

### 12.Diagnostic Procedure with Diagnostic Trouble Code (DTC)

#### **A: DTC C0021 FRONT RIGHT ABS SENSOR CIRCUIT OPEN OR SHORT**

**NOTE:**

For the diagnostic procedure, refer to DTC C0027 “RL WHEEL SPEED SENSOR CIRCUIT OPEN/HIGH INPUT”. <Ref. to VDC(diag)-40, DTC C0027 REAR LEFT ABS SENSOR CIRCUIT OPEN OR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **B: DTC C0023 FRONT LEFT ABS SENSOR CIRCUIT OPEN OR SHORT**

**NOTE:**

For the diagnostic procedure, refer to DTC C0027 “RL WHEEL SPEED SENSOR CIRCUIT OPEN/HIGH INPUT”. <Ref. to VDC(diag)-40, DTC C0027 REAR LEFT ABS SENSOR CIRCUIT OPEN OR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **C: DTC C0025 REAR RIGHT ABS SENSOR CIRCUIT OPEN OR SHORT**

**NOTE:**

For the diagnostic procedure, refer to DTC C0027 “RL WHEEL SPEED SENSOR CIRCUIT OPEN/HIGH INPUT”. <Ref. to VDC(diag)-40, DTC C0027 REAR LEFT ABS SENSOR CIRCUIT OPEN OR SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## D: DTC C0027 REAR LEFT ABS SENSOR CIRCUIT OPEN OR SHORT

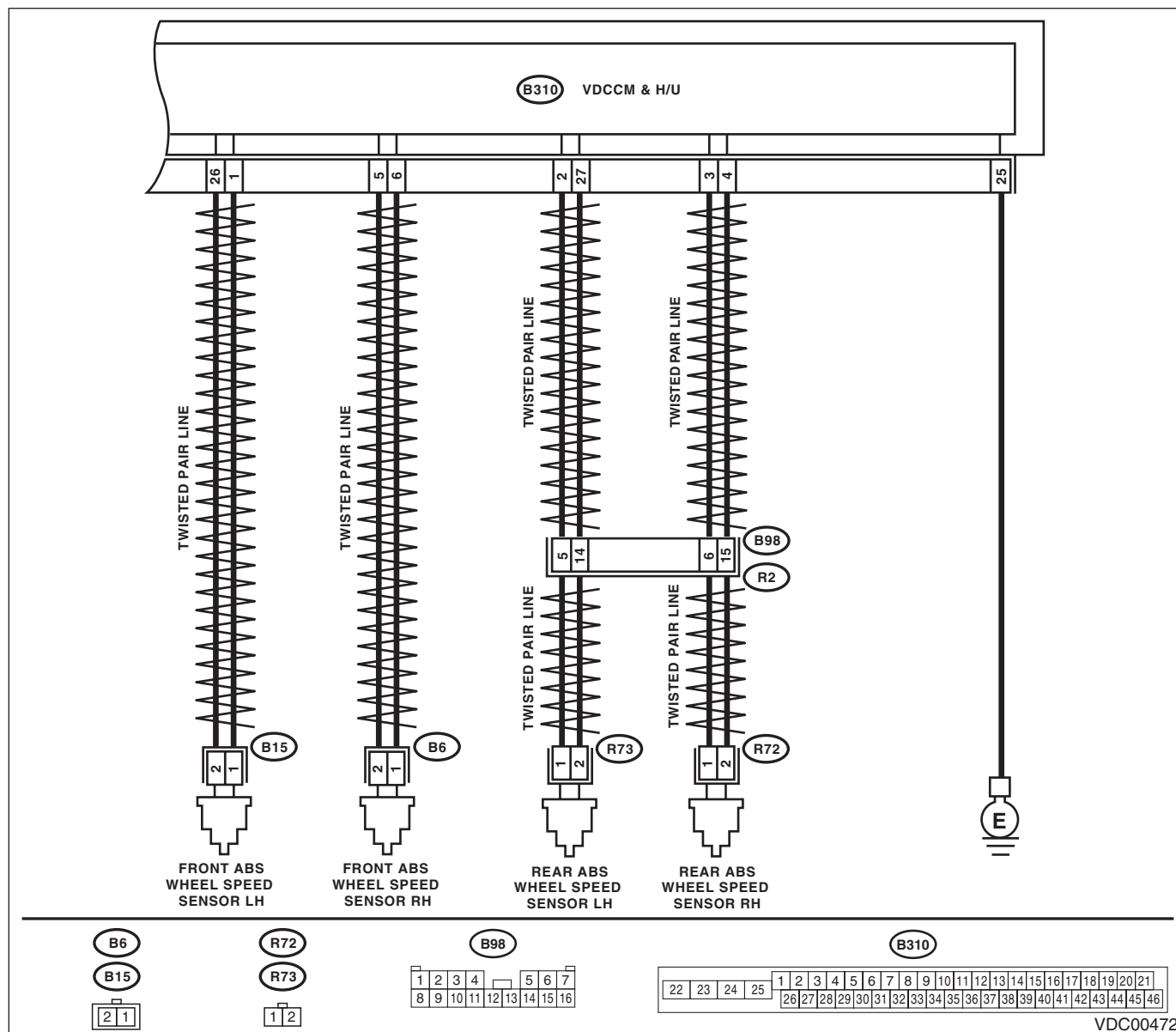
### DTC DETECTING CONDITION:

- 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:



VDC00472

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK POOR CONTACT IN CONNECTOR.</b> 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.
<b>2 CHECK HARNESS CONNECTOR BETWEEN VDCCM&amp;H/U AND ABS WHEEL SPEED SENSOR.</b> 1) Disconnect the connector (B310) from the VDCCM&H/U. 2) Disconnect the connector from the ABS wheel speed sensor. 3) Measure the resistance between VDCCM&H/U connector and ABS wheel speed sensor connector. <b>Connector &amp; terminal</b> <b>DTC C0021</b> <i>(B310) No. 6 — (B6) No. 1:</i> <i>(B310) No. 5 — (B6) No. 2:</i> <b>DTC C0023</b> <i>(B310) No. 1 — (B15) No. 1:</i> <i>(B310) No. 26 — (B15) No. 2:</i> <b>DTC C0025</b> <i>(B310) No. 3 — (R72) No. 1:</i> <i>(B310) No. 4 — (R72) No. 2:</i> <b>DTC C0027</b> <i>(B310) No. 2 — (R73) No. 1:</i> <i>(B310) No. 27 — (R73) No. 2:</i>	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.
<b>3 CHECK GROUND SHORT OF HARNESS.</b> Measure the resistance between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>DTC C0021</b> <i>(B310) No. 5 — Chassis ground:</i> <b>DTC C0023</b> <i>(B310) No. 26 — Chassis ground:</i> <b>DTC C0025</b> <i>(B310) No. 4 — Chassis ground:</i> <b>DTC C0027</b> <i>(B310) No. 27 — Chassis ground:</i>	Is the resistance 1 MΩ or more?	Go to step 4.	Repair the harness connector between VDCCM&H/U and ABS wheel speed sensor.
<b>4 CHECK ABS WHEEL SPEED SENSOR POWER SUPPLY CIRCUIT.</b> 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. <b>Connector &amp; terminal</b> <b>DTC C0021</b> <i>(B6) No. 1 (+) — Chassis ground (-):</i> <b>DTC C0023</b> <i>(B15) No. 1 (+) — Chassis ground (-):</i> <b>DTC C0025</b> <i>(R72) No. 1 (+) — Chassis ground (-):</i> <b>DTC C0027</b> <i>(R73) No. 1 (+) — Chassis ground (-):</i>	Is the voltage 5 — 16 V?	Go to step 6.	Go to step 5.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>5</b> <b>CHECK THE VDCCM&amp;H/U POWER SUPPLY CIRCUIT.</b> 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. <b>Connector &amp; terminal</b> <b>(B310) No. 28 (+) — (B310) No. 25 (-):</b>	Is the voltage 10 — 15 V?	Go to step 6.	Check the generator, battery and VDCCM&H/U power supply circuit.
<b>6</b> <b>CHECK ABS WHEEL SPEED SENSOR SIGNAL.</b> 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 the pattern the same waveform as shown in the figure?	Go to step 7.	Replace the ABS wheel speed sensor.
<b>7</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. <Ref. to VDC(diag)-22, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 8.
<b>8</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

### E: DTC C0022 FRONT RIGHT ABS SENSOR SIGNAL

#### NOTE:

For the diagnostic procedure, refer to DTC C0028 “RL WHEEL SPEED SENSOR SIGNAL”. <Ref. to VDC(diag)-43, DTC C0028 REAR LEFT ABS SENSOR SIGNAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### F: DTC C0024 FRONT LEFT ABS SENSOR SIGNAL

#### NOTE:

For the diagnostic procedure, refer to DTC C0028 “RL WHEEL SPEED SENSOR SIGNAL”. <Ref. to VDC(diag)-43, DTC C0028 REAR LEFT ABS SENSOR SIGNAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

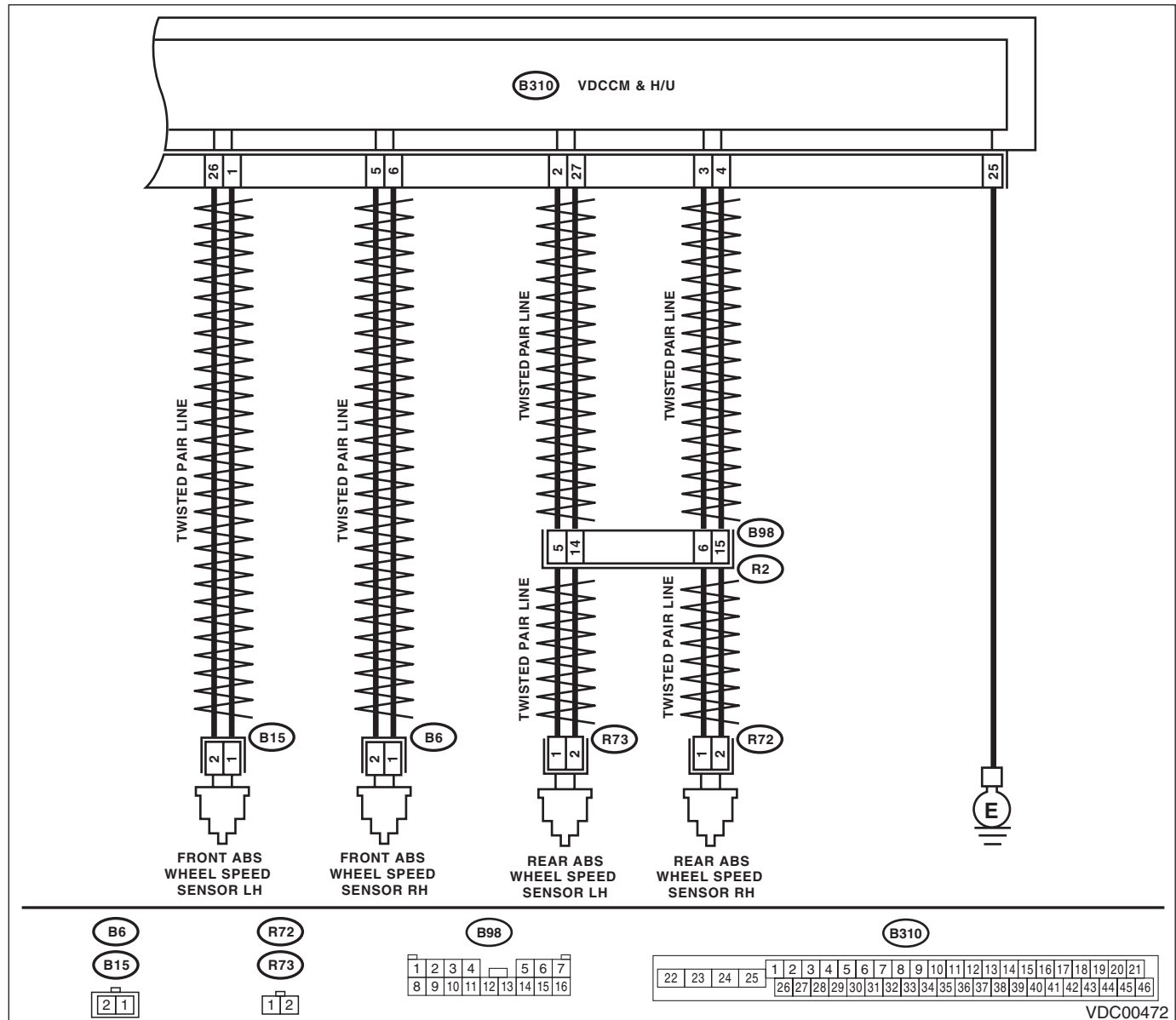
### G: DTC C0026 REAR RIGHT ABS SENSOR SIGNAL

#### NOTE:

For the diagnostic procedure, refer to DTC C0028 “RL WHEEL SPEED SENSOR SIGNAL”. <Ref. to VDC(diag)-43, DTC C0028 REAR LEFT ABS SENSOR SIGNAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### WIRING DIAGRAM:



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK OUTPUT OF ABS WHEEL SPEED SENSOR USING SUBARU SELECT MONITOR.</b> 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.
<b>2 CHECK POOR CONTACT IN CONNECTOR.</b> 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.
<b>3 CHECK CAUSE OF SIGNAL NOISE.</b> Make sure the radio wave devices and electronic components are installed correctly.	Are the radio wave devices and electronic components installed correctly?	Go to step 4.	Install the radio wave devices and electronic components properly.
<b>4 CHECK CAUSE OF SIGNAL NOISE.</b> 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 sensor harness.	Go to step 5.
<b>5 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. <Ref. to VDC(diag)-22, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 6.
<b>6 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.
<b>7 CHECK INSTALLATION OF ABS WHEEL SPEED SENSOR.</b>	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.
<b>8 CHECK ABS WHEEL SPEED SENSOR SIGNAL.</b> 1) Install the ABS wheel speed sensor. 2) Prepare an oscilloscope. 3) Check the ABS wheel speed sensor. <Ref. to ABS-14, ABS WHEEL SPEED SENSOR, INSPECTION, Front ABS Wheel Speed Sensor.>	Does the oscilloscope indicate the waveform pattern like shown in the figure when the tire is slowly turned? Does the oscilloscope indication repeat the waveform pattern like shown in the figure when the tire is slowly turned in equal speed for one rotation or more?	Go to step 10.	Go to step 9.
<b>9 CHECK ABS WHEEL SPEED SENSOR OR MAGNETIC ENCODER.</b>	Are there foreign matter, breakage or damage at the tip of ABS wheel speed sensor or magnetic encoder?	Remove dirt thoroughly. Also replace the ABS wheel speed sensor or magnetic encoder as a unit with hub unit bearing if it is broken or damaged.	Go to step 10.
<b>10 CHECK CAUSE OF SIGNAL NOISE.</b> Make sure the radio wave devices and electronic components are installed correctly.	Are the radio wave devices and electronic components installed correctly?	Go to step 11.	Install the radio wave devices and electronic components properly.
<b>11 CHECK CAUSE OF SIGNAL NOISE.</b> Check if the noise sources (such as an antenna) are installed near the sensor harness.	Is the noise sources installed?	Go to step 12.	Install the noise sources apart from sensor harness.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>12 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. <Ref. to VDC(diag)-22, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 13.
<b>13 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference. <b>NOTE:</b> Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at 12 km/h (7 MPH) or more in order to turn ABS warning light off. Be sure to drive the vehicle and check that the warning light goes off.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## I: DTC C0029 ANY OF WHEEL SENSORS SIGNAL

### 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

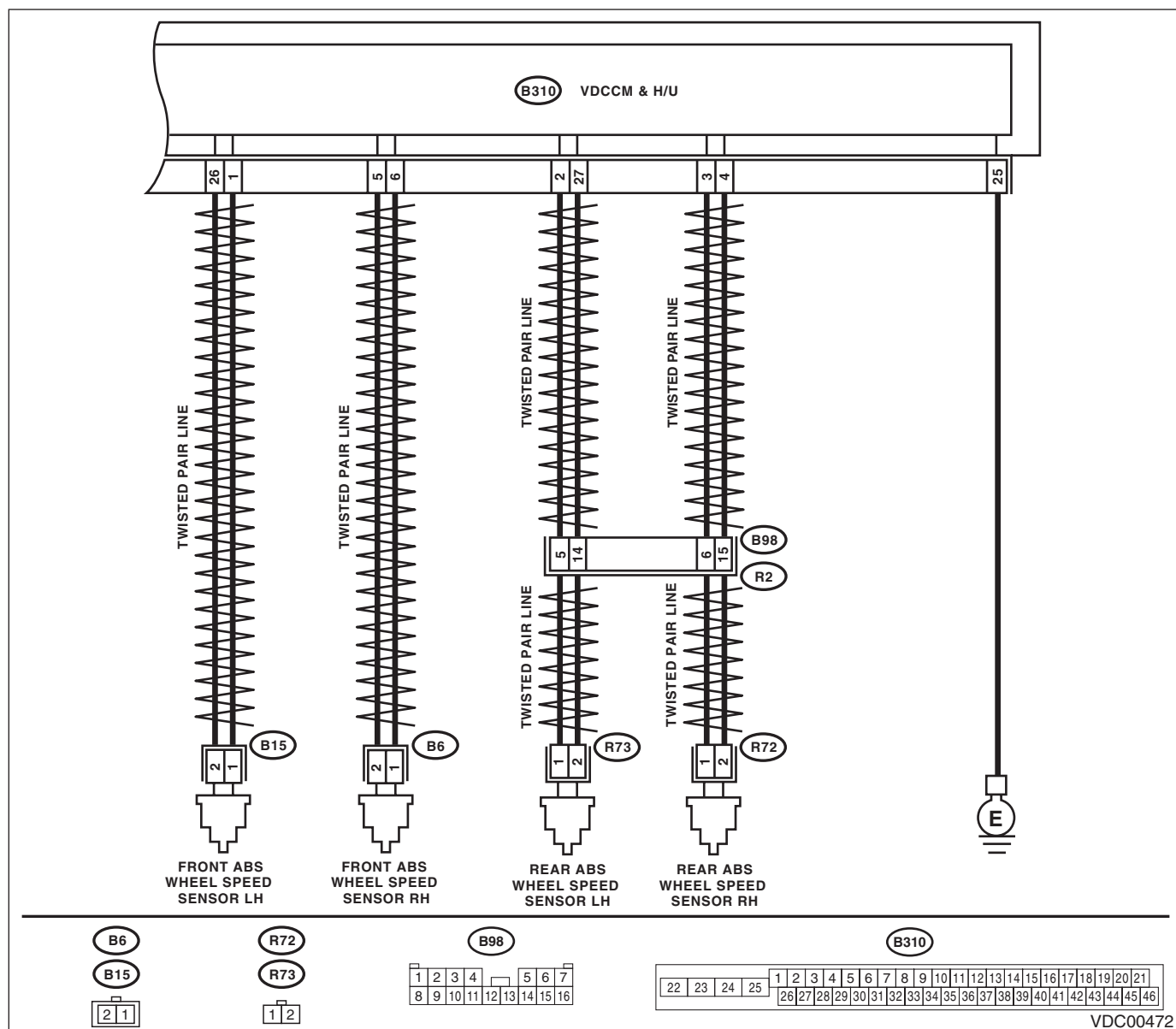
### TROUBLE SYMPTOM:

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

### NOTE:

Brake warning light illuminates as well as ABS warning light when EBD does not operate.

### WIRING DIAGRAM:





# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 WHETHER A WHEEL TURNED FREELY OR NOT.</b> Check if the wheels have been turned freely for one minute or more, 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: This diagnostic trouble code may sometimes occur if the wheels turn freely for a long time, for example when the vehicle is towed or jacked-up, or when steering wheel is continuously turned all the way.	Go to step 2.
<b>2 CHECK TIRE SPECIFICATIONS.</b> Turn the ignition switch to OFF.	Are the tire specifications correct?	Go to step 3.	Replace the tire.
<b>3 CHECK WEAR OF TIRE.</b>	Is the tire worn excessively?	Replace the tire.	Go to step 4.
<b>4 CHECK TIRE INFLATION PRESSURE.</b>	Is the tire pressure correct?	Go to step 5.	Adjust the tire pressure.
<b>5 CHECK INSTALLATION OF ABS WHEEL SPEED SENSOR.</b>	Are the ABS wheel speed sensor installation bolts tightened 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.
<b>6 CHECK ABS WHEEL SPEED SENSOR SIGNAL.</b> 1) Install the ABS wheel speed sensor. 2) Prepare an oscilloscope. 3) Check the ABS wheel speed sensor. <Ref. to ABS-14, ABS WHEEL SPEED SENSOR, INSPECTION, Front ABS Wheel Speed Sensor.>	Does the oscilloscope indicate the waveform pattern like shown in the figure when the tire is slowly turned? Does the oscilloscope indication repeat the waveform pattern like shown in the figure when the tire is slowly turned in equal speed for one rotation or more?	Go to step 8.	Go to step 7.
<b>7 CHECK ABS WHEEL SPEED SENSOR OR MAGNETIC ENCODER.</b>	Are there foreign matter, breakage or damage at the tip of ABS wheel speed sensor or magnetic encoder?	Remove dirt thoroughly. Also replace the ABS wheel speed sensor or magnetic encoder as a unit with hub unit bearing if it is broken or damaged.	Go to step 8.
<b>8 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. <Ref. to VDC(diag)-22, PROCEDURE, Inspection Mode.> 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 9.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
9 <b>CHECK OTHER DTC DETECTION.</b>	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 12 km/h (7 MPH) or more in order to turn ABS warning light off. Be sure to drive the vehicle and check that the warning light goes off.

#### **J: DTC C0031 FR HOLD VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to DTC C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **K: DTC C0032 FR PRESSURE REDUCING VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to DTC C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **L: DTC C0033 FL HOLD VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **M: DTC C0034 FL PRESSURE REDUCING VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **N: DTC C0035 RR HOLD VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

#### **O: DTC C0036 RR PRESSURE REDUCING VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **P: DTC C0037 RL HOLD VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **Q: DTC C0038 RL PRESSURE REDUCING VALVE MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **R: DTC C0039 ANY ONE OF FOUR SOLENOID VALVES**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **S: DTC C0061 NORMAL OPENING VALVE 1 MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **T: DTC C0062 NORMAL OPENING VALVE 2 MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### **U: DTC C0063 NORMAL CLOSING VALVE 1 MALFUNCTION**

**NOTE:**

For the diagnostic procedure, refer to C0064 "VDC SWITCHING VALVE 2 (P)". <Ref. to VDC(diag)-50, DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## V: DTC C0064 NORMAL CLOSING VALVE 2 MALFUNCTION

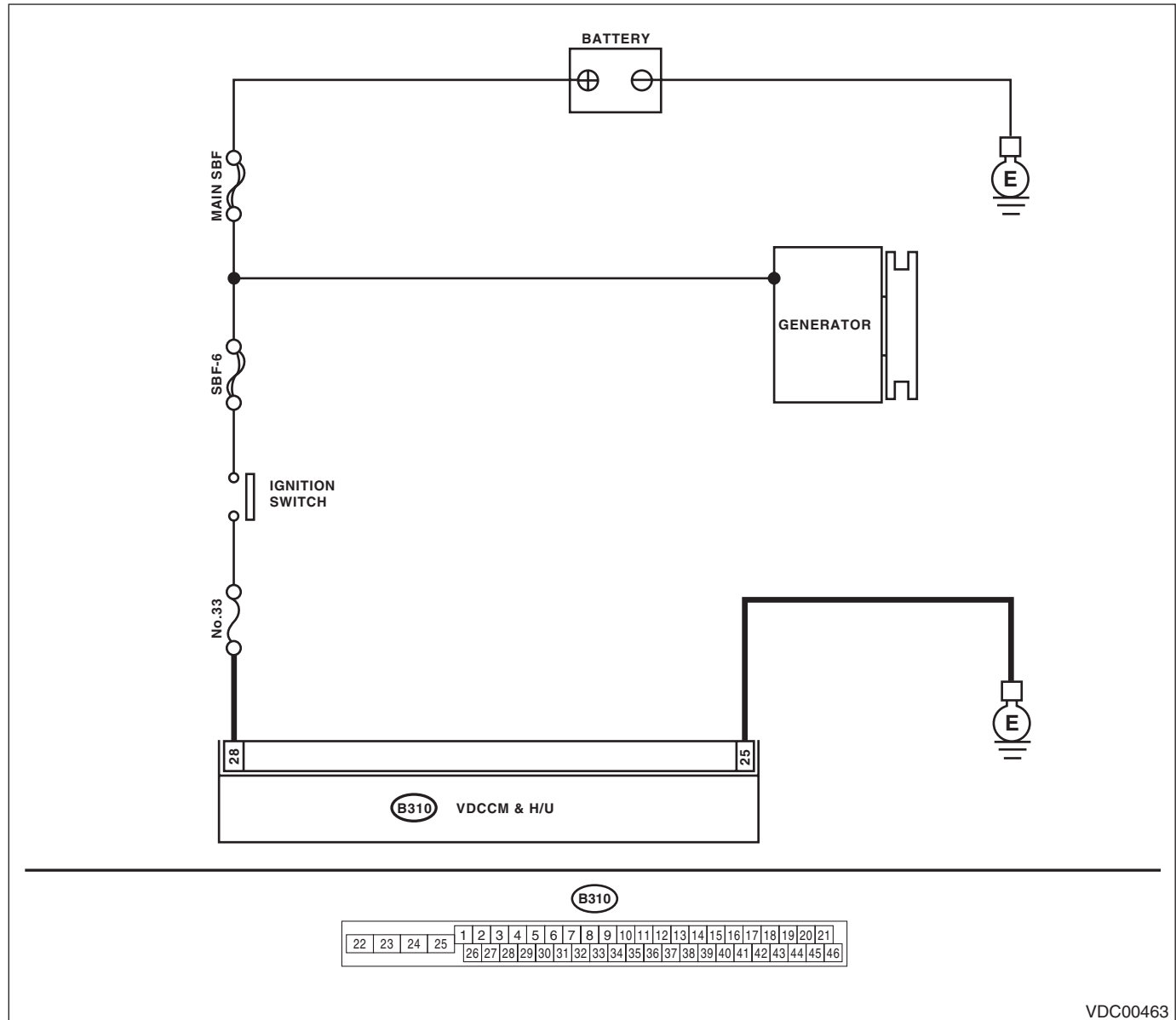
### DTC DETECTING CONDITION:

- Defective harness connector
- Defective VDCH/U solenoid valve

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00463

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK THE VDCCM&amp;H/U INPUT VOLTAGE.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 28 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit.
<b>2 CHECK THE VDCCM&amp;H/U GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 25 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 3.	Repair the VDCCM&H/U ground harness.
<b>3 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step 4.
<b>4 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all 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 and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 5.
<b>5 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## W: DTC C0041 ECM

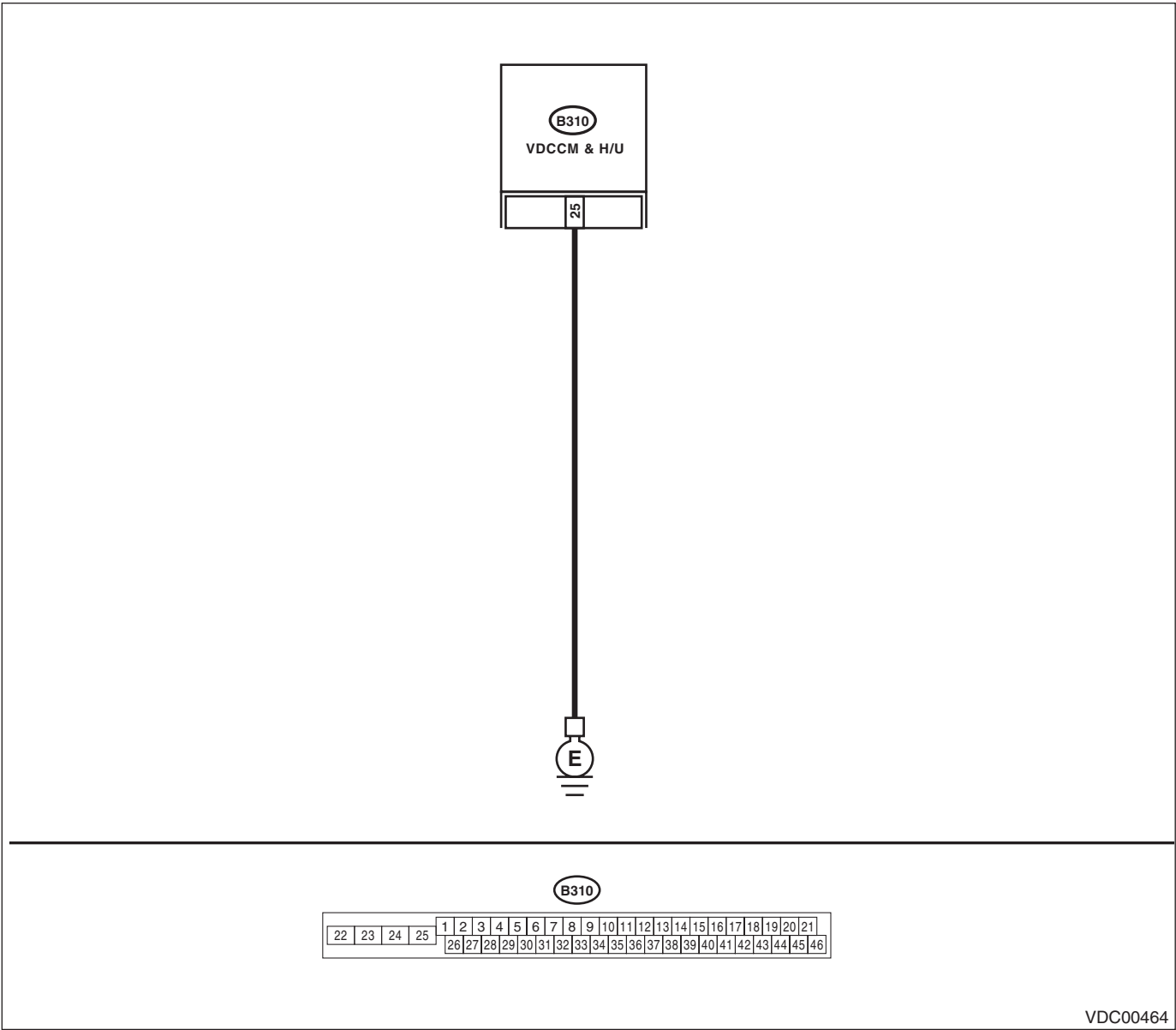
### DTC DETECTING CONDITION:

Defective VDCCM&H/U

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK THE VDCCM&amp;H/U GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the VDCCM&H/U. 3) Measure the resistance between VDCCM&H/U and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 25 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 2.	Repair the VDCCM&H/U ground harness.
<b>2 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact of the connector between the battery, ignition switch and VDCCM&H/U?	Repair the connector.	Go to step 3.
<b>3 CHECK CAUSE OF SIGNAL NOISE.</b>	Are the radio wave devices and electronic components installed correctly?	Go to step 4.	Install the radio wave devices and electronic components properly.
<b>4 CHECK CAUSE OF SIGNAL NOISE.</b>	Is there a noise source (such as an antenna) installed near the sensor harness?	Install the noise sources apart from the sensor harness.	Go to step 5.
<b>5 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 6.
<b>6 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### X: DTC C0041 PARAMETER SELECTION ERROR

#### DTC DETECTING CONDITION:

VDCCM parameter selection failure

#### TROUBLE SYMPTOM:

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

#### NOTE:

When the VDCCM or VDCCM&H/U is replaced, this DTC may be memorized.

Step	Check	Yes	No
<b>1</b>	<b>CHECK VDCCM&amp;H/U REPLACEMENT HISTORY.</b>	Go to step 2.	Go to step 3.
<b>2</b>	<b>CHECK VDCCM IDENTIFICATION NUMBER.</b> Check the identification number on the sticker attached on the VDCCM side.	Go to step 4.	Replace the VDCCM only.
<b>3</b>	<b>CHECK VDCCM&amp;H/U IDENTIFICATION NUMBER.</b> Check the identification number stamped on the upper side of the H/U.	Go to step 4.	Replace the VDCCM&H/U.
<b>4</b>	<b>CHECK PARAMETER SELECTED FOR VDC-CM.</b> <Ref. to VDC(diag)-17, PARAMETER CHECK, OPERATION, Subaru Select Monitor.>	Replace the VDCCM only.	Select and register the correct parameter. <Ref. to VDC(diag)-17, PARAMETER SELECTION, OPERATION, Subaru Select Monitor.>



## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

	Step	Check	Yes	No
1	<b>CHECK GENERATOR.</b> 1) Start the engine. 2) Run the engine at idle after warming up. 3) Measure the voltage between generator terminal B and chassis ground. <b>Terminals</b> <b>Generator B terminal (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the generator.
2	<b>CHECK BATTERY TERMINAL.</b> Turn the ignition switch to OFF.	Are the positive and negative battery terminals clamped tightly?	Go to step 3.	Tighten the terminal.
3	<b>CHECK THE VDCCM&amp;H/U INPUT VOLTAGE.</b> 1) Disconnect the connector from the VDCCM&H/U. 2) Run the engine at idle. 3) Operate devices such as headlights, air conditioner, defogger, etc. which produce an electrical load. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 28 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 4.	Repair the power supply circuit.
4	<b>CHECK THE VDCCM&amp;H/U GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 25 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 5.	Repair the VDCCM&H/U ground harness.
5	<b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step 6.
6	<b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 7.
7	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## Z: DTC C0044 TCM COMMUNICATION CIRCUIT

### DTC DETECTING CONDITION:

No CAN signal from TCM.

### TROUBLE SYMPTOM:

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

Step	Check	Yes	No
<b>1</b> <b>CHECK LAN SYSTEM.</b> Perform the diagnosis for LAN system. <Ref. to LAN(diag)-25, 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.
<b>2</b> <b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in TCM connector?	Repair the connector.	Go to step 3.
<b>3</b> <b>CHECK TCM.</b>	Is the TCM normal?	Go to step 4.	Replace the TCM. <Ref. to 4AT-60, Transmission Control Module (TCM).> <Ref. to 5AT-58, Transmission Control Module (TCM).>
<b>4</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only.	Go to step 5.
<b>5</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AA:DTC C0045 INCORRECT VDC CONTROL MODULE SPECIFICATIONS

### DTC DETECTING CONDITION:

Different control module specification

### TROUBLE SYMPTOM:

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

### NOTE:

When parameter selection for VDCCM is improper, this DTC may be memorized.

Step	Check	Yes	No
<b>1 CHECK VDCCM REPLACEMENT HISTORY.</b>	Is there replacement history of VDCCM alone?	Go to step 2.	Go to step 3.
<b>2 CHECK VDCCM IDENTIFICATION NUMBER.</b> Check the identification number on the sticker attached on the VDCCM side.	Is the identification number correct? AT: T3 MT: T4	Go to step 4.	Replace the VDCCM only.
<b>3 CHECK VDCCM&amp;H/U IDENTIFICATION NUMBER.</b> Check the identification number stamped on the upper side of the H/U.	Is the identification number correct? AT: T3 MT: T4	Go to step 4.	Replace the VDCCM&H/U.
<b>4 CHECK PARAMETER SELECTED FOR VDCCM.</b> <Ref. to VDC(diag)-17, PARAMETER CHECK, OPERATION, Subaru Select Monitor.>	Does the parameter registered to the VDCCM match with the target vehicle?	Go to step 5.	Select and register the correct parameter. <Ref. to VDC(diag)-17, PARAMETER SELECTION, OPERATION, Subaru Select Monitor.>
<b>5 CHECK TCM SPECIFICATION.</b> Check the TCM specification.	Is the specification of TCM same as vehicle specification?	Go to step 6.	Replace the TCM. <Ref. to 4AT-60, Transmission Control Module (TCM).> <Ref. to 5AT-58, Transmission Control Module (TCM).>
<b>6 CHECK AT SYSTEM.</b> 1) Start the engine. 2) Check the DTC in AT system.	Is DTC of AT system displayed?	Repair the AT system.	Go to step 7.
<b>7 CHECK ECM SPECIFICATION.</b> Check the ECM specification.	Is the specification of ECM same as vehicle specification?	Go to step 8.	Replace the ECM. <Ref. to FU(H4SO)-35, Engine Control Module (ECM).> <Ref. to FU(H4DOTC)-44, Engine Control Module (ECM).> <Ref. to FU(H6DO)-33, Engine Control Module (ECM).>
<b>8 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only.	Go to step 9.
<b>9 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AB:DTC C0045 TCM MALFUNCTION

### DTC DETECTING CONDITION:

Defective TCM

### TROUBLE SYMPTOM:

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

Step	Check	Yes	No
<b>1</b> <b>CHECK AT SYSTEM.</b> 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.
<b>2</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only.	Go to step 3.
<b>3</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### WIRING DIAGRAM:



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK LAN SYSTEM.</b> Perform the diagnosis for LAN system. <Ref. to LAN(diag)-25, 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.
<b>2</b> <b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in VDCCM&H/U connector?	Repair the connector.	Go to step 3.
<b>3</b> <b>CHECK OUTPUT OF STEERING ANGLE SENSOR.</b> Connect the Subaru Select Monitor and check output of the steering angle sensor.	Does the output signal change?	Go to step 4.	Check output of the steering angle sensor. <Ref. to VDC(diag)-79, DTC C0071 STEERING ANGLE SENSOR MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
<b>4</b> <b>CHECK OUTPUT OF YAW RATE &amp; LATERAL G SENSOR.</b> Connect the Subaru Select Monitor and check output of the yaw rate & lateral G sensor.	Does the output signal change?	Go to step 5.	Check output of the yaw rate & lateral G sensor. <Ref. to VDC(diag)-91, DTC C0072 YAW RATE SENSOR COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
<b>5</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AD:DTC C0051 VALVE RELAY

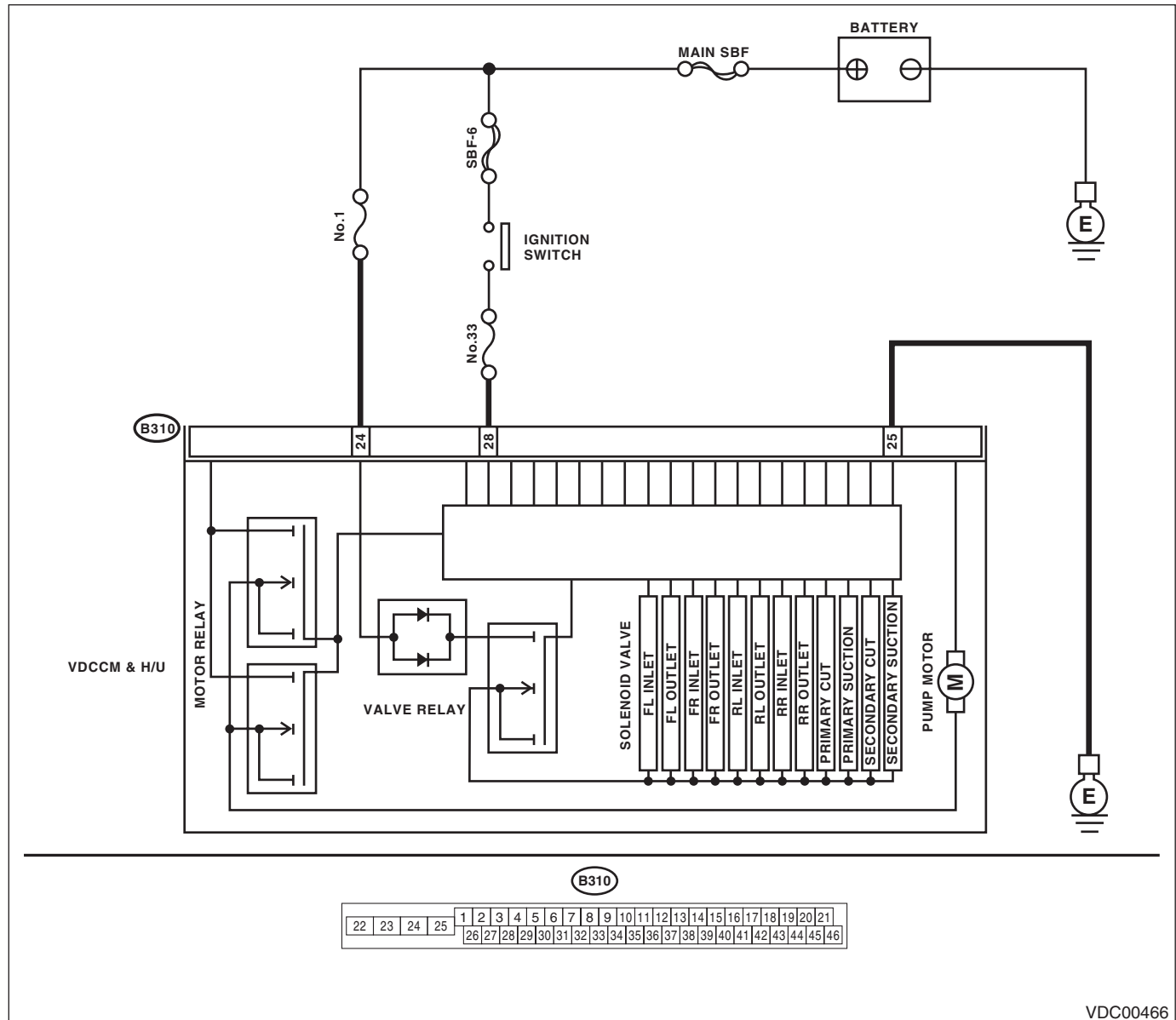
### DTC DETECTING CONDITION:

Defective valve relay

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00466



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK THE VDCCM&amp;H/U INPUT VOLTAGE.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the VDCCM&H/U. 3) Run the engine at idle. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 28 (+) — Chassis ground (-):</b> <b>(B310) No. 24 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit.
<b>2 CHECK THE VDCCM&amp;H/U INPUT VOLTAGE.</b> Calculate the voltage difference measured in step 1. A: (B310) No. 28 (+) — Chassis ground (-): B: (B310) No. 24 (+) — Chassis ground (-):	Is the voltage difference between A and B 2 V or more?	Repair the power supply circuit.	Go to step 3.
<b>3 CHECK THE VDCCM&amp;H/U GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 25 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 4.	Repair the VDCCM&H/U ground harness.
<b>4 CHECK THE VDCCM&amp;H/U VALVE RELAY.</b> Measure the resistance between VDCCM&H/U connector terminals. <b>Connector &amp; terminal</b> <b>(B310) No. 24 — (B310) No. 25:</b>	Is the resistance 1 M $\Omega$ or more?	Go to step 5.	Replace the VDCCM&H/U.
<b>5 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between generator, battery and VDCCM&H/U?	Repair the connector.	Go to step 6.
<b>6 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 7.
<b>7 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AE:DTC C0052 MOTOR AND MOTOR RELAY OFF FAILURE

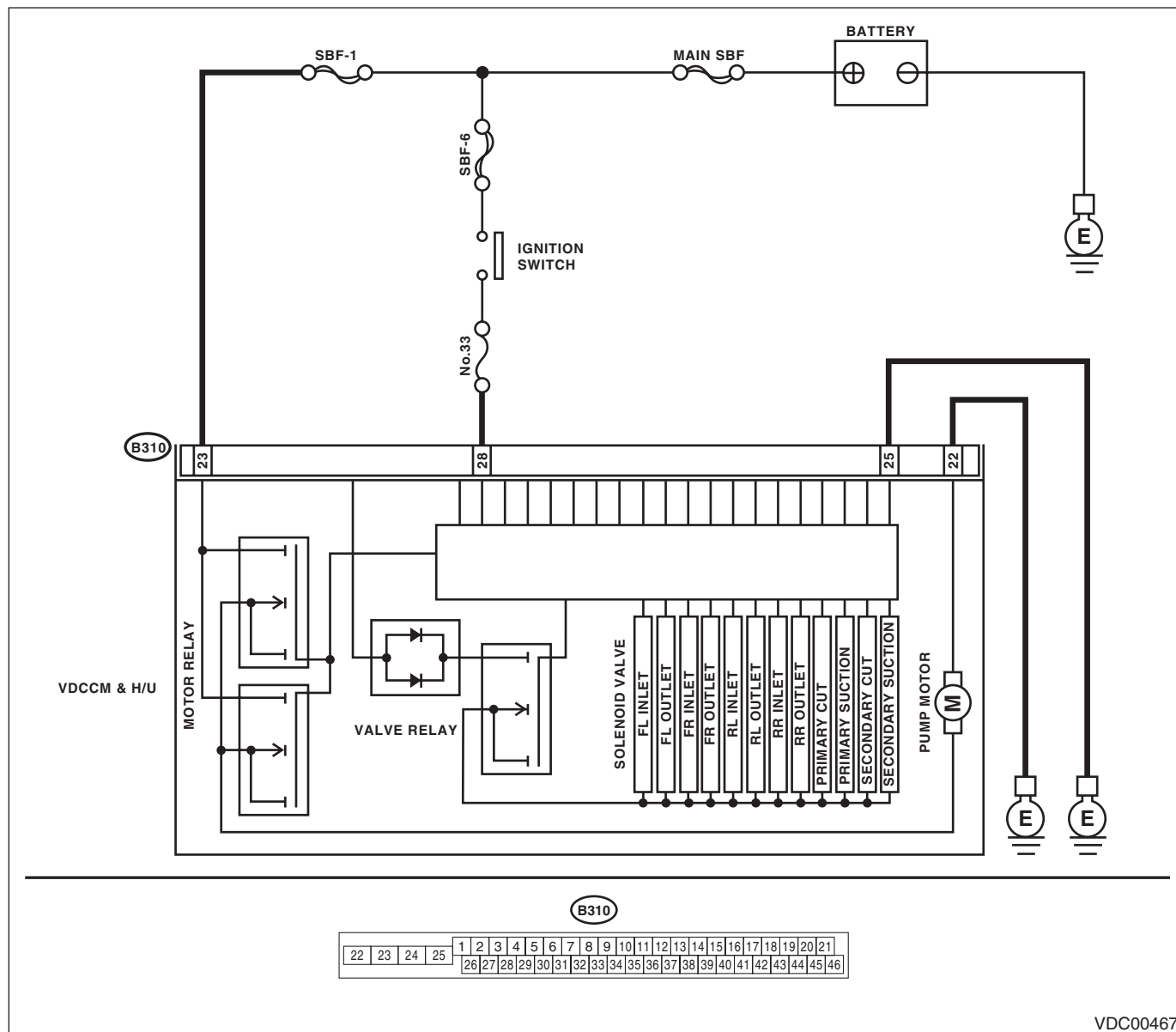
### DTC DETECTING CONDITION:

- Defective motor and motor relay
- Defective harness connector

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00467

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK THE VDCCM&amp;H/U INPUT VOLTAGE.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the VDCCM&H/U. 3) Turn the ignition switch to ON. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 23 (+) — Chassis ground (-):</b> <b>(B310) No. 28 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the VDCCM&H/U power supply circuit.
<b>2 CHECK INSTALLATION OF MOTOR GROUND.</b>	Is the motor ground terminal installation bolt tightened 33 N·m (3.4 kgf-m, 24.3 ft-lb)?	Go to step 3.	Tighten the motor ground terminal installation bolt.
<b>3 CHECK THE VDCCM&amp;H/U GROUND CIRCUIT.</b> 1) Turn the ignition switch to OFF. 2) Measure the resistance between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 25 — Chassis ground:</b> <b>(B310) No. 22 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 4.	Repair the VDCCM&H/U ground harness.
<b>4 CHECK VDCCM&amp;H/U MOTOR RELAY.</b> Measure the resistance between VDCCM&H/U connector terminals. <b>Terminals</b> <b>No. 23 — No. 22:</b>	Is the resistance 1 MΩ or more?	Go to step 5.	Replace the VDCCM&H/U.
<b>5 CHECK POOR CONTACT IN CONNECTORS.</b> 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.
<b>6 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all 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 and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 7.
<b>7 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, 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 12 km/h (7 MPH) or more in order to turn ABS warning light off. Be sure to drive the vehicle and check that the warning light goes off.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AF:DTC C0052 MOTOR AND MOTOR RELAY ON FAILURE

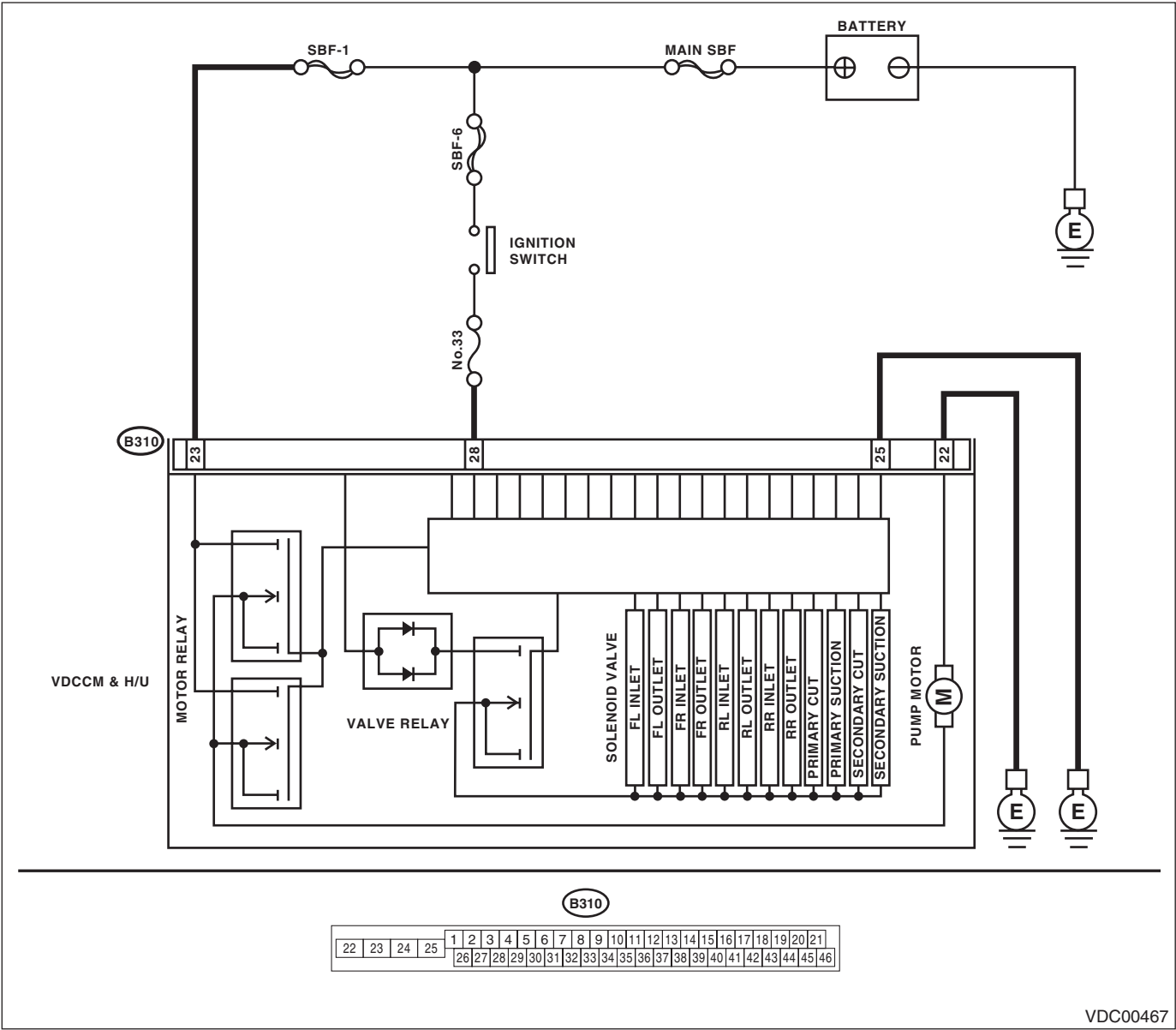
### DTC DETECTING CONDITION:

- Defective motor relay
- Defective harness connector

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00467

Step	Check	Yes	No
1	CHECK INSTALLATION OF MOTOR GROUND.  Is the motor ground terminal installation bolt tightened 33 N·m (3.4 kgf·m, 24.3 ft·lb)?	Go to step 2.	Tighten the motor ground terminal installation bolt.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>2 CHECK VDCCM&amp;H/U MOTOR RELAY.</b> 1) Disconnect the connector from the VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U connector terminals. <b>Terminals</b> <b>No. 23 — No. 22:</b>	Is the resistance 1 MΩ or more?	Go to step 3.	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
<b>3 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 4.
<b>4 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs. <b>NOTE:</b> Though the ABS warning light remains on at this time, it is normal. Drive the vehicle at 12 km/h (7 MPH) or more in order to turn ABS warning light off. Be sure to drive the vehicle and check that the warning light goes off.

## AG:DTC C0052 MOTOR MALFUNCTION

### 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 OFF FAILURE". <Ref. to VDC(diag)-64, DTC C0052 MOTOR AND MOTOR RELAY OFF FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AH:DTC C0054 BLS CIRCUIT OPEN

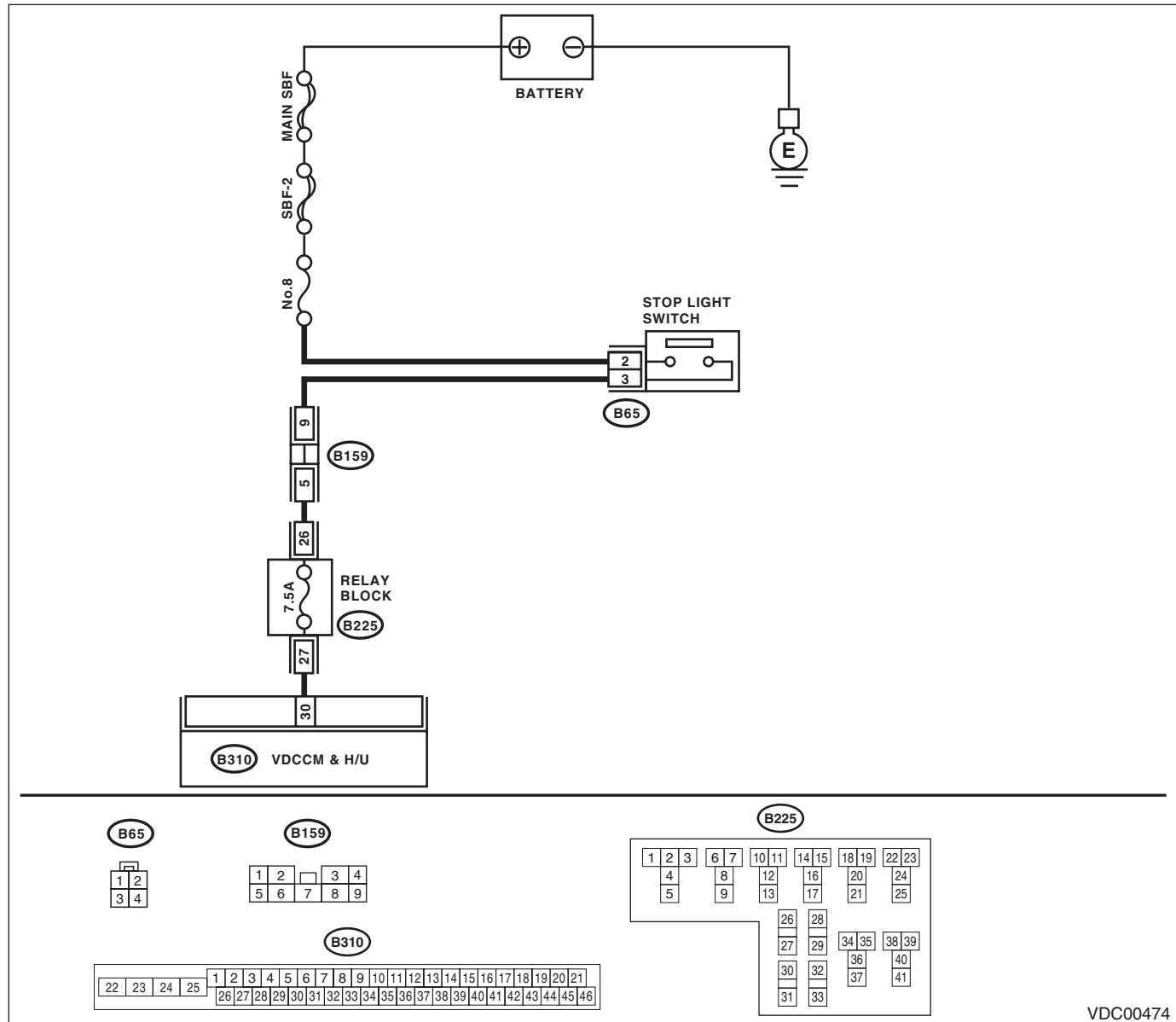
### DTC DETECTING CONDITION:

Defective stop light switch

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00474

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1 CHECK OUTPUT OF STOP LIGHT SWITCH WITH SUBARU SELECT MONITOR.</b> 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 screen?	Go to step 2.	Go to step 3.
<b>2 CHECK OUTPUT OF STOP LIGHT SWITCH WITH SUBARU SELECT MONITOR.</b> 1) Depress the brake pedal. 2) Read the stop light switch output in Subaru Select Monitor.	Is ON displayed on the display screen?	Go to step 6.	Go to step 3.
<b>3 CHECK IF STOP LIGHTS COME ON.</b> Depress the brake pedal.	Does the stop light illuminate?	Go to step 4.	Repair the stop light circuit.
<b>4 CHECK FUSE.</b> Check the fuse (B225).	Is the fuse OK?	Go to step 5.	Replace the fuse.
<b>5 CHECK OPEN CIRCUIT OF HARNESS.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the connector from the VDCCM&H/U. 3) Depress the brake pedal. 4) Measure the voltage between VDCCM&H/U connector and chassis ground. <b>Connector &amp; terminal</b> <b>(B310) No. 30 (+) — Chassis ground (–):</b>	Is the voltage 10 — 15 V?	Go to step 6.	Repair the harness between stop light switch and VDCCM&H/U connector.
<b>6 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between stop light switch and VDCCM&H/U?	Repair the connector.	Go to step 7.
<b>7 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 8.
<b>8 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### WIRING DIAGRAM:





# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK STOP LIGHT SWITCH.</b> 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 1 MΩ or more when switch is OFF (when pedal is not depressed)?	Go to step 2.	Replace the stop light switch.
2	<b>INTERVIEWING CUSTOMERS.</b> 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?	System is normal. (DTC may be recorded while brake is applied during driving.)	Go to step 3.
3	<b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 4.
4	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AJ:DTC C0054 BLS OFF MALFUNCTION

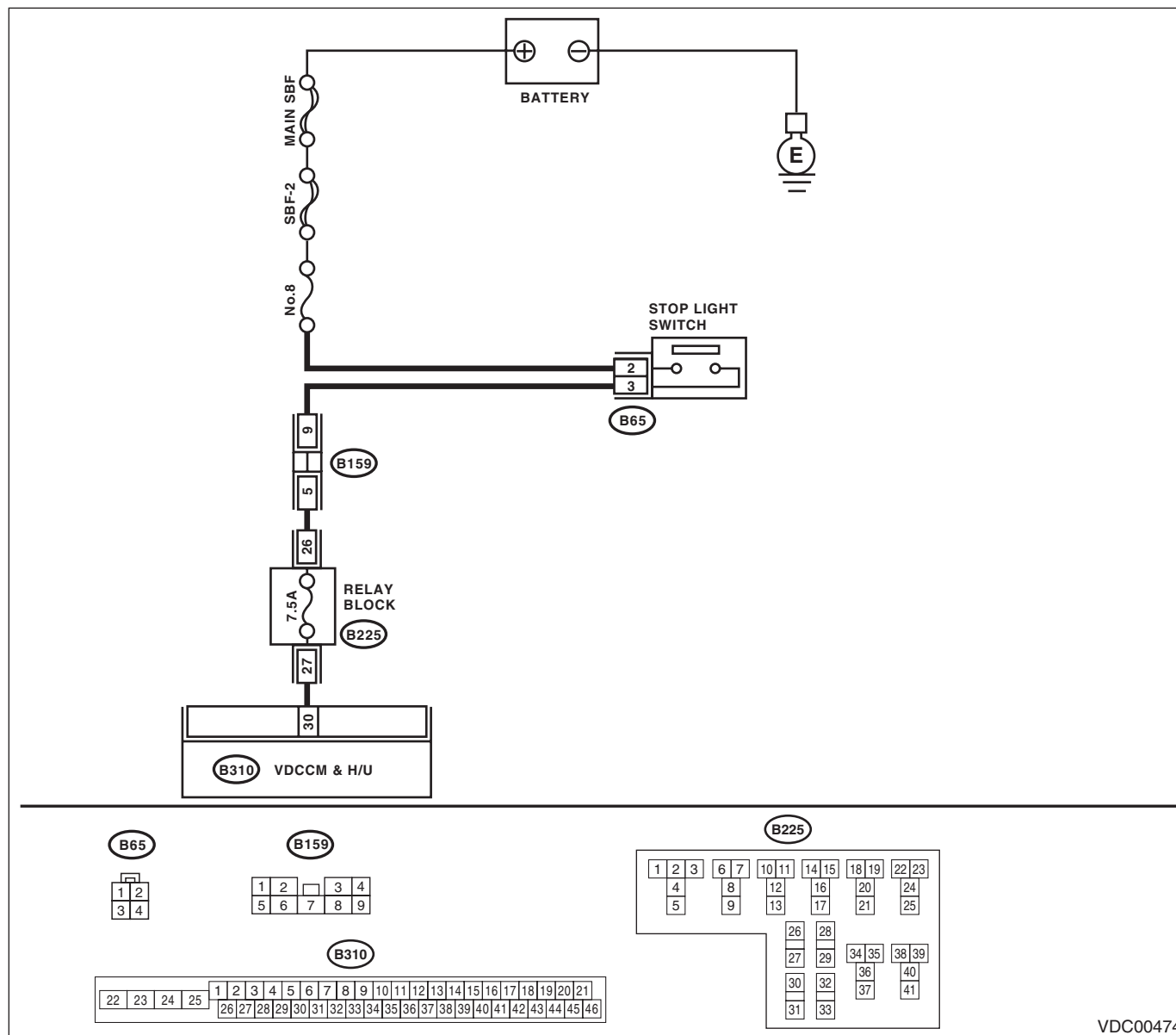
### DTC DETECTING CONDITION:

Defective stop light switch

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00474

Step	Check	Yes	No
1	<b>CHECK STOP LIGHT SWITCH.</b> 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch connector. 3) Measure the resistance of stop light switch terminals.	Go to step 2.	Replace the stop light switch.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>2 CHECK POWER SUPPLY OF STOP LIGHT SWITCH.</b> Measure the voltage between the stop light switch terminal and chassis ground. <b>Connector &amp; terminal</b> <b>(B65) No. 2 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 3.	Repair the power supply circuit of stop light.
<b>3 CHECK STOP LIGHT SWITCH HARNESS.</b> 1) Disconnect the connector from the VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and stop light switch. <b>Connector &amp; terminal</b> <b>(B65) No. 3 — (B310) No. 30:</b>	Is the resistance less than 0.5 Ω?	Go to step 4.	Repair the stop light switch circuit.
<b>4 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in connector between stop light switch and VDCCM&H/U?	Repair the connector.	Go to step 5.
<b>5 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 6.
<b>6 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

## AK:DTC C0057 ECM COMMUNICATION CIRCUIT

### DTC DETECTING CONDITION:

No CAN signal from ECM.

### TROUBLE SYMPTOM:

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

Step	Check	Yes	No
<b>1 CHECK LAN SYSTEM.</b> Perform the diagnosis for LAN system. <Ref. to LAN(diag)-25, 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.
<b>2 CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in ECM connector?	Repair the connector.	Go to step 3.
<b>3 CHECK ECM.</b>	Is ECM normal?	Go to step 4.	Replace the ECM.
<b>4 CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 5.
<b>5 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AL:DTC C0057 ECM CONTROL SYSTEM

### DTC DETECTING CONDITION:

ECM coordinate control prohibition

### TROUBLE SYMPTOM:

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

### NOTE:

Warning lights go off if ECM coordinate control is recovered.

Step	Check	Yes	No
<b>1</b> <b>CHECK WARNING LIGHT.</b> Check whether the VDC warning light illuminates after driving for more than 1 minute at a speed of 10 km/h or more.	Does the VDC warning light illuminate?	Go to step 2.	VDC is normal. Perform the Clear Memory Mode. <b>NOTE:</b> If cranking operation is performed while driving, DTC may be memorized.
<b>2</b> <b>CHECK POOR CONTACT IN CONNECTORS.</b>	Is there poor contact in ECM connector?	Repair the connector.	Go to step 3.
<b>3</b> <b>CHECK ECM.</b>	Is ECM normal?	Go to step 4.	Replace the ECM.
<b>4</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Perform the Clear Memory Mode. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 5.
<b>5</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	It results from a temporary noise interference.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AM:DTC C0071 STEERING ANGLE SENSOR OFFSET IS TOO BIG

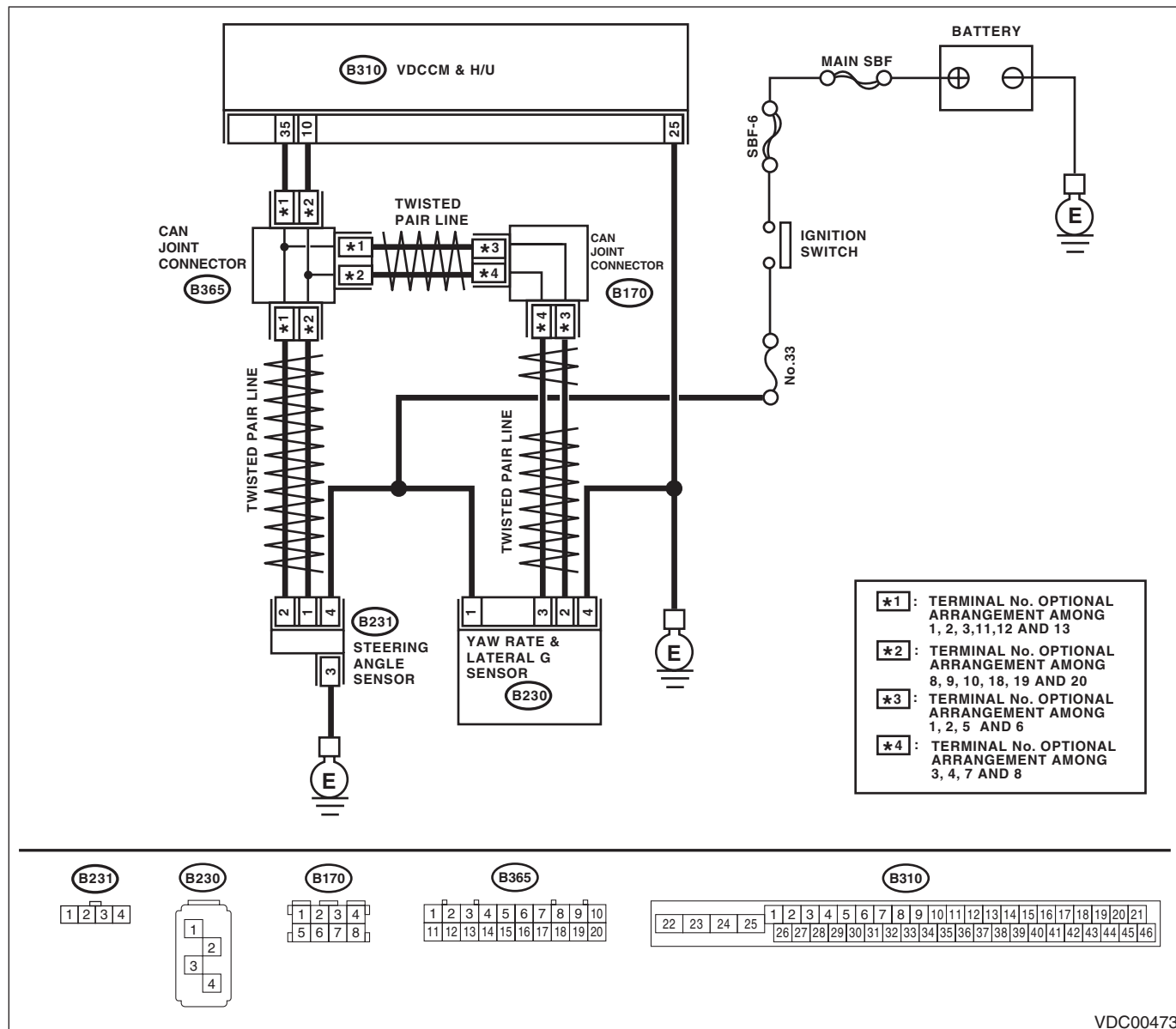
### DTC DETECTING CONDITION:

Defective steering angle sensor

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK STEERING WHEEL.</b> 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	<b>CHECK THE VDCCM&amp;H/U.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 3.
3	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AN:DTC C0071 CHANGE RANGE OF STEERING ANGLE SENSOR IS TOO BIG

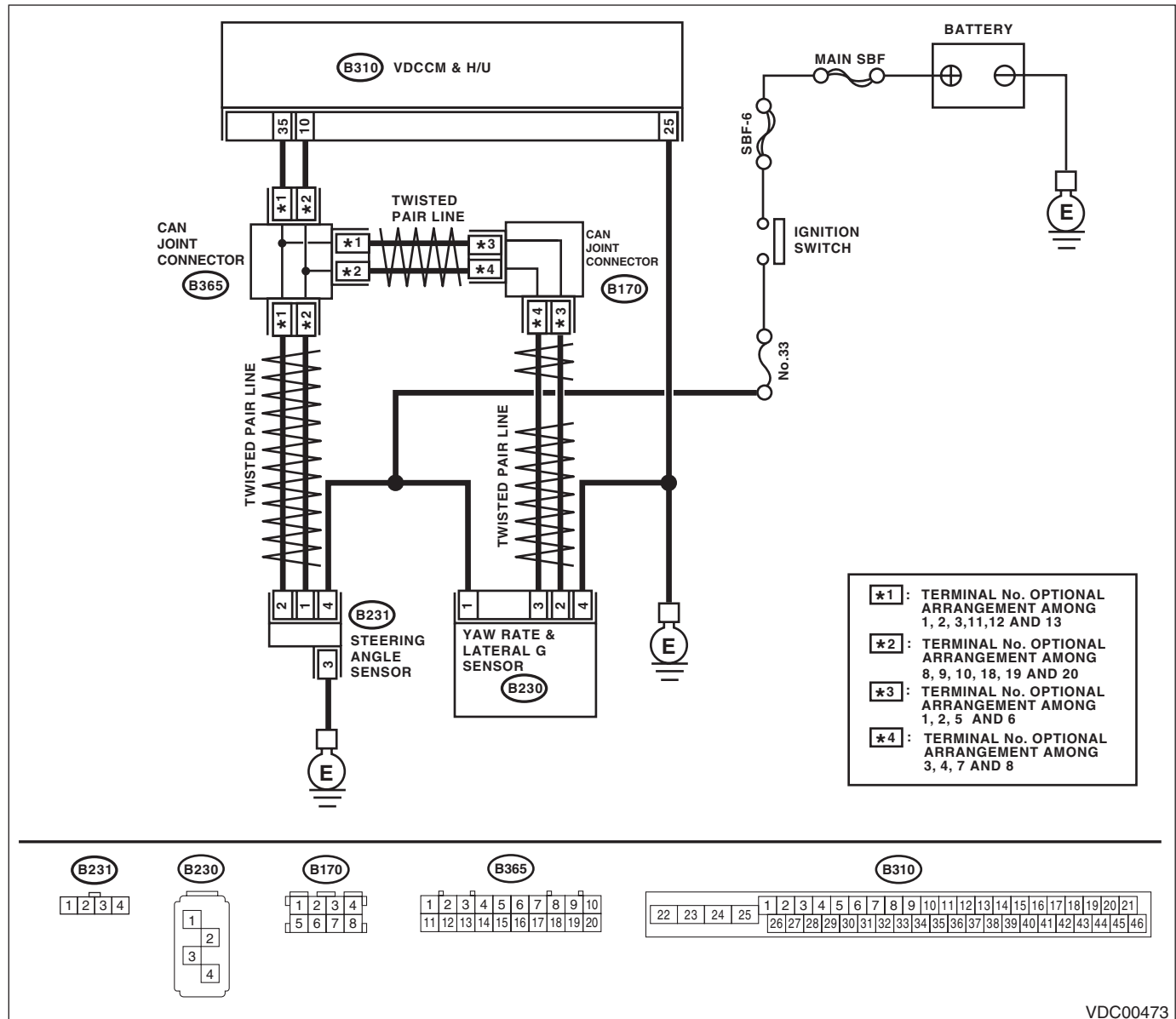
### DTC DETECTING CONDITION:

Defective steering angle sensor

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK THE VDCCM&amp;H/U.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 2.
2	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	Temporary poor contact occurs.



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AO:DTC C0071 STEERING ANGLE SENSOR MALFUNCTION

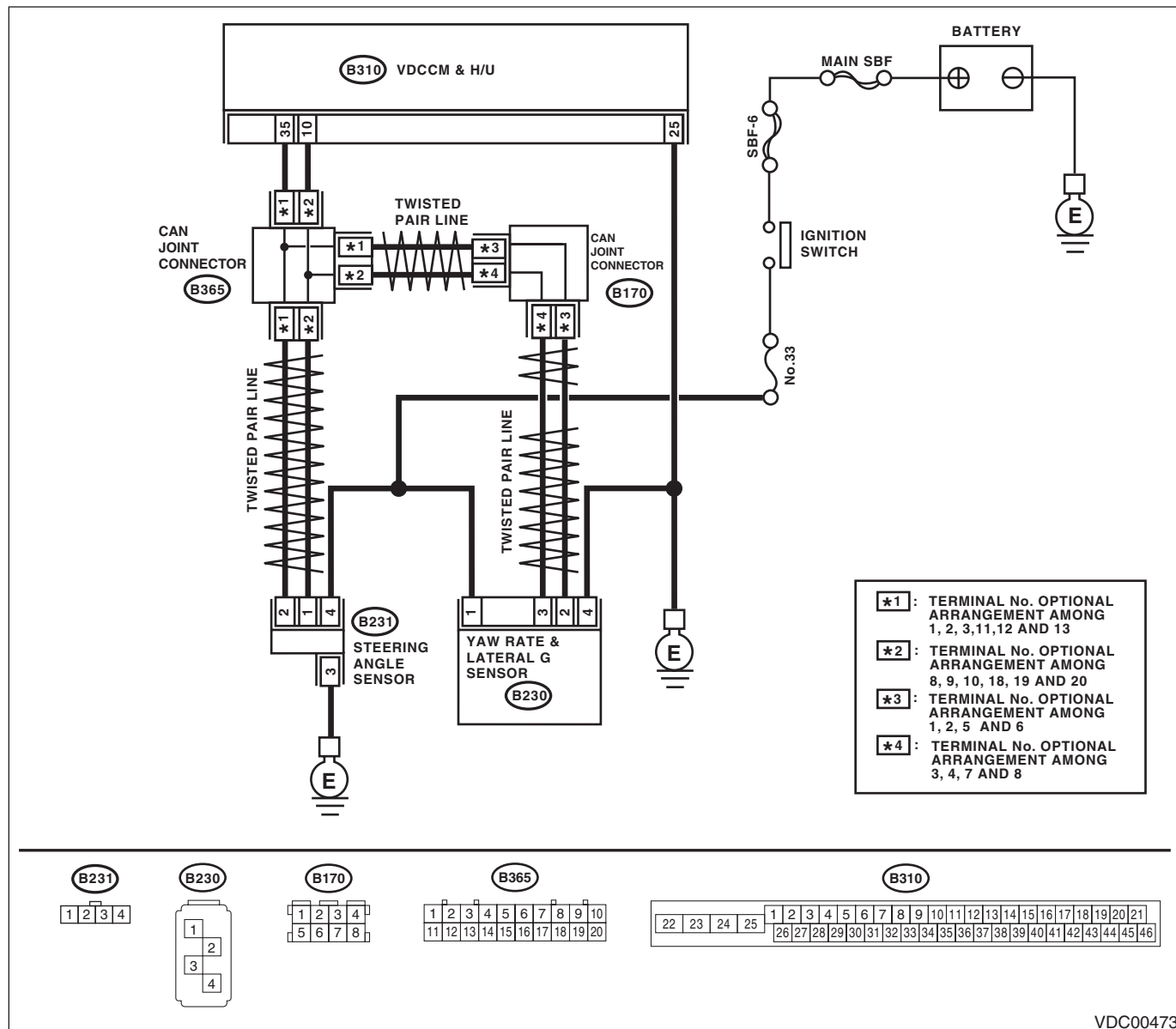
### DTC DETECTING CONDITION:

Signal does not come from steering angle sensor.

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

Step	Check	Yes	No
<b>1 CHECK POWER SUPPLY FOR STEERING ANGLE SENSOR.</b> <ol style="list-style-type: none"> <li>1) Turn the ignition switch to OFF.</li> <li>2) Disconnect the connector from steering angle sensor.</li> <li>3) Turn the ignition switch to ON.</li> <li>4) Measure the voltage between the steering angle sensor and chassis ground.</li> </ol> <b>Connector &amp; terminal</b> <b>(B231) No. 4 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit of steering angle sensor.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>2</b> <b>CHECK GROUND CIRCUIT OF STEERING ANGLE SENSOR.</b> Measure the resistance between steering angle sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B231) No. 3 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair ground circuit in the steering angle sensor.
<b>3</b> <b>CHECK STEERING ANGLE SENSOR HARNESS.</b> 1) Disconnect the connector from the VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and steering angel sensor. <b>Connector &amp; terminal</b> <b>(B231) No. 1 — (B310) No. 10:</b> <b>(B231) No. 2 — (B310) No. 35:</b>	Is the resistance less than 0.5 Ω?	Go to step 4.	Repair the harness between the steering angle sensor and VDCCM&H/U.
<b>4</b> <b>CHECK GROUND SHORT CIRCUIT OF STEERING ANGLE SENSOR HARNESS.</b> Measure the resistance between steering angle sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B231) No. 1 — Chassis ground:</b> <b>(B231) No. 2 — Chassis ground:</b>	Is the resistance 1 MΩ or more?	Go to step 5.	Repair the harness between the steering angle sensor and VDCCM&H/U.
<b>5</b> <b>CHECK STEERING ANGLE SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all 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.
<b>6</b> <b>CHECK THE VDCCM&amp;H/U.</b> 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 only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 9.
<b>7</b> <b>CHECK STEERING ANGLE SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 8.
<b>8</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
<b>9</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Original steering angle sensor malfunction

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AP:DTC C0071 STEERING ANGLE SENSOR MALFUNCTION

### DTC DETECTING CONDITION:

Defective steering angle sensor

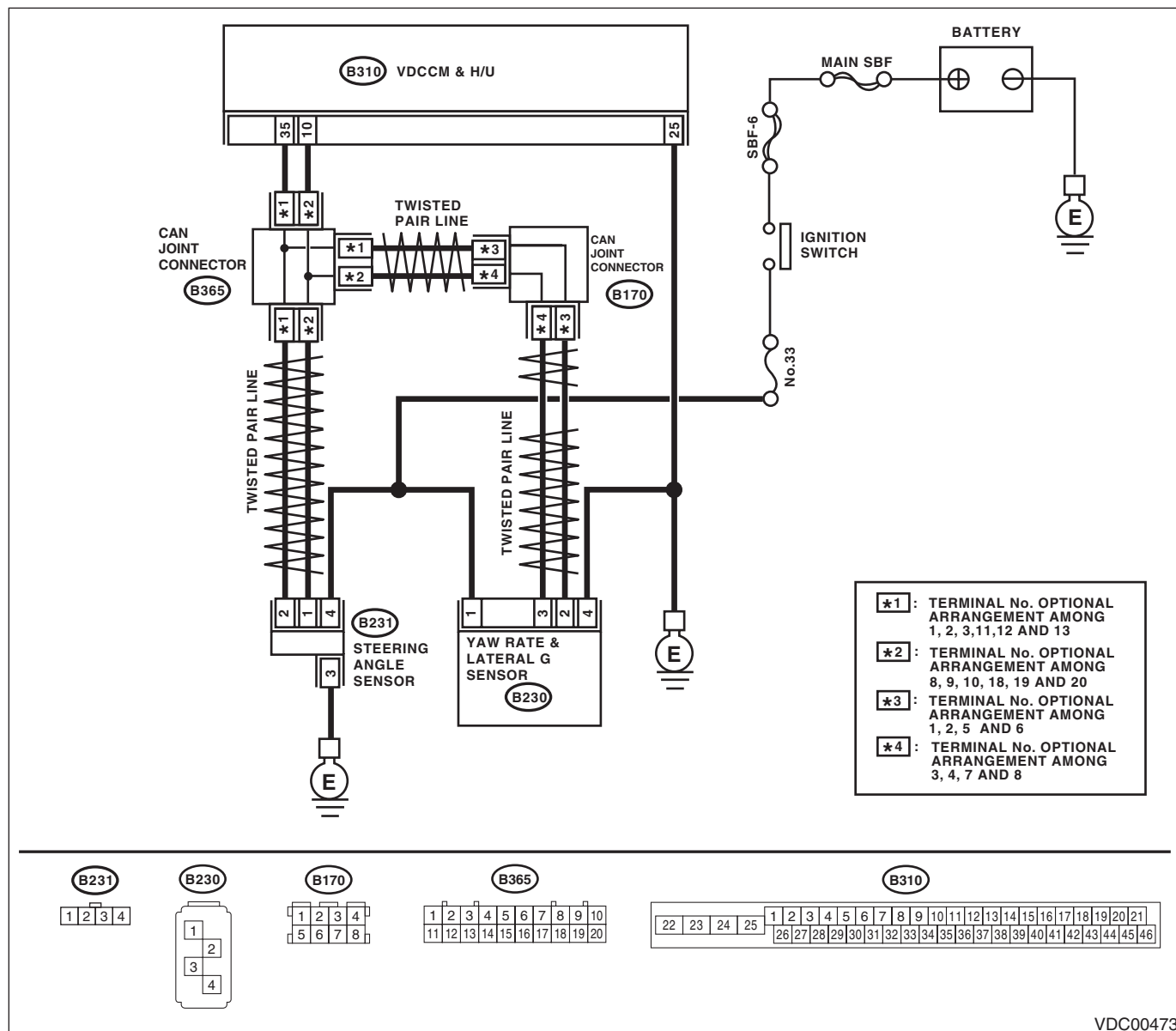
### TROUBLE SYMPTOM:

- 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:



VDC000473

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK POWER SUPPLY FOR STEERING ANGLE SENSOR.</b> 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 the steering angle sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B231) No. 4 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit of steering angle sensor.
2	<b>CHECK GROUND CIRCUIT OF STEERING ANGLE SENSOR.</b> Measure the resistance between steering angle sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B231) No. 3 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 3.	Repair ground circuit in the steering angle sensor.
3	<b>CHECK STEERING ANGLE SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step 4.	Go to step 5.
4	<b>CHECK THE VDCCM&amp;H/U.</b> 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 only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 6.
5	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
6	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Original steering angle sensor malfunction

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### WIRING DIAGRAM:



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

	Step	Check	Yes	No
1	<b>CHECK DRIVING PLACE.</b> 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	<b>CHECK YAW RATE &amp; LATERAL G SENSOR INSTALLATION.</b>	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	<b>CHECK OUTPUT OF YAW RATE &amp; LATERAL G SENSOR WITH SUBARU SELECT MONITOR.</b> 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	<b>CHECK OUTPUT OF STEERING ANGLE SENSOR WITH SUBARU SELECT MONITOR.</b> 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	<b>CHECK YAW RATE &amp; LATERAL G SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all 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	<b>CHECK THE VDCCM&amp;H/U.</b> 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 only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 8.
7	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
8	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Malfunction is found in original yaw rate & lateral G sensor.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AR:DTC C0072 VOLTAGE INPUTTED TO YAW RATE SENSOR EXCEEDS SPECIFICATION

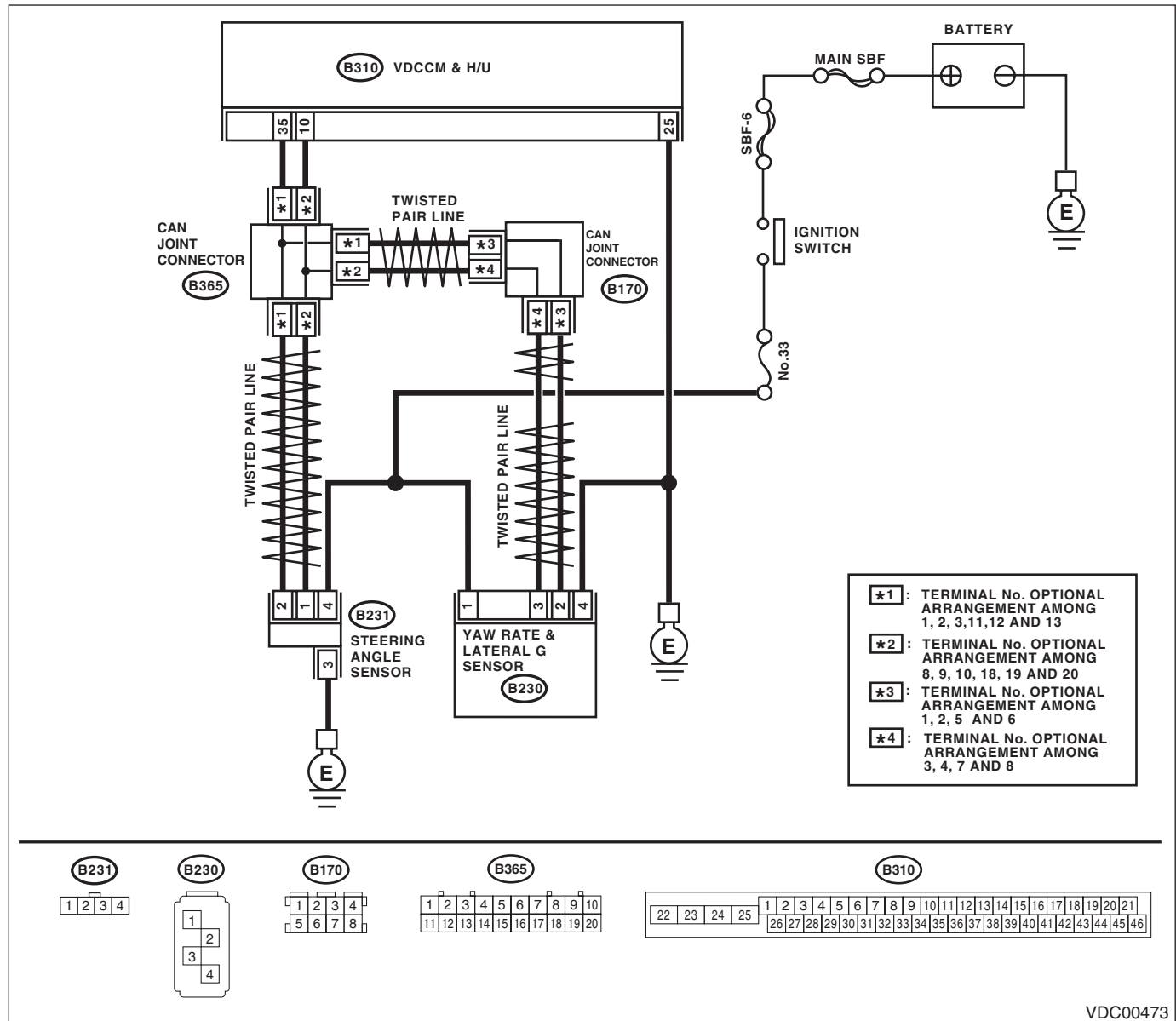
### DTC DETECTING CONDITION:

Defective yaw rate sensor

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK YAW RATE &amp; LATERAL G SENSOR POWER SUPPLY.</b> 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. <b>Connector &amp; terminal</b> <b>(B230) No. 1 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit of the yaw rate & lateral G sensor.
2	<b>CHECK YAW RATE &amp; LATERAL G SENSOR GROUND CIRCUIT.</b> Measure the resistance between the yaw rate & lateral G sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B230) No. 4 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 3.	Repair the ground circuit of the yaw rate & lateral G sensor.
3	<b>CHECK YAW RATE &amp; LATERAL G SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the yaw rate & lateral G sensor.	Go to step 4.
4	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AS:DTC C0072 ABNORMAL YAW RATE SENSOR REFERENCE VOLTAGE

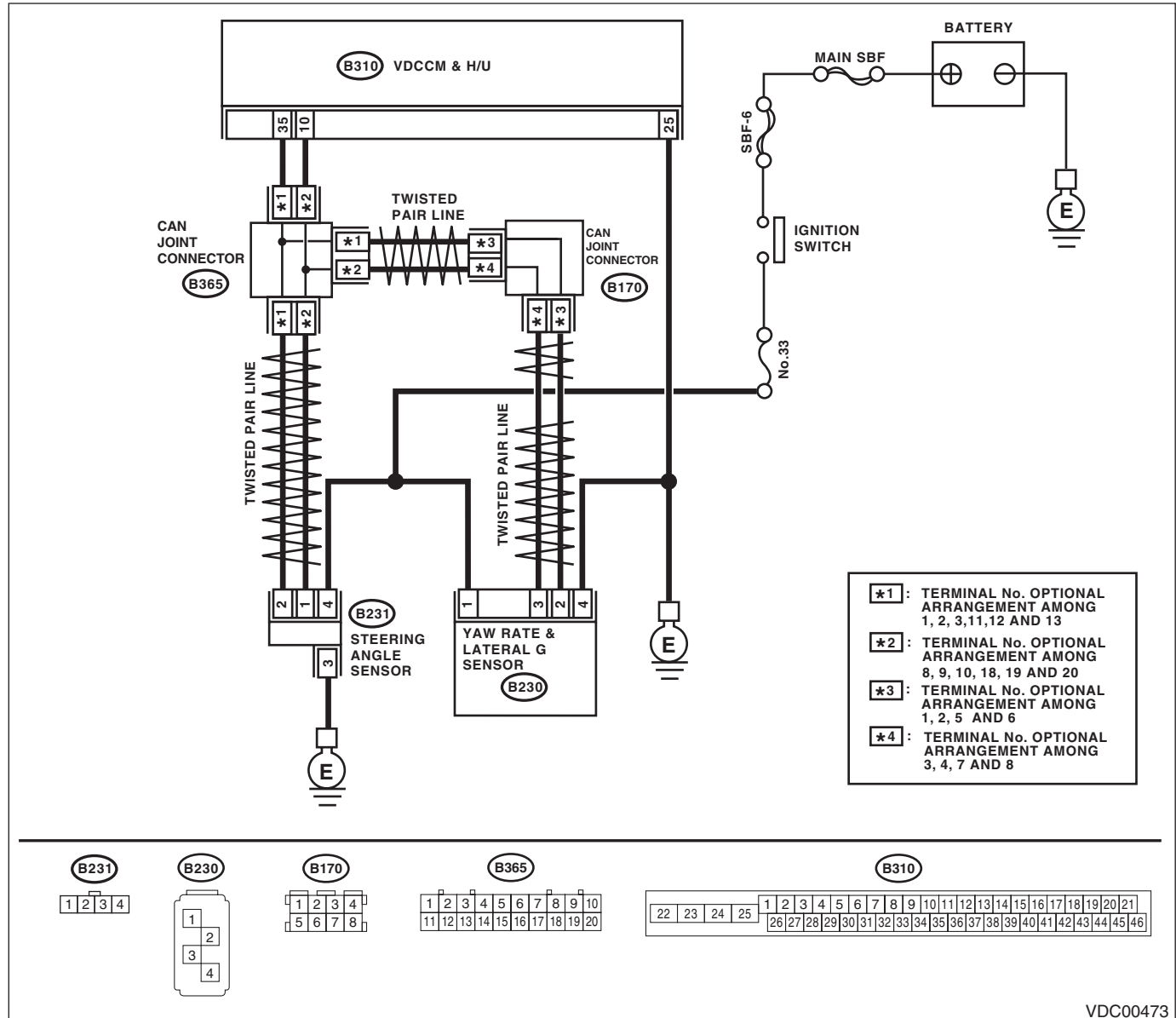
### DTC DETECTING CONDITION:

Defective yaw rate sensor

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step		Check	Yes	No
1	<b>CHECK POWER SUPPLY FOR YAW RATE &amp; LATERAL G SENSOR.</b> 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. <b>Connector &amp; terminal</b> <b>(B230) No. 1 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit of the yaw rate & lateral G sensor.
2	<b>CHECK YAW RATE &amp; LATERAL G SENSOR GROUND CIRCUIT.</b> Measure the resistance between the yaw rate & lateral G sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B230) No. 4 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 3.	Repair the ground circuit of the yaw rate & lateral G sensor.
3	<b>CHECK THE VDCCM&amp;H/U.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Replace the yaw rate & lateral G sensor.	Go to step 4.
4	<b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AT:DTC C0072 CHANGE RANGE OF YAW RATE SENSOR SIGNAL IS TOO BIG

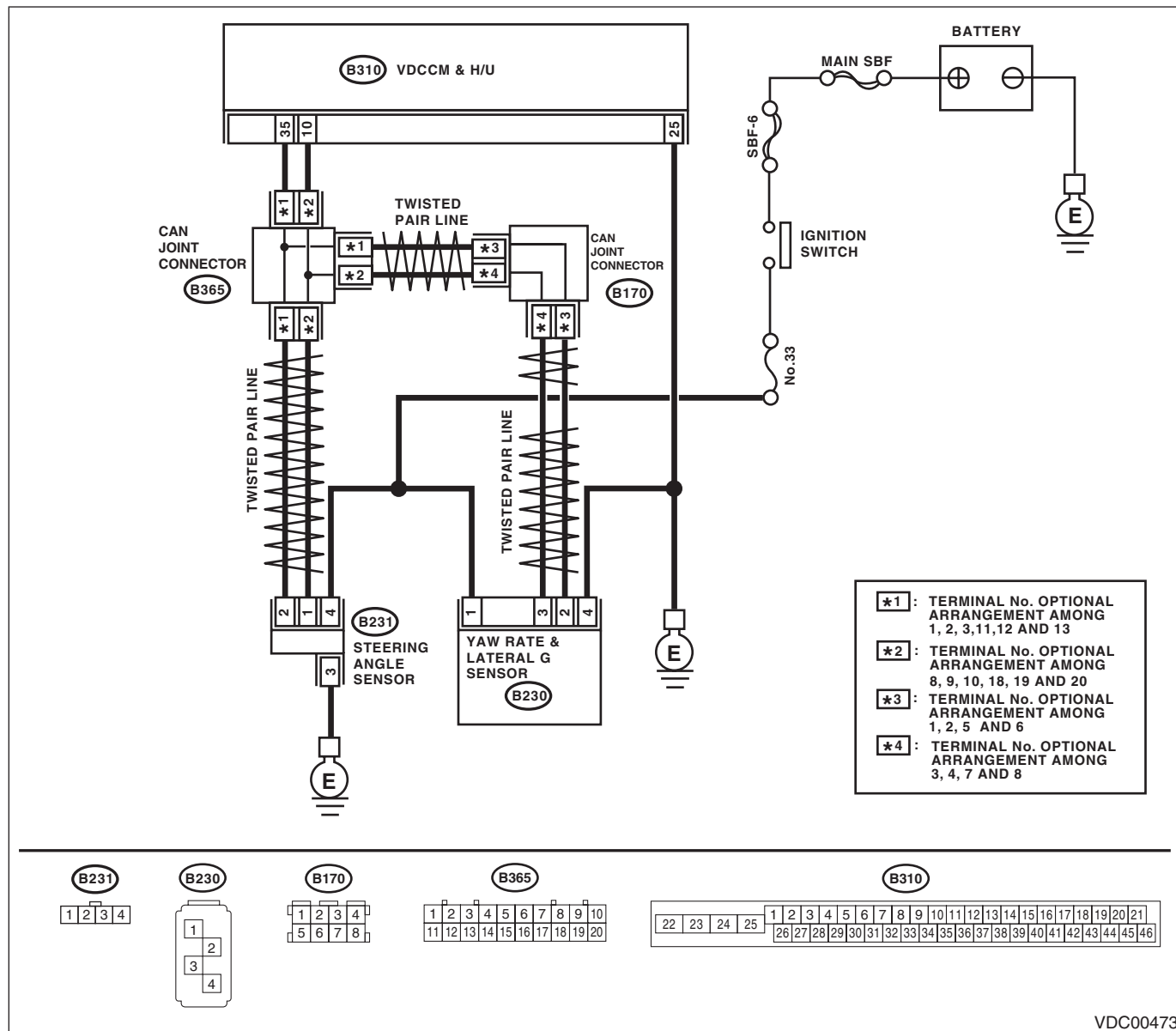
### DTC DETECTING CONDITION:

Defective yaw rate sensor

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

Step	Check	Yes	No
1	<b>CHECK DRIVING PLACE.</b> Check if the vehicle ran 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	<b>CHECK YAW RATE &amp; LATERAL G SENSOR INSTALLATION.</b>	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.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>3 CHECK YAW RATE &amp; LATERAL G SENSOR POWER SUPPLY.</b> 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. <b>Connector &amp; terminal</b> <b>(B230) No. 1 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 4.	Repair the power supply circuit of the yaw rate & lateral G sensor.
<b>4 CHECK YAW RATE &amp; LATERAL G SENSOR GROUND CIRCUIT.</b> Measure the resistance between the yaw rate & lateral G sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B230) No. 4 — Chassis ground:</b>	Is the resistance less than 0.5 $\Omega$ ?	Go to step 5.	Repair the ground circuit of the yaw rate & lateral G sensor.
<b>5 CHECK OUTPUT OF YAW RATE &amp; LATERAL G SENSOR WITH SUBARU SELECT MONITOR.</b> 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 6.	Replace the yaw rate & lateral G sensor.
<b>6 CHECK YAW RATE &amp; LATERAL G SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all connectors. 3) Erase the memory. 4) Perform the Inspection Mode. 5) Read the DTC.	Is the same DTC displayed?	Go to step 7.	Go to step 8.
<b>7 CHECK THE VDCCM&amp;H/U.</b> 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 only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 9.
<b>8 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
<b>9 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Malfunction is found in original yaw rate & lateral G sensor.

### AU:DTC C0073 LATERAL G SENSOR COMMUNICATION

#### DTC DETECTING CONDITION:

Communication failure between lateral G sensor and VDCCM

#### TROUBLE SYMPTOM:

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

#### NOTE:

For the diagnostic procedure, refer to DTC C0072 "YAW RATE SENSOR COMMUNICATION". <Ref. to VDC(diag)-91, DTC C0072 YAW RATE SENSOR COMMUNICATION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AV:DTC C0072 YAW RATE SENSOR COMMUNICATION

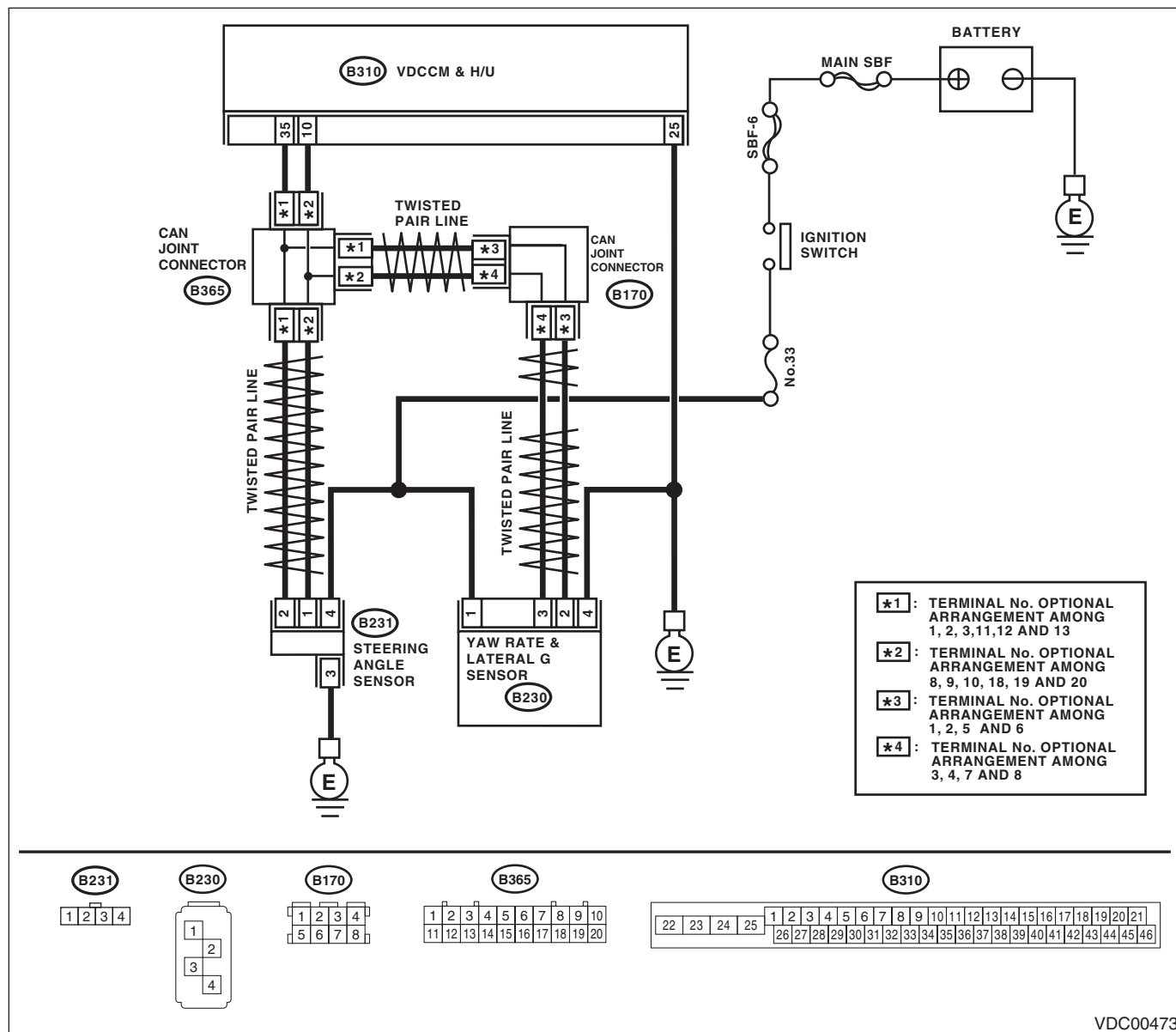
### DTC DETECTING CONDITION:

Communication failure between yaw rate sensor and VDCCM

### TROUBLE SYMPTOM:

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

### WIRING DIAGRAM:



VDC00473

Step	Check	Yes	No	
1	<b>CHECK POWER SUPPLY FOR YAW RATE &amp; LATERAL G SENSOR.</b> 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. <b>Connector &amp; terminal</b> <b>(B230) No. 1 (+) — Chassis ground (-):</b>	Is the voltage 10 — 15 V?	Go to step 2.	Repair the power supply circuit of the yaw rate & lateral G sensor.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

### VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>2 CHECK YAW RATE &amp; LATERAL G SENSOR GROUND CIRCUIT.</b> Measure the resistance between the yaw rate & lateral G sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B230) No. 4 — Chassis ground:</b>	Is the resistance less than 0.5 Ω?	Go to step 3.	Repair the ground circuit of the yaw rate & lateral G sensor.
<b>3 CHECK YAW RATE &amp; LATERAL G SENSOR HARNESS.</b> 1) Disconnect the connector from the VDCCM&H/U. 2) Measure the resistance between VDCCM&H/U and yaw rate & lateral G sensor. <b>Connector &amp; terminal</b> <b>(B230) No. 3 — (B310) No. 10:</b> <b>(B230) No. 2 — (B310) No. 35:</b>	Is the resistance less than 0.5 Ω?	Go to step 4.	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
<b>4 CHECK GROUND SHORT CIRCUIT FOR YAW RATE &amp; LATERAL G SENSOR HARNESS.</b> Measure the resistance between the yaw rate & lateral G sensor and chassis ground. <b>Connector &amp; terminal</b> <b>(B230) No. 2 — Chassis ground:</b> <b>(B230) No. 3 — Chassis ground:</b>	Is the resistance 1 MΩ or more?	Go to step 5.	Repair the harness between yaw rate & lateral G sensor and VDCCM&H/U.
<b>5 CHECK YAW RATE &amp; LATERAL G SENSOR.</b> 1) Turn the ignition switch to OFF. 2) Connect all 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.
<b>6 CHECK YAW RATE &amp; LATERAL G SENSOR.</b> 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 only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 8.
<b>7 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.
<b>8 CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Malfunction is found in original yaw rate & lateral G sensor.

### AW:DTC C0073 LATERAL G SENSOR OFFSET IS TOO BIG

#### NOTE:

For the diagnostic procedure, refer to DTC C0073 "EXCESSIVE LATERAL G SENSOR SIGNAL". <Ref. to VDC(diag)-93, DTC C0073 EXCESSIVE LATERAL G SENSOR SIGNAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

### AX:DTC C0073 ABNORMAL LATERAL G SENSOR OUTPUT

#### NOTE:

For the diagnostic procedure, refer to DTC C0073 "EXCESSIVE LATERAL G SENSOR SIGNAL". <Ref. to VDC(diag)-93, DTC C0073 EXCESSIVE LATERAL G SENSOR SIGNAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AY:DTC C0073 EXCESSIVE LATERAL G SENSOR SIGNAL

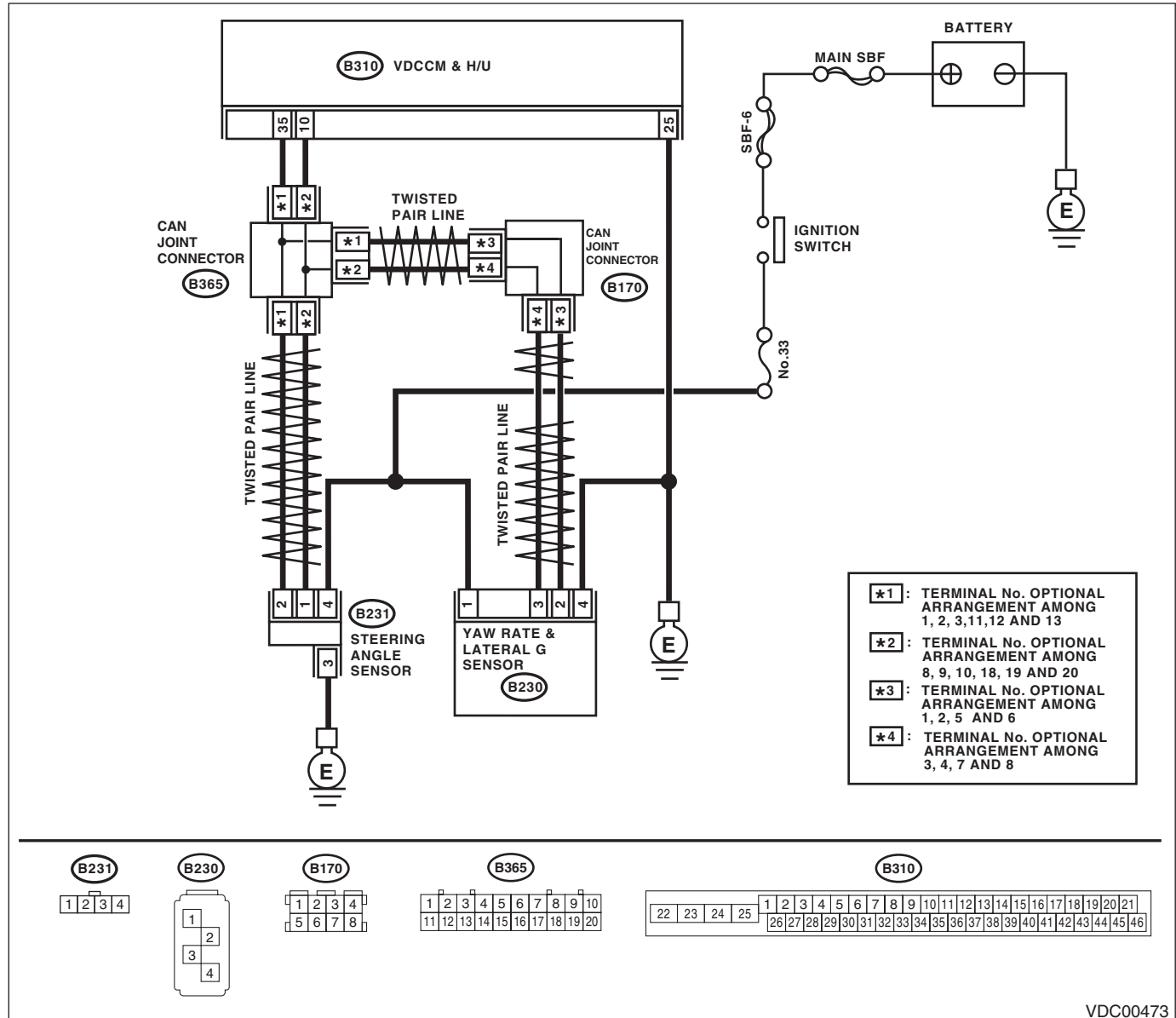
### DTC DETECTING CONDITION:

Lateral G sensor malfunction

### TROUBLE SYMPTOM:

VDC does not operate.

### WIRING DIAGRAM:



VDC00473

# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Step	Check	Yes	No
<b>1</b> <b>CHECK YAW RATE &amp; LATERAL G SENSOR INSTALLATION.</b>	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.
<b>2</b> <b>CHECK LATERAL G SENSOR OUTPUT.</b> 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 screen.	Is the indicated reading on the monitor display $-1.5$ — $1.5$ m/s <sup>2</sup> ?	Go to step 3.	Replace the yaw rate & lateral G sensor.
<b>3</b> <b>CHECK LATERAL G SENSOR OUTPUT.</b> 1) Turn the ignition switch to OFF. 2) Remove the yaw rate & lateral G sensors 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 screen.	When the yaw rate & lateral G sensor is inclined 90° to the right, is the indicated value $6.8$ — $12.8$ m/s <sup>2</sup> ?	Go to step 4.	Replace the yaw rate & lateral G sensor.
<b>4</b> <b>CHECK LATERAL G SENSOR.</b> 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 <sup>2</sup> ?	Go to step 5.	Replace the yaw rate & lateral G sensor.
<b>5</b> <b>CHECK POOR CONTACT IN CONNECTORS.</b> 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.
<b>6</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Connect all connectors. 2) Erase the memory. 3) Perform the Inspection Mode. 4) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM only. <Ref. to VDC-9, REPLACEMENT, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 7.
<b>7</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC.	Temporary poor contact occurs.



# Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## AZ:DTC C0074 PRESSURE SENSOR

### DTC DETECTING CONDITION:

Defective pressure sensor

### TROUBLE SYMPTOM:

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

Step	Check	Yes	No
<b>1</b> <b>CHECK STOP LIGHT SWITCH CIRCUIT.</b> Check stop light switch open circuit.	Is the stop light switch circuit OK?	Go to step 2.	Repair the stop light switch circuit. <b>NOTE:</b> If there is malfunction in the stop light circuit, DTC may be memorized.
<b>2</b> <b>CHECK OUTPUT OF PRESSURE SENSOR WITH SUBARU SELECT MONITOR.</b> 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Read the pressure sensor output displayed on display.	When the brake pedal is released, is the displayed value -4 — 4 MPa?	Go to step 3.	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
<b>3</b> <b>CHECK OUTPUT OF PRESSURE SENSOR WITH SUBARU SELECT MONITOR.</b> 1) Select {Current Data Display & Save} in Subaru Select Monitor. 2) Read the pressure sensor output displayed on display.	When operating the brake pedal, does the pressure sensor output value on the display change according to the brake pedal operation?	Go to step 4.	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>
<b>4</b> <b>CHECK PRESSURE SENSOR.</b> 1) Erase the memory. 2) Perform the Inspection Mode. 3) Read the DTC.	Is the same DTC displayed?	Replace the VDCCM&H/U. <Ref. to VDC-7, VDC Control Module and Hydraulic Control Unit (VDCCM&H/U).>	Go to step 5.
<b>5</b> <b>CHECK OTHER DTC DETECTION.</b>	Is any other DTC displayed?	Perform the diagnosis according to DTC. <Ref. to VDC(diag)-34, List of Diagnostic Trouble Code (DTC).>	It results from a temporary noise interference.

## Diagnostic Procedure with Diagnostic Trouble Code (DTC)

VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

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### BA:DTC C0081 SYSTEM FAILURE

#### DTC DETECTING CONDITION:

VDC long time sequential control

#### TROUBLE SYMPTOM:

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

Step	Check	Yes	No
<b>1</b> <b>CHECK POOR CONTACT IN CONNECTOR.</b>	Is there poor contact in the VDCCM& H/U and yaw rate & lateral G sensor connector?	Repair the connector.	Go to step 2.
<b>2</b> <b>CHECK THE VDCCM&amp;H/U.</b> 1) Replace the yaw rate & lateral G sensor. 2) Connect all 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.