT MONITOR.** 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Release the brake pedal. 3) Read the stop light switch output in Subaru Select Monitor.	Is OFF displayed on the display?	Go to step **2.**	Go to step **3.**
2	**CHECK OUTPUT OF STOP LIGHT SWITCH WITH SUBARU SELECT MONITOR.** 1) Depress the brake pedal. 2) Read the stop light switch output in Subaru Select Monitor.	Is ON displayed on the display?	Go to step **5.**	Go to step **3.**
3	**CHECK IF STOP LIGHTS COME ON.** Depress the brake pedal.	Does the stop light illuminate?	Go to step **4.**	Repair the stop lights circuit.
4	**CHECK OPEN CIRCUIT OF HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Depress the brake pedal. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 37 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **5.**	Repair the harness between stop light switch and VDCCM&H/U connector.
5	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between stop light switch and VDCCM&H/U?	Go to step **6.**	Repair the connector.
6	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **7.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AP:DTC C0054 BLS ON MALFUNCTION

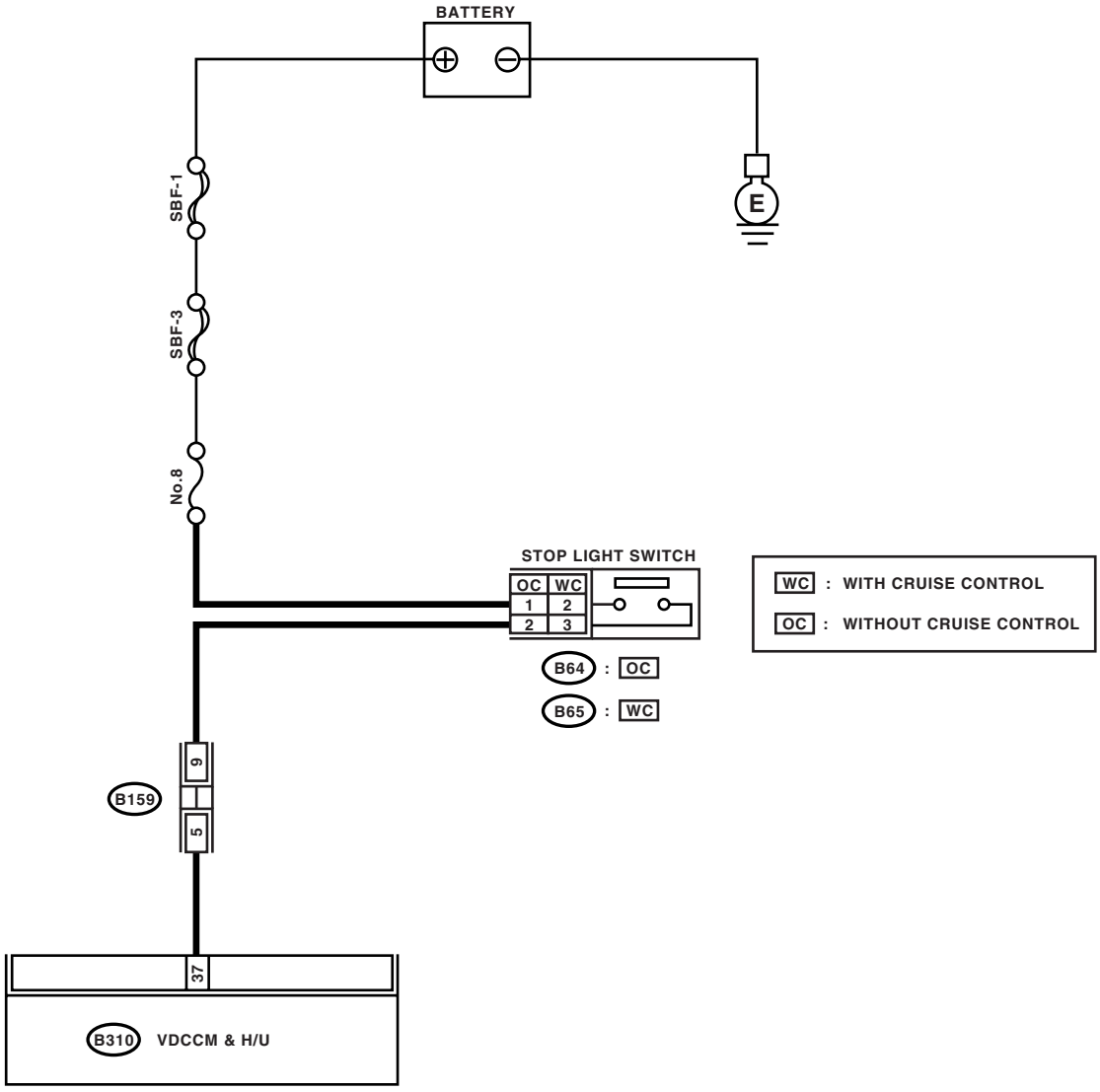
DTC DETECTING CONDITION:

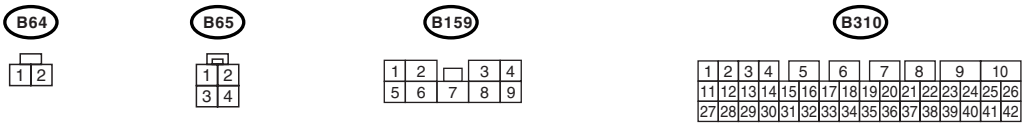
Defective stop light switch

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00221

	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH.** 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch connector. 3) Measure the resistance of stop light switch terminals.	Is the resistance more than 1 MΩ when switch is OFF (when pedal is not depressed)?	Go to step **2.**	Replace the stop light switch.
2	**INTERVIEWING CUSTOMERS.** Make sure that the operation was performed in which accelerator pedal and brake pedal were depressed simultaneously (with depressing brake pedal with left foot).	Were the acceleration pedal and brake pedal depressed simultaneously during driving?	System is in good order. (DTC may be recorded while brake is applied during driving.)	Go to step **3.**
3	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4.**
4	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AQ:DTC C0057 EGI COMMUNICATION

DTC DETECTING CONDITION:

No CAN signal from ECM.

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

	Step	Check	Yes	No
1	**CHECK LAN SYSTEM.** Perform the diagnosis for LAN system. <Ref. to LAN(diag)-24, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is there any fault in LAN system?	Perform the diagnosis according to DTC for LAN system.	Go to step **2.**
2	**CHECK POOR CONTACT IN CONNECTORS.**	Is the poor contact in ECM connector?	Repair the connector.	Go to step **3.**
3	**CHECK ECM.**	Is ECM normal?	Go to step **4.**	Replace the ECM.
4	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	It results from a temporary noise interference.
5	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AR:DTC C0071 EXCESSIVE STEERING ANGLE SENSOR OUTPUT OFFSET

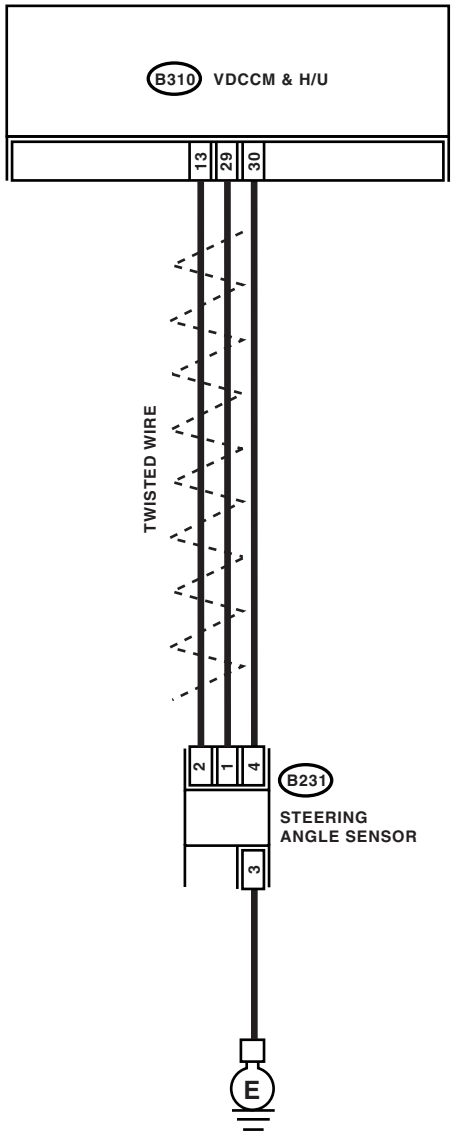
DTC DETECTING CONDITION:

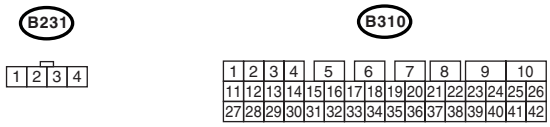
Defective steering angle sensor

TROUBLE SYMPTOM:

VDC does not operate.

WIRING DIAGRAM:



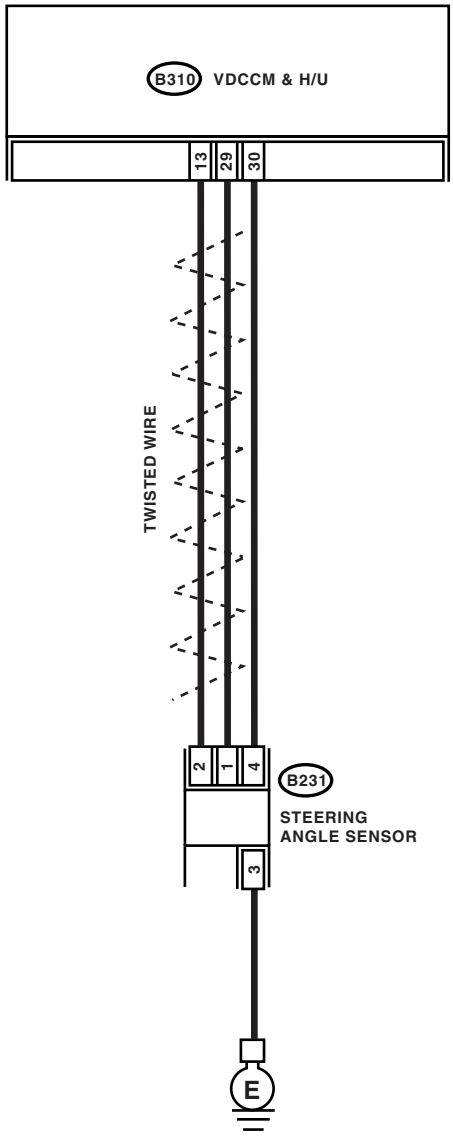


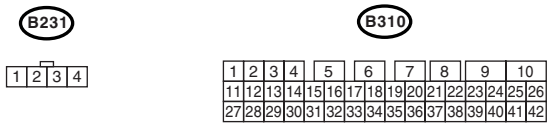
VDC00247

	Step	Check	Yes	No
1	**CHECK STEERING WHEEL.** 1) Drive the vehicle on a flat road. 2) Park the vehicle straight. 3) Check the steering wheel for deviation from center.	Is the deviation from the center of steering wheel less than 5°?	Go to step **2.**	Perform the centering adjustment of steering wheel.
2	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **3.**
3	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AS:DTC C0071 EXCESSIVE VARIATION AMOUNT OF STEERING ANGLE SENSOR OUTPUT

DTC DETECTING CONDITION:
Defective steering angle sensor
TROUBLE SYMPTOM:
VDC does not operate.
WIRING DIAGRAM:





VDC00247

	Step	Check	Yes	No
1	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **2.**
2	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

AT:DTC C0071 STEERING ANGLE SENSOR OUTPUT

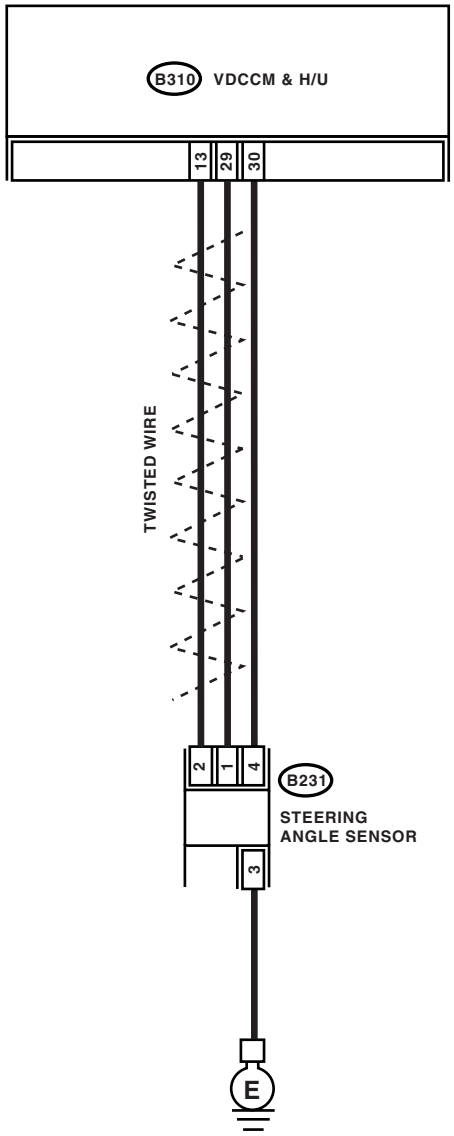
DTC DETECTING CONDITION:

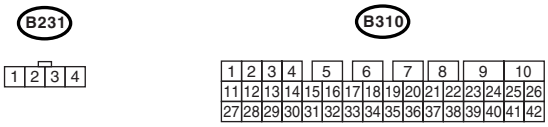
Defective steering angle sensor

TROUBLE SYMPTOM:

VDC does not operate.

WIRING DIAGRAM:





VDC00247

	Step	Check	Yes	No
1	**CHECK STEERING WHEEL.** 1) Drive the vehicle on a flat road. 2) Park the vehicle straight. 3) Check the steering wheel for deviation from center.	Is the deviation from the center of steering wheel less than 5°?	Go to step **2.**	Perform the centering adjustment of steering wheel.
2	**CHECK DRIVING PLACE.** Check if the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Did the vehicle run the road with banks or sandy surface (which does not mean a dirt road)?	VDCCM&H/U may record DTC when the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Go to step **3.**
3	**CHECK OUTPUT OF STEERING ANGLE SENSOR WITH SUBARU SELECT MONITOR.** 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Read the steering angle sensor output displayed on display.	Does the steering angle sensor output value on the display vary in accordance with steering operation when turning the steering wheel to the right or left?	Go to step **4.**	Replace the steering angle sensor.
4	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **5.**
5	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AU:DTC C0071 STEERING ANGLE SENSOR COMMUNICATION

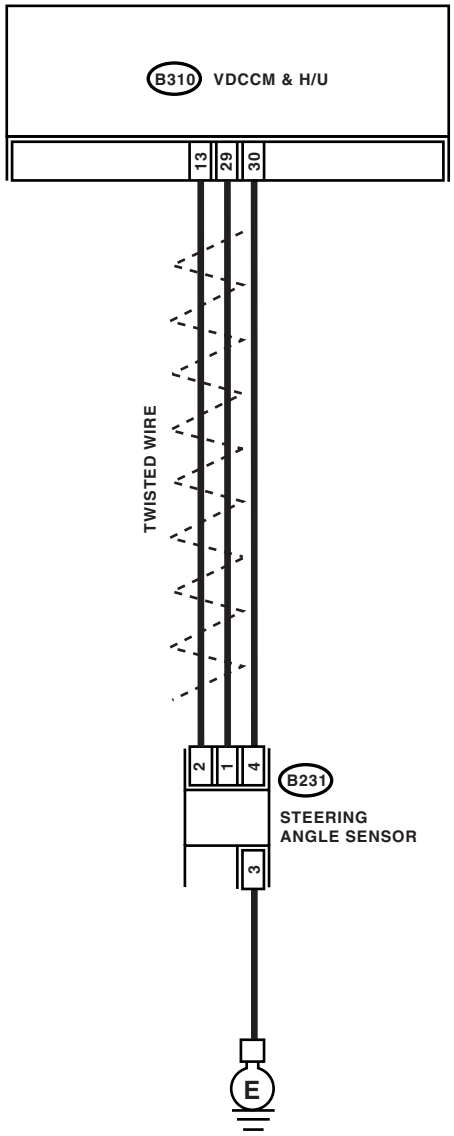
DTC DETECTING CONDITION:

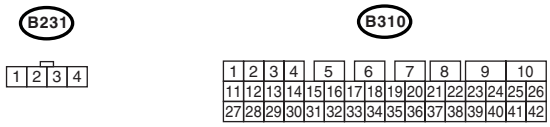
Signal does not come from the steering angle sensor.

TROUBLE SYMPTOM:

VDC does not operate.

WIRING DIAGRAM:





VDC00247

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from steering angle sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B231) No. 4 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **4.**	Go to step **2.**
2	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between steering angle sensor and VDCCM&H/U.	Go to step **3.**
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **9.**
4	**CHECK GROUND CIRCUIT FOR STEERING ANGLE SENSOR.** Measure the resistance between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B231) No. 3 — Chassis ground:***	Is the resistance 0.5 Ω?	Go to step **5.**	Repair ground circuit in the steering angle sensor.
5	**CHECK STEERING ANGLE SENSOR HARNESS.** 1) Disconnect the connector from VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and steering angle sensor. ***Connector & terminal*** ***(B231) No. 1 — (B310) No. 29:*** ***(B231) No. 2 — (B310) No. 13:***	Is the resistance 0.5 Ω?	Go to step **6.**	Repair the harness between steering angle sensor and VDCCM&H/U.
6	**CHECK GROUND SHORT CIRCUIT OF STEERING ANGLE SENSOR HARNESS.** Measure the resistance between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B231) No. 1 — Chassis ground:*** ***(B231 No. 2 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **7.**	Repair the harness between steering angle sensor and VDCCM&H/U.
7	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step **8.**	Go to step **10.**
8	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Replace the steering angle sensor. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **11.**

	Step	Check	Yes	No
9	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10.**
10	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
11	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Original steering angle sensor malfunction

AV:DTC C0071 STEERING ANGLE SENSOR POWER SUPPLY MALFUNCTION

DTC DETECTING CONDITION:

Defective steering angle sensor

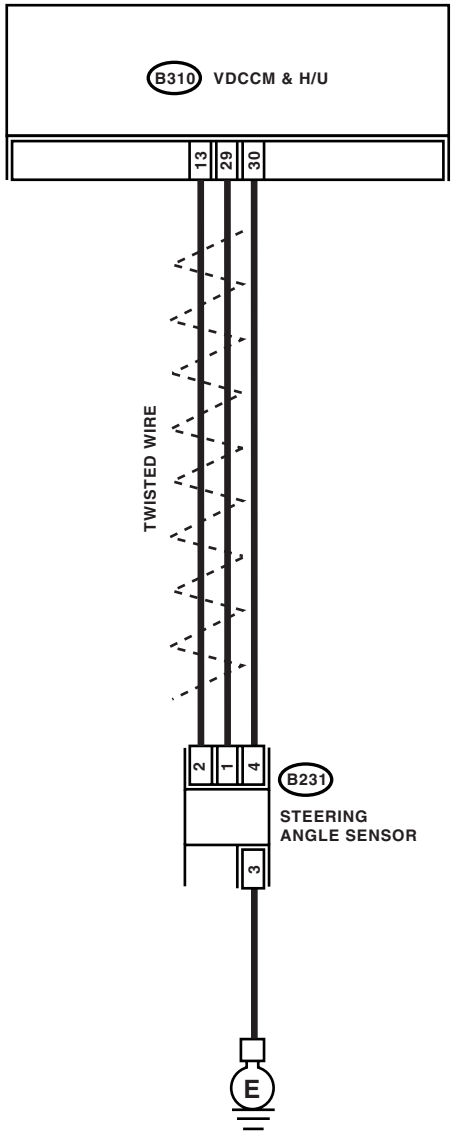
TROUBLE SYMPTOM:

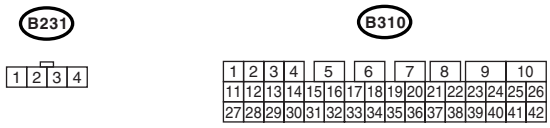
- ABS does not operate.
- VDC does not operate.

NOTE:

- Warning light does not illuminate though problem is detected.
- The ABS and VDC operate normally if voltage returns.

WIRING DIAGRAM:



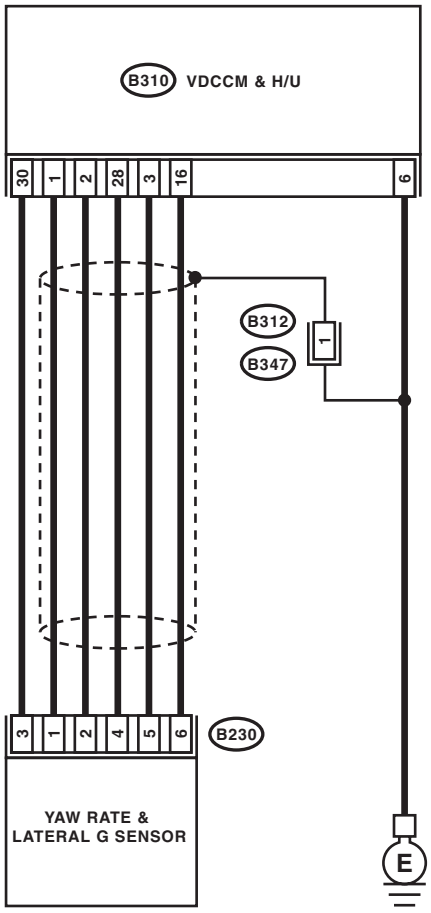


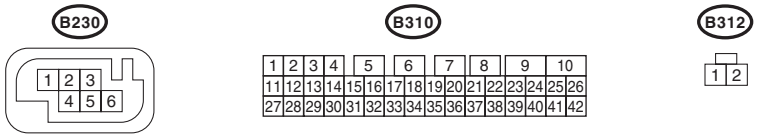
VDC00247

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from steering angle sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B231) No. 4 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **4.**	Go to step **2.**
2	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between steering angle sensor and VDCCM&H/U.	Go to step **3.**
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **7.**
4	**CHECK GROUND CIRCUIT FOR STEERING ANGLE SENSOR.** Measure the resistance between steering angle sensor and chassis ground. ***Connector & terminal*** ***(B231) No. 3 — Chassis ground:***	Is the resistance 0.5 Ω?	Go to step **5.**	Repair ground circuit in the steering angle sensor.
5	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step **6.**	Go to step **8.**
6	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Replace the steering angle sensor. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **9.**
7	**CHECK STEERING ANGLE SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **8.**
8	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
9	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Original steering angle sensor malfunction

AW:DTC C0072 YAW RATE SENSOR OUTPUT

DTC DETECTING CONDITION:
Defective yaw rate sensor
TROUBLE SYMPTOM:
VDC does not operate.
WIRING DIAGRAM:





VDC00222

	Step	Check	Yes	No
1	**CHECK DRIVING PLACE.** Check if the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Did the vehicle run the road with banks or sandy surface (which does not mean a dirt road)?	VDCCM&H/U may record DTC when the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Go to step **2.**
2	**CHECK YAW RATE & LATERAL G SENSOR INSTALLATION.**	Is the yaw rate & lateral G sensor installation bolt tightened to 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)?	Go to step **3.**	Tighten the yaw rate & lateral G sensor installation bolt.
3	**CHECK OUTPUT OF YAW RATE & LATERAL G SENSOR WITH SUBARU SELECT MONITOR.** 1) Drive the vehicle on a flat road. 2) Park the vehicle straight. 3) Select {Current Data Display & Save} in Subaru Select Monitor. 4) Read the yaw rate output displayed on display.	Is the reading indicated on monitor display −4 — 4 deg/s?	Go to step **4.**	Replace the yaw rate & lateral G sensor.
4	**CHECK OUTPUT OF STEERING ANGLE SENSOR WITH SUBARU SELECT MONITOR.** 1) Drive the vehicle on a flat road. 2) Park the vehicle straight. 3) Select {Current Data Display & Save} in Subaru Select Monitor. 4) Read the steering angle sensor output displayed on display.	Is the reading indicated on monitor display −5 — 5°?	Go to step **5.**	Perform the centering adjustment of steering wheel.
5	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step **6.**	Go to step **7.**
6	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Replace the yaw rate & lateral G sensor. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **8.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
8	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Malfunction is found in original yaw rate & lateral G sensor.

AX:DTC C0072 YAW RATE SENSOR POWER/OUTPUT

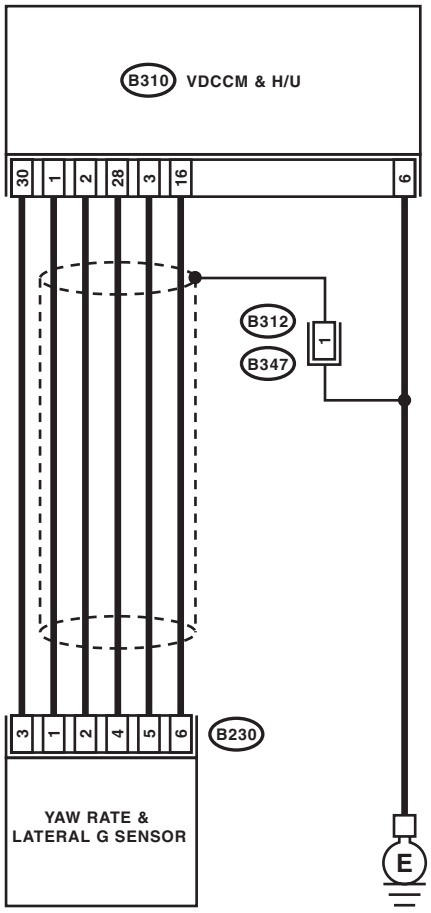
DTC DETECTING CONDITION:

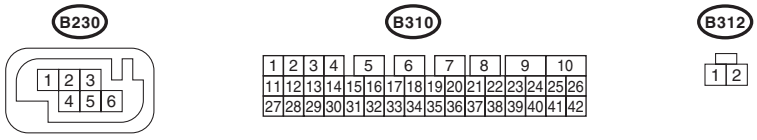
Defective yaw rate sensor

TROUBLE SYMPTOM:

VDC does not operate.

WIRING DIAGRAM:





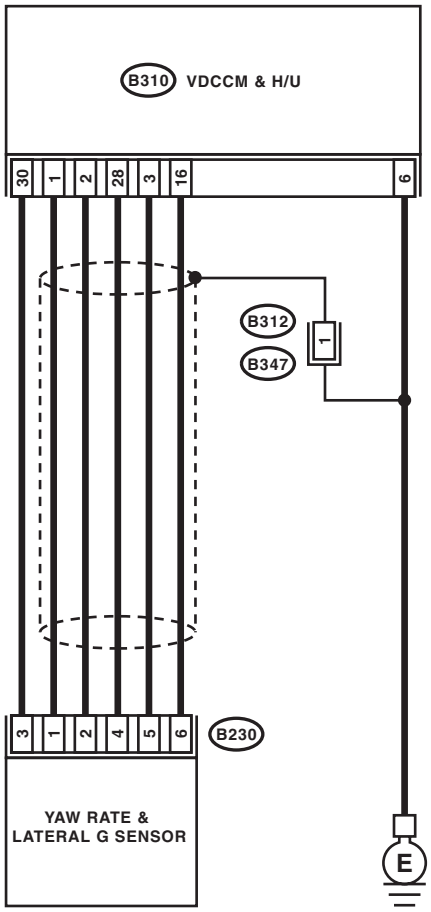
VDC00222

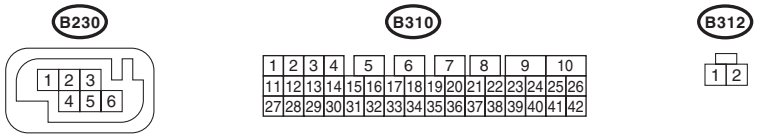
	Step	Check	Yes	No
1	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **4.**	Go to step **2.**
2	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **3.**
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **10.**
4	**CHECK GROUND CIRCUIT OF YAW RATE & LATERAL G SENSOR.** Measure the resistance between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **7.**	Go to step **5.**
5	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 16 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **6.**
6	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **10.**
7	**CHECK YAW RATE & LATERAL G SENSOR HARNESS.** 1) Disconnect the connector from VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B310) No. 28 — (B230) No. 4:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
8	**CHECK GROUND SHORT OF HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 28 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **9.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
9	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Connect all the connectors. 2) Turn the ignition switch to ON. 3) Check the signal pattern of oscilloscope between VDCCM&H/U connector terminals. <Ref. to VDC(diag)-15, WAVEFORM, MEASUREMENT, Control Module I/O Signal.> ***Connector & terminal*** ***(B310) No. 2 — No. 16:*** ***(B310) No. 28 — No. 16:***	Is the oscilloscope pattern the same waveform as shown in the figure?	Go to step **10.**	Replace the yaw rate & lateral G sensor.

	Step	Check	Yes	No
10	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **11.**
11	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AY:DTC C0072 YAW RATE SENSOR REFERENCE

DTC DETECTING CONDITION:
Defective yaw rate sensor
TROUBLE SYMPTOM:
VDC does not operate.
WIRING DIAGRAM:





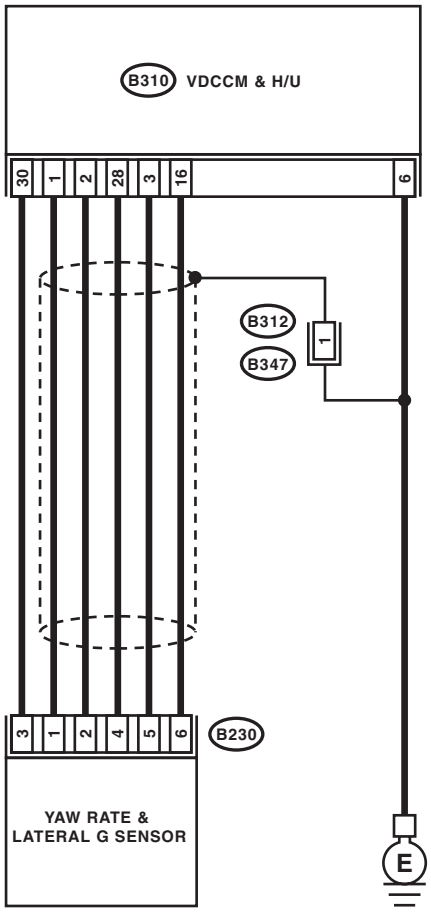
VDC00222

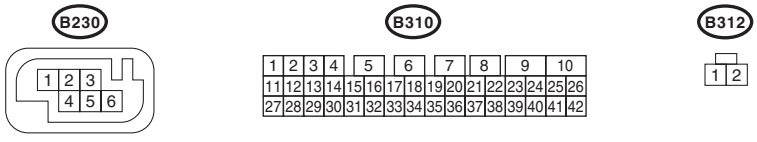
	Step	Check	Yes	No
1	**CHECK POWER SUPPLY FOR YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **3.**	Go to step **2.**
2	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **5.**
3	**CHECK GROUND CIRCUIT OF YAW RATE & LATERAL G SENSOR.** Measure the resistance between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **6.**	Go to step **4.**
4	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 16 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **5.**
5	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **9.**
6	**CHECK HARNESS OF YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B310) No. 1 — (B230) No. 1:***	Is the resistance less than 0.5 Ω?	Go to step **7.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
7	**CHECK GROUND SHORT CIRCUIT OF HARNESS.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 1 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **8.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
8	**CHECK THE YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Install the yaw rate & lateral G sensor to body. 3) Connect all the connectors. 4) Turn the ignition switch to ON. 5) Measure the voltage between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 1 (+) — No. 16 (−):***	Is the voltage 2.1 — 2.9 V?	Go to step **9.**	Replace the yaw rate & lateral G sensor. <Ref. to VDC-14, Yaw Rate & Lateral G Sensor.>

	Step	Check	Yes	No
9	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10.**
10	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

AZ:DTC C0072 EXCESSIVE VARIATION AMOUNT OF YAW RATE SENSOR OUTPUT

DTC DETECTING CONDITION:
Defective yaw rate sensor
TROUBLE SYMPTOM:
VDC does not operate.
WIRING DIAGRAM:





VDC00222

	Step	Check	Yes	No
1	**CHECK DRIVING PLACE.** Check if the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Did the vehicle run the road with banks or sandy surface (which does not mean a dirt road)?	VDCCM&H/U may record DTC when the vehicle ran the road with banks or sandy surface (which does not mean a dirt road).	Go to step **2.**
2	**CHECK YAW RATE & LATERAL G SENSOR INSTALLATION.**	Is the yaw rate & lateral G sensor installation bolt tightened to 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)?	Go to step **3.**	Tighten the yaw rate & lateral G sensor installation bolt.
3	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **5.**	Go to step **4.**
4	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **7.**
5	**CHECK GROUND CIRCUIT OF YAW RATE & LATERAL G SENSOR.** Measure the resistance between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 6 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Go to step **6.**
6	**CHECK GROUND CIRCUIT FOR VDCCM&H/U.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 16 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **7.**
7	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **14.**
8	**CHECK HARNESS OF YAW RATE & LATERAL G SENSOR.** 1) Disconnect the connector from VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B310) No. 1 — (B230) No. 1:*** ***(B310) No. 2 — (B230) No. 2:*** ***(B310) No. 28 — (B230) No. 4:***	Is the resistance less than 0.5 Ω?	Go to step **9.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
9	**CHECK GROUND SHORT CIRCUIT OF HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 1 — Chassis ground:*** ***(B310) No. 2 — Chassis ground:*** ***(B310) No. 28 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **10.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.

	Step	Check	Yes	No
10	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 1 (+) — No. 16 (−):***	Is the voltage 2.1 — 2.9 V?	Go to step **11.**	Replace the yaw rate & lateral G sensor.
11	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to ON. 2) Check the signal pattern of oscilloscope between VDCCM&H/U connector terminals. <Ref. to VDC(diag)-15, WAVEFORM, MEASUREMENT, Control Module I/O Signal.> ***Connector & terminal*** ***(B310) No. 2 — No. 16:*** ***(B310) No. 28 — No. 16:***	Is the oscilloscope pattern the same waveform as shown in the figure?	Go to step **12.**	Replace the yaw rate & lateral G sensor.
12	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step **13.**	Go to step **15.**
13	**CHECK VDCCM&H/U.** 1) Turn the ignition switch to OFF. 2) Replace the yaw rate & lateral G sensor. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **16.**
14	**CHECK YAW RATE & LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **15.**
15	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
16	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Malfunction is found in original yaw rate & lateral G sensor.

BA:DTC C0073 EXCESSIVE AMOUNT OF LATERAL G SENSOR OUTPUT OFFSET

NOTE:
For the diagnostic procedure, refer to DTC C0073. <Ref. to VDC(diag)-118, DTC C0073 EXCESSIVE LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BB:DTC C0073 LATERAL G SENSOR OUTPUT

NOTE:
For the diagnostic procedure, refer to DTC C0073. <Ref. to VDC(diag)-118, DTC C0073 EXCESSIVE LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BC:DTC C0073 EXCESSIVE VARIATION AMOUNT OF LATERAL G SENSOR OUTPUT

NOTE:
For the diagnostic procedure, refer to DTC C0073. <Ref. to VDC(diag)-118, DTC C0073 EXCESSIVE LATERAL G SENSOR OUTPUT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BD:DTC C0073 EXCESSIVE LATERAL G SENSOR OUTPUT

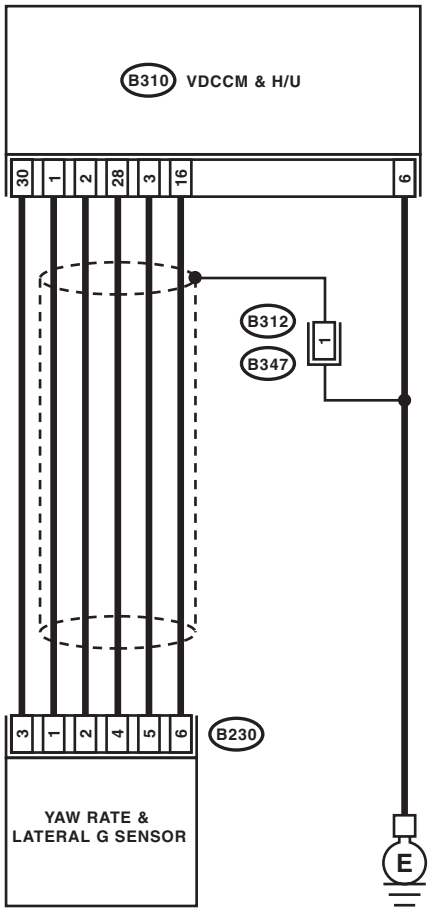
DTC DETECTING CONDITION:

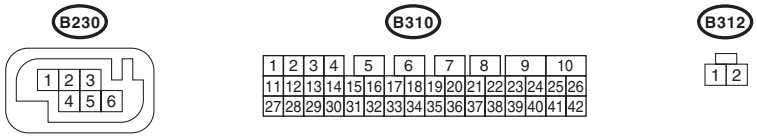
Defective lateral G sensor

TROUBLE SYMPTOM:

VDC does not operate.

WIRING DIAGRAM:



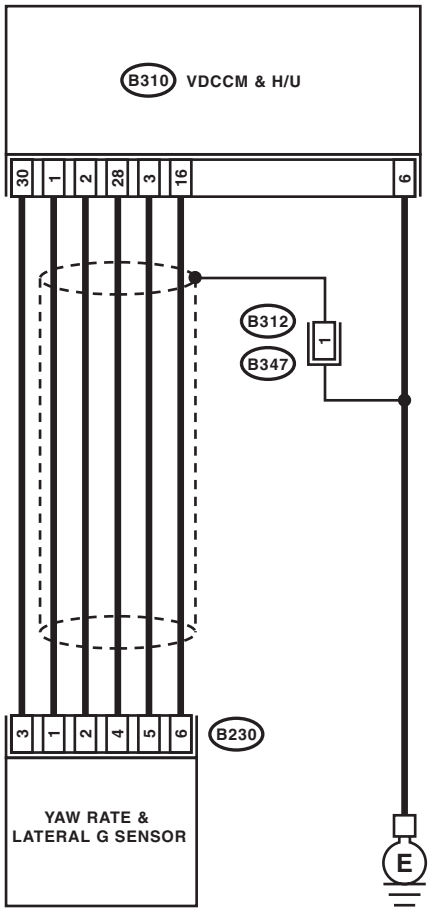


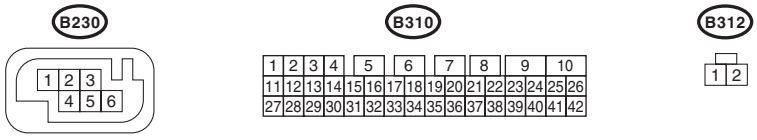
VDC00222

	Step	Check	Yes	No
1	**CHECK YAW RATE & LATERAL G SENSOR INSTALLATION.**	Is the yaw rate & lateral G sensor installation bolt tightened to 7.5 N·m (0.76 kgf-m, 5.5 ft-lb)?	Go to step **2.**	Tighten the yaw rate & lateral G sensor installation bolt.
2	**CHECK LATERAL G SENSOR OUTPUT.** 1) Park the vehicle on a level surface. 2) Select {Current Data Display & Save} in Subaru Select Monitor. 3) Read the lateral G sensor output displayed on display.	Is the indicated reading on the monitor display −1.5 — 1.5 m/s^2?	Go to step **3.**	Replace the yaw rate & lateral G sensor.
3	**CHECK LATERAL G SENSOR OUTPUT.** 1) Turn the ignition switch to OFF. 2) Remove the yaw rate & lateral G sensor from vehicle. 3) Turn the ignition switch to ON, and select {Current Data Display & Save} in Subaru Select Monitor. 4) Read the lateral G sensor output displayed on display.	When the yaw rate & lateral G sensor is inclined 90° to the right, is the indicated value 6.8 — 12.8 m/s^2?	Go to step **4.**	Replace the yaw rate & lateral G sensor.
4	**CHECK LATERAL G SENSOR.** Read the lateral G sensor output displayed on screen.	When the yaw rate & lateral G sensor is inclined 90° to the left, is the indicated value −6.8 — −12.8 m/s^2?	Go to step **5.**	Replace the yaw rate & lateral G sensor.
5	**CHECK POOR CONTACT IN CONNECTORS.** Turn the ignition switch to OFF.	Is there poor contact in connector between VDCCM&H/U and yaw rate & lateral G sensor?	Repair the connector.	Go to step **6.**
6	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **7.**
7	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

BE:DTC C0073 LATERAL G SENSOR POWER/OUTPUT

DTC DETECTING CONDITION:
Defective lateral G sensor
DTC DETECTING CONDITION:
VDC does not operate.
WIRING DIAGRAM:





VDC00222

	Step	Check	Yes	No
1	**CHECK LATERAL G SENSOR OUTPUT.** 1) Park the vehicle on a level surface. 2) Select {Current Data Display & Save} in Subaru Select Monitor. 3) Read the lateral G sensor output displayed on display.	Is the indicated reading on the monitor display −1.5 — 1.5 m/s^2?	Go to step **2.**	Go to step **3.**
2	**CHECK POOR CONTACT IN CONNECTORS.** Turn the ignition switch to OFF.	Is there poor contact in connector between VDCCM&H/U and yaw rate & lateral G sensor?	Repair the connector.	Go to step **10.**
3	**CHECK YAW RATE & LATERAL G SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from yaw rate & lateral G sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between yaw rate & lateral G sensor and chassis ground. ***Connector & terminal*** ***(B230) No. 3 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Go to step **6.**	Go to step **4.**
4	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 30 (+) — Chassis ground (−):***	Is the voltage 10 — 15 V?	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.	Go to step **5.**
5	**CHECK POOR CONTACT IN CONNECTORS**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **10.**
6	**CHECK OPEN CIRCUIT IN LATERAL G SENSOR OUTPUT HARNESS.** 1) Disconnect the connector from yaw rate & lateral G sensor. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and yaw rate & lateral G sensor. ***Connector & terminal*** ***(B310) No. 3 — (B230) No. 5:***	Is the resistance less than 0.5 Ω?	Go to step **7.**	Repair the harness connector between yaw rate & lateral G sensor and VDCCM&H/U.
7	**CHECK GROUND SHORT CIRCUIT FOR YAW RATE & LATERAL G SENSOR HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 3 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **8.**	Repair the harness connector between yaw rate & lateral G sensor and VDCCM&H/U.
8	**CHECK LATERAL G SENSOR.** 1) Turn the ignition switch to OFF. 2) Remove the yaw rate & lateral G sensor from vehicle. 3) Connect the connector to the yaw rate & lateral G sensor. 4) Connect the connector to VDCCM&H/U. 5) Turn the ignition switch to ON. 6) Measure the voltage between yaw rate & lateral G sensor connector terminals. ***Connector & terminal*** ***(B230) No. 5 (+) — No. 6 (−):***	Is the voltage 2.35 — 2.65 V when yaw rate & lateral G sensor is on level?	Go to step **9.**	Replace the yaw rate & lateral G sensor.

	Step	Check	Yes	No
9	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector between VDCCM&H/U and yaw rate & lateral G sensor?	Repair the connector.	Go to step **10.**
10	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **11.**
11	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

BF:DTC C0074 PRESSURE SENSOR TEST MALFUNCTION

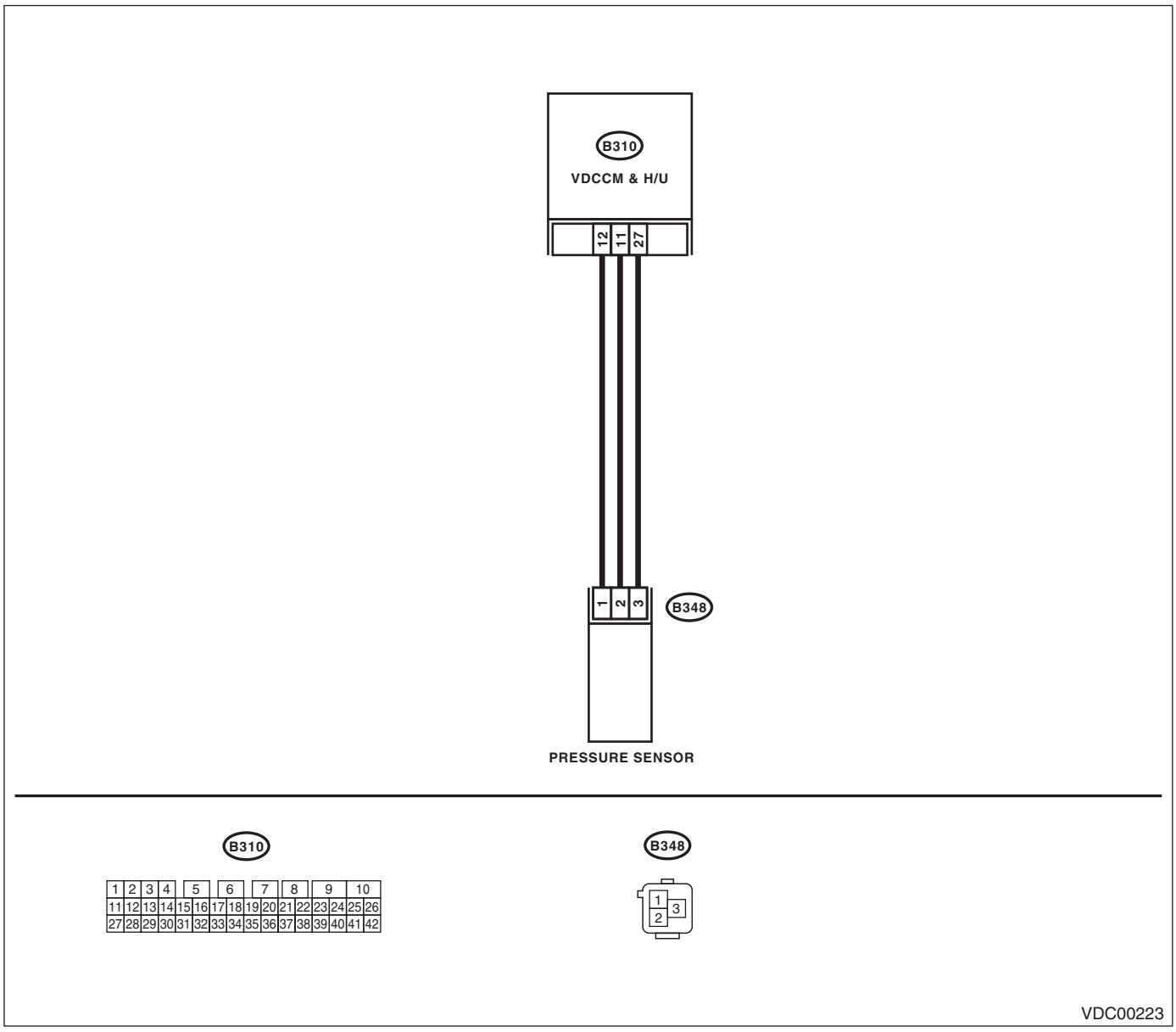
DTC DETECTING CONDITION:

Defective pressure sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK PRESSURE SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from pressure sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure sensor connector and chassis ground. ***Connector & terminal*** ***(B348) No. 3 (+) — Chassis ground (−):***	Is the voltage 4.75 — 5.25 V?	Go to step **4.**	Go to step **2.**
2	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 27 (+) — Chassis ground (−):***	Is the voltage 4.75 — 5.25 V?	Repair the harness between pressure sensor and VDCCM&H/U.	Go to step **3.**
3	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **9.**
4	**CHECK GROUND CIRCUIT OF PRESSURE SENSOR.** Measure the resistance between pressure sensor and chassis ground. ***Connector & terminal*** ***(B348) No. 1 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **7.**	Go to step **5.**
5	**CHECK GROUND CIRCUIT OF VDCCM&H/U.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 12 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Repair the harness between pressure sensor and VDCCM&H/U.	Go to step **6.**
6	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **9.**
7	**CHECK PRESSURE SENSOR HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and pressure sensor. ***Connector & terminal*** ***(B310) No. 11 — (B348) No. 2:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
8	**CHECK GROUND SHORT OF HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 11 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **9.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
9	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **10.**
10	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

BG:DTC C0074 EXCESSIVE PRESSURE SENSOR OUTPUT OFFSET

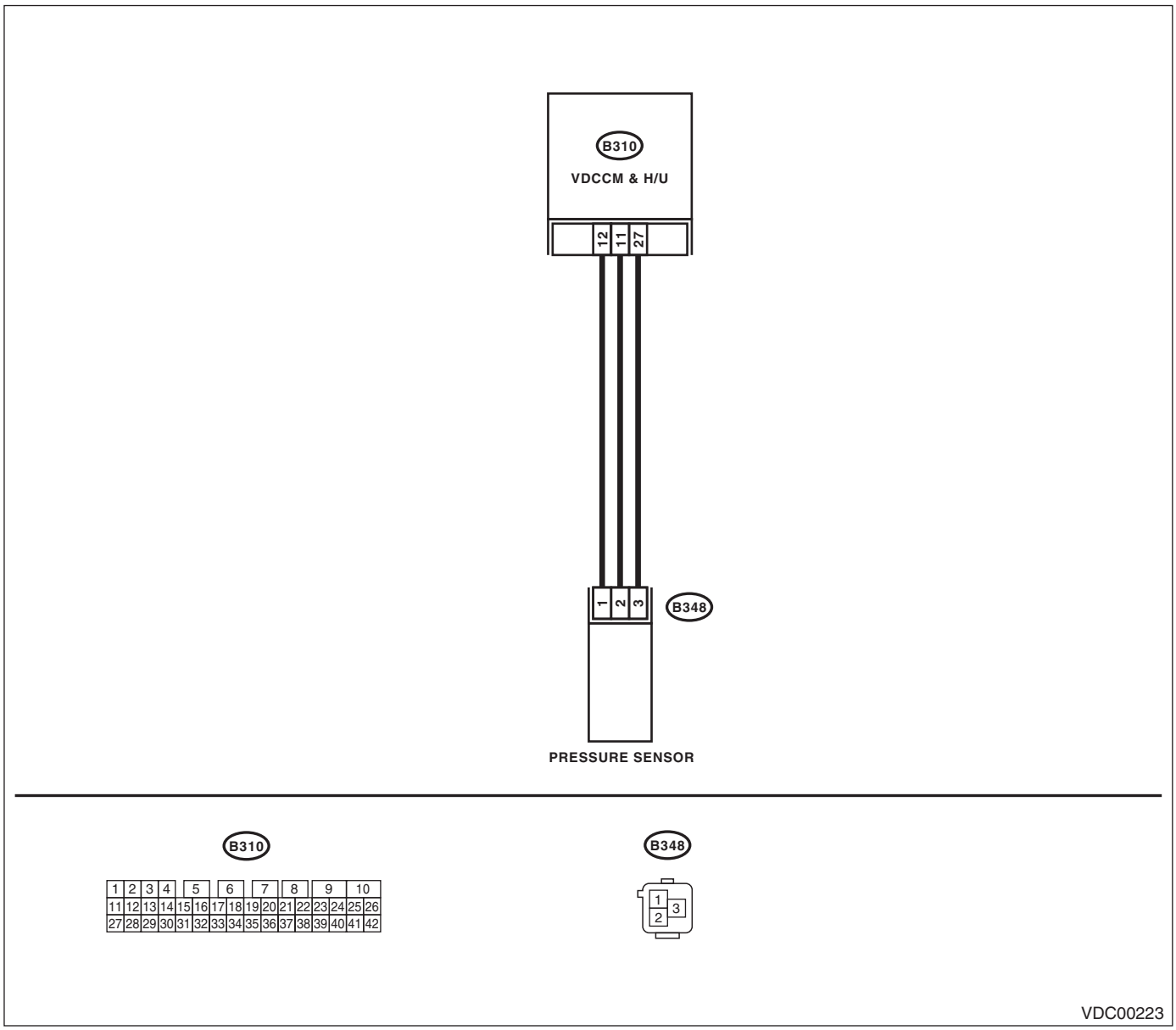
DTC DETECTING CONDITION:

Defective pressure sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH CIRCUIT.** Check stop light switch open circuit.	Is the stop light switch circuit OK?	Go to step **2.**	Repair the stop light switch circuit.
2	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **3.**
3	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-37, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

BH:DTC C0074 PRESSURE SENSOR POWER/OUTPUT

DTC DETECTING CONDITION:

Defective pressure sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

NOTE:
For the diagnostic procedure, refer to DTC C0074 “PRESSURE SENSOR TEST MALFUNCTION”. <Ref. to VDC(diag)-123, DTC C0074 PRESSURE SENSOR TEST MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

BI: DTC C0074 PRESSURE SENSOR OUTPUT

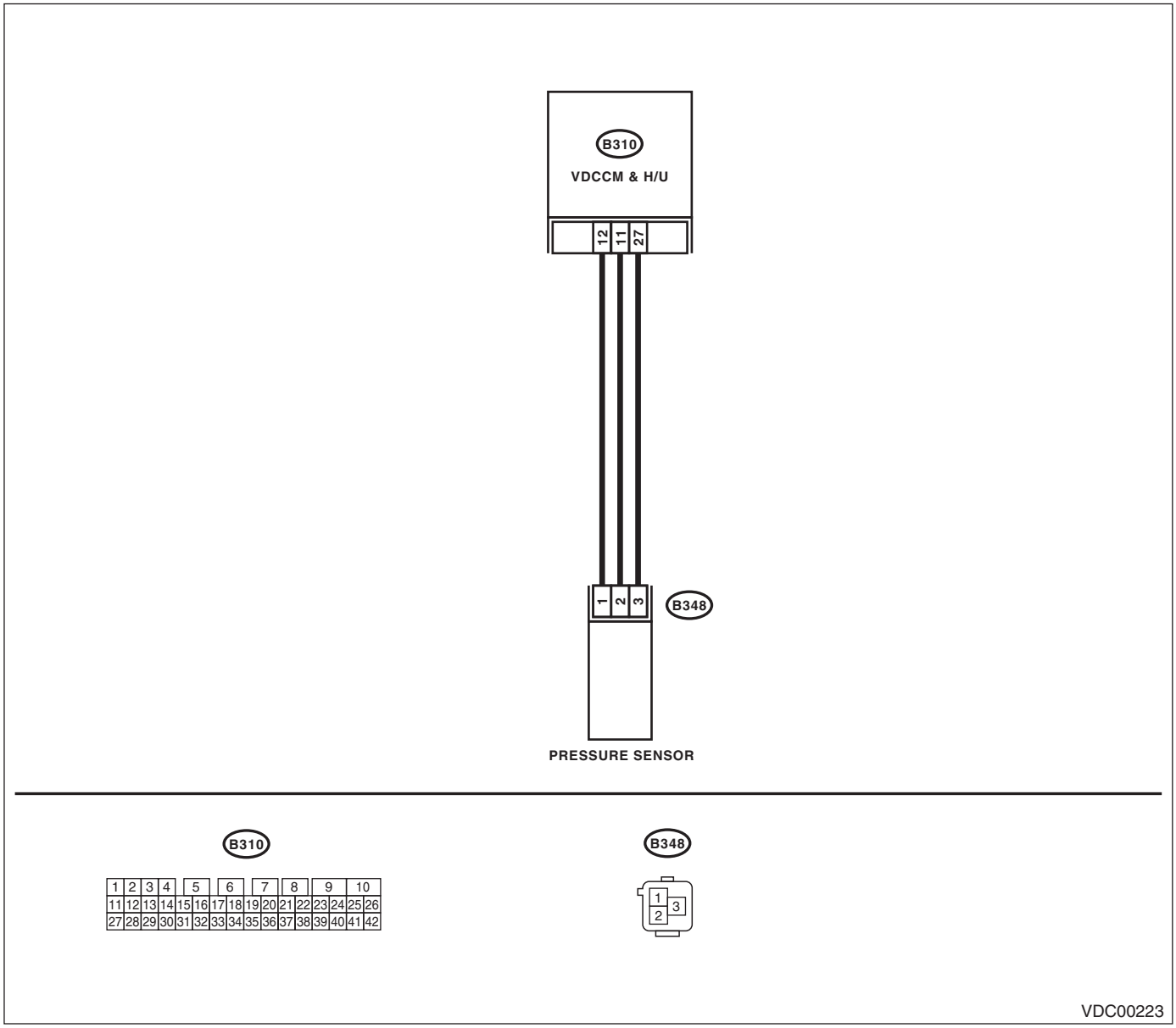
DTC DETECTING CONDITION:

Defective pressure sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:



	Step	Check	Yes	No
1	**CHECK STOP LIGHT SWITCH CIRCUIT.** Check stop light switch open circuit.	Is the stop light switch circuit OK?	Go to step **2.**	If there is malfunction in the stop light switch circuit, DTC may be recorded in the memory.
2	**CHECK PRESSURE SENSOR POWER SUPPLY.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from pressure sensor. 3) Turn the ignition switch to ON. 4) Measure the voltage between pressure sensor connector and chassis ground. ***Connector & terminal*** ***(B348) No. 3 (+) — Chassis ground (−):***	Is the voltage 4.75 — 5.25 V?	Go to step **5.**	Go to step **3.**
3	**CHECK OUTPUT VOLTAGE OF VDCCM&H/U.** Measure the voltage between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 27 (+) — Chassis ground (−):***	Is the voltage 4.75 — 5.25 V?	Repair the harness between pressure sensor and VDCCM&H/U.	Go to step **4.**
4	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **10.**
5	**CHECK GROUND CIRCUIT OF PRESSURE SENSOR.** Measure the resistance between pressure sensor and chassis ground. ***Connector & terminal*** ***(B348) No. 1 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Go to step **8.**	Go to step **6.**
6	**CHECK GROUND CIRCUIT OF VDCCM&H/U.** Measure the resistance between VDCCM&H/U and chassis ground. ***Connector & terminal*** ***(B310) No. 12 — Chassis ground:***	Is the resistance less than 0.5 Ω?	Repair the harness between pressure sensor and VDCCM&H/U.	Go to step **7.**
7	**CHECK POOR CONTACT IN CONNECTORS.**	Is there poor contact in connector?	Correct or replace the connector.	Go to step **10.**
8	**CHECK PRESSURE SENSOR HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector from VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and pressure sensor. ***Connector & terminal*** ***(B310) No. 11 — (B348) No. 2:***	Is the resistance less than 0.5 Ω?	Go to step **9.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
9	**CHECK GROUND SHORT OF HARNESS.** Measure the resistance between VDCCM&H/U connector and chassis ground. ***Connector & terminal*** ***(B310) No. 11 — Chassis ground:***	Is the resistance more than 1 MΩ?	Go to step **10.**	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
10	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **11.**

Step		Check	Yes	No
11	CHECK OTHER DTC DETECTION.	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

BJ:DTC C0074 PRESSURE SENSOR POWER MALFUNCTION

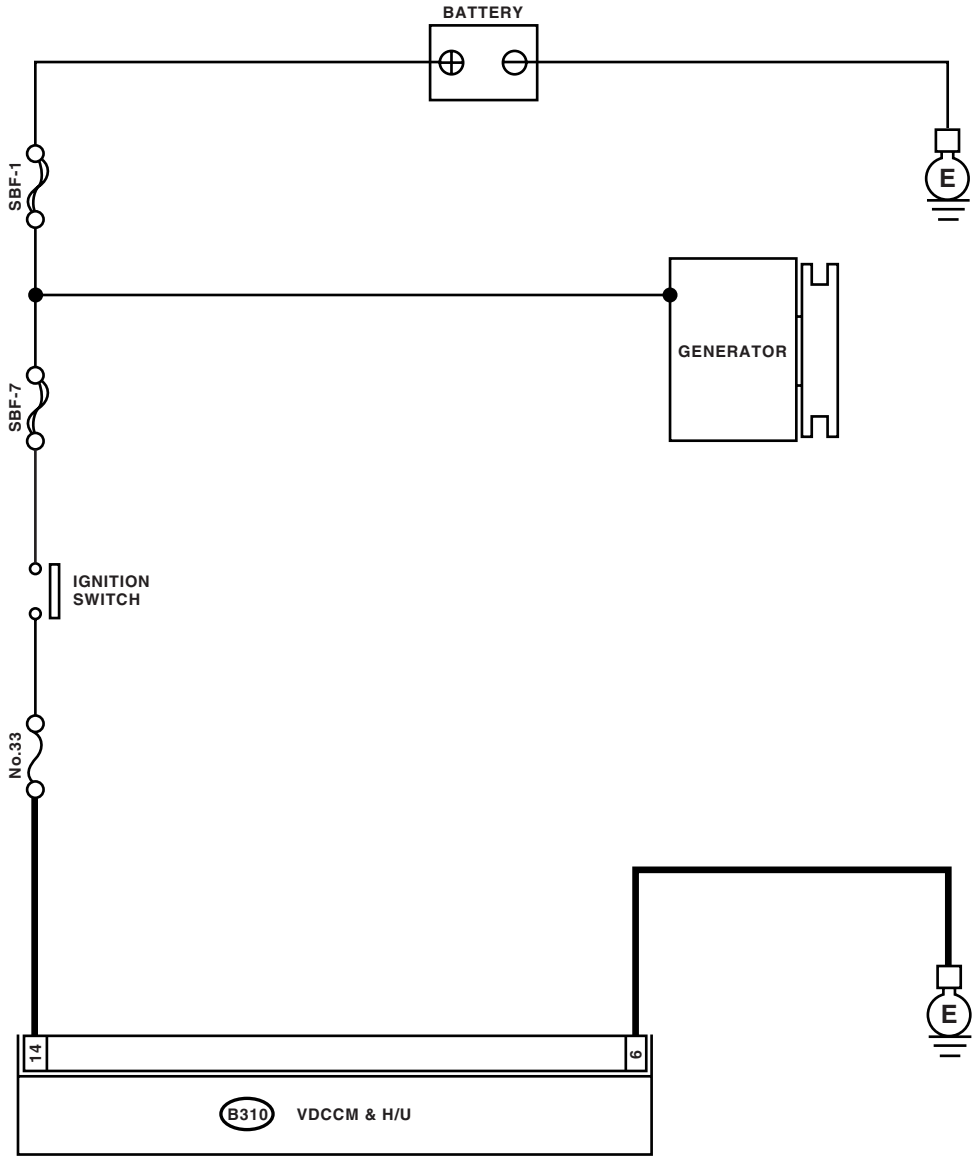
DTC DETECTING CONDITION:

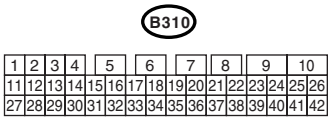
Defective pressure sensor

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

WIRING DIAGRAM:





VDC00216

	Step	Check	Yes	No
1	**CHECK POOR CONTACT IN CONNECTORS.** Check if there is poor contact in VDCCM&H/U power supply circuit.	Is there poor contact?	Repair the connector.	Go to step **2.**
2	**CHECK VDCCM&H/U POWER SUPPLY CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Disconnect the VDCCM&H/U connector. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector terminals. ***Connector & terminal*** ***(B310) No. 14 (+) — (B310) No. 6 (–):***	Is the voltage 10 — 15 V?	Go to step **3.**	Check the power supply circuit in VDCCM&H/U.
3	**CHECK VDCCM&H/U.** 1) Connect all the connectors. 2) Erase the memory. 3) Perform the inspection mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module & Hydraulic Control Unit (VDCCM&H/U).>	Go to step **4.**
4	**CHECK OTHER DTC DETECTION.**	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

BK:DTC C0081 SYSTEM MALFUNCTION

DTC DETECTING CONDITION:

VDC long time sequential control

TROUBLE SYMPTOM:

- ABS does not operate.
- VDC does not operate.

	Step	Check	Yes	No
1	**CHECK POOR CONTACT IN CONNECTOR.**	Is there poor contact in the VDCCM&H/U and yaw rate & lateral G sensor connector?	Repair the connector.	Go to step **2.**
2	**CHECK VDCCM&H/U.** 1) Replace the yaw rate & lateral G sensor. 2) Connect all the connectors. 3) Erase the memory. 4) Perform the inspection mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U.	Malfunction is found in original yaw rate & lateral G sensor.

13.General Diagnostic Table

A: INSPECTION

Symptom		Main probable cause	Other probable cause
Poor brake performance	Long braking/ stopping distance	• VDCCM&H/U • Brake pad • Aeration to brake line • Tire specifications, tire wear and air pressures • Incorrect wiring or piping connections	• Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Master cylinder • Brake caliper • Disc rotor • Brake pipe • Brake booster
	Wheel lock	• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Incorrect wiring or piping connections	• Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Brake caliper • Brake pipe
	Brake drag	• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Master cylinder • Brake caliper • Parking brake • Axle and wheels • Brake pedal play	• Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Brake pad • Brake pipe
	Long brake pedal stroke	• Aeration to brake line • Brake pedal play	• VDCCM&H/U • Master cylinder • Brake caliper • Brake pad • Brake pipe • Brake booster
	Vehicle vertical pitching	• VDCCM&H/U • Road surface (uneven) • Suspension play or fatigue (reduced damping) • Incorrect wiring or piping connections	• Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation
Poor brake performance	Unstable or uneven braking	• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Brake caliper • Brake pad • Road surface (uneven) • Tire specifications, tire wear and air pressures • Incorrect wiring or piping connections	• Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Master cylinder • Disc rotor • Brake pipe • Axle and wheels • Road with crowns or banks • Suspension play or fatigue (poor damping)

Symptom		Main probable cause	Other probable cause
Vibration or noise • When braking suddenly • When accelerating suddenly • While driving on a slippery road	Excessive brake pedal vibration	• Road surface (uneven) • Incorrect wiring or piping connections	• VDCCM&H/U • Brake booster • Suspension play or fatigue (poor damping)
	Strange noise from VDCH/U	• VDCCM&H/U (mount bushing) • Defective ABS wheel speed sensor or sensor gap • Brake pipe	• VDCCM&H/U • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation
	Noise from the front side of vehicle	• VDCCM&H/U (mount bushing) • Defective ABS wheel speed sensor or sensor gap • Master cylinder • Brake caliper • Brake pad • Disc rotor • Brake pipe • Brake booster • Suspension play or fatigue (poor damping)	• Axle and wheels • Tire specifications, tire wear and air pressures
	Noise inside passenger seat		• VDCCM&H/U • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation
	Noise from the rear side of vehicle	• Defective ABS wheel speed sensor or sensor gap • Brake caliper • Brake pad • Disc rotor • Parking brake • Brake pipe • Suspension play or fatigue (poor damping)	• Axle and wheels • Tire specifications, tire wear and air pressures
Engine does not accelerate or goes into a stall when accelerating suddenly or driving on a slippery surface.		• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Master cylinder • Brake caliper • Parking brake • Incorrect wiring or piping	• Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Brake pad • Brake pipe

Symptom		Main probable cause	Other probable cause
Poor change-direction-operation stability of TCS	Deviation to right or left direction	• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Brake caliper • Brake pad • Wheel alignment • Road surface (uneven) • Road with crowns or banks • Tire specifications, tire wear and air pressures • Incorrect wiring or piping connections	• Disc rotor • Brake pipe • Axle and wheels • Suspension play or fatigue (poor damping)
	Vehicle spin	• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Brake pad • Tire specifications, tire wear and air pressures • Incorrect wiring or piping connections	• Brake caliper • Brake pipe
Steering wheel drag while driving		• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Incorrect wiring or piping connections • Power steering system	• Brake caliper • Brake pad • Disc rotor • Wheel alignment • Road surface (uneven) • Road with crowns or banks • Suspension play or fatigue (poor damping) • Tire specifications, tire wear and air pressures
VDC operates while driving normally.		• VDCCM&H/U • Defective ABS wheel speed sensor or sensor gap • Defective steering angle sensor or improper neutral position • Defective yaw rate & lateral G sensor or improper installation • Wheel alignment • Road surface (uneven) • Road with crowns or banks • Suspension play or fatigue (poor damping) • Tire specifications, tire wear and air pressures • Incorrect wiring or piping connections • Power steering system	

Symptom	Main probable cause	Other probable cause
VDC OFF indicator light does not come on when the VDC OFF switch is depressed. NOTE: When pressing VDC OFF switch for more than 10 seconds, VDC OFF indicator light goes off and cannot operate any more. When turning the ignition switch from OFF to ON, the previous status is restored.	• Harness • Indicator light bulb • VDC OFF switch	