

# Subaru Select Monitor

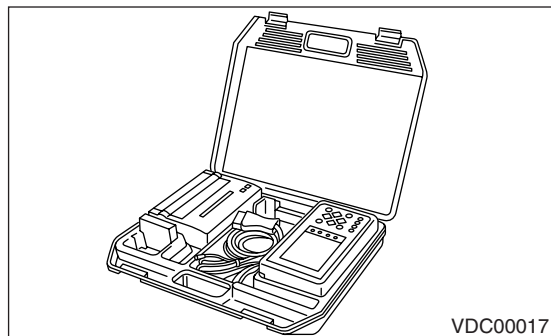
VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

## 7. Subaru Select Monitor

### A: OPERATION

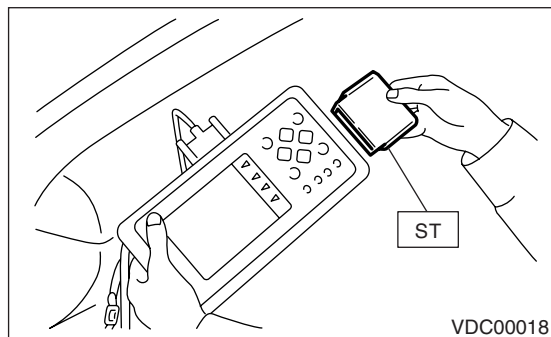
#### 1. READ DTC

1) Prepare the Subaru Select Monitor kit.



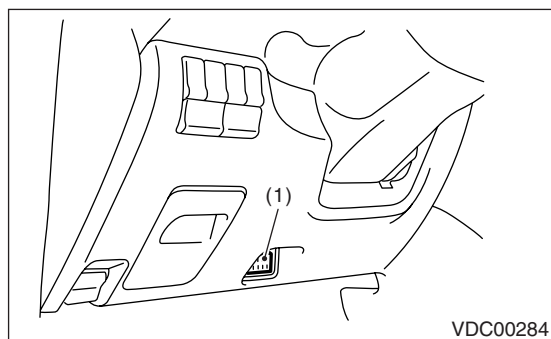
2) Connect the diagnosis cable to Subaru Select Monitor.

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 the data link connector.

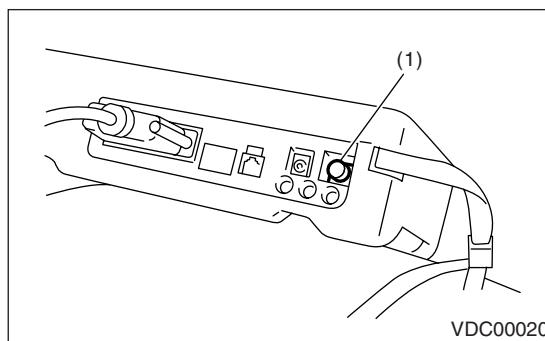
(1) Data link connector is located in the lower portion of the instrument panel (on the driver's side).



(1) Data link connector

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

5) Turn the ignition switch ON (engine is OFF), and the Subaru Select Monitor switch 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 type is displayed.

9) On the «Brake Control Diagnosis» screen, select the {Diagnostic Code(s) Display}, and then press the [YES] key.

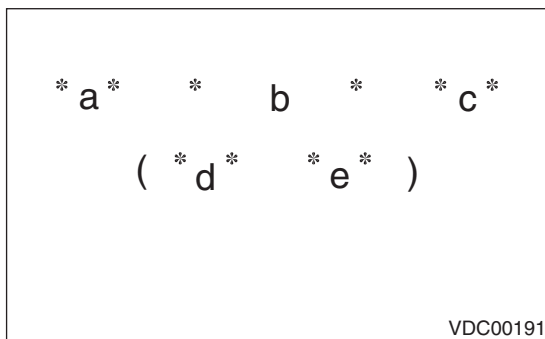
#### NOTE:

- For details concerning operation procedure, refer to the "SUBARU SELECT MONITOR OPERATION MANUAL".

- For details concerning DTC, refer to "List of Diagnostic Trouble Code (DTC)".

<Ref. to VDC(diag)-28, List of Diagnostic Trouble Code (DTC).>

- A maximum of three DTCs are displayed in the order of occurrence.



\*a\*: DTC (2 digits)

\*b\*: Trouble contents

\*c\*: Shows the order of failure occurrence.  
(Current, previous, second previous, third previous)

\*d\*: Detail DTC (4 digits)

\*e\*: IG/ON count after failure occurred (Maximum of 254)

# Subaru Select Monitor

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

Display	Contents of Display
Previous	The latest DTC of the failures in the past is displayed on the Subaru Select Monitor display.
Second previous	The second latest DTC of the failures in the past is displayed on the Subaru Select Monitor display.
Third previous	The third latest DTC of the failures in the past is displayed on the Subaru Select Monitor display.

\* If the failure is occurring, “Current” is displayed on the screen.

## 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 the VDC type 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» screen, select the {Data Display} and press the [YES] key.
  - 6) Using the scroll key, scroll the display screen up or down until the desired data is shown on the screen.
- 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
FL Wheel Speed	Wheel speed detected by front ABS wheel speed sensor LH is displayed.	km/h
RR Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor RH is displayed.	km/h
RL Wheel Speed	Wheel speed detected by rear ABS wheel speed sensor LH is displayed.	km/h
Steering angle sensor	Steering wheel angle detected by steering angle sensor is displayed.	deg
Yaw Rate Sensor	Vehicle angular speed detected by the yaw rate sensor is displayed.	deg (deg/s)
Pressure sensor (P)	Brake fluid pressure detected by the primary pressure sensor is displayed.	bar
Pressure sensor (S)	Brake fluid pressure detected by the secondary pressure sensor is displayed.	bar
Lateral G Sensor	Vehicle lateral direction acceleration detected by lateral G sensor is displayed.	m/s (m/s <sup>2</sup> )
IG Power Supply Voltage	Voltage supplied to the VDCCM is displayed.	V
Valve Relay	The valve relay operating condition is displayed.	ON or OFF
Motor Relay	The motor relay operating condition is displayed.	ON or OFF
Motor Relay Monitor	The motor relay operating condition is displayed.	ON or OFF
VDC ON	VDC operation condition is displayed.	ON or OFF
VDC Warning Light	ON/OFF condition of the VDC warning light/VDC OFF indicator light is displayed. (ON is displayed when there is a VDC failure.)	ON or OFF
ABS Warning Light	ON/OFF condition of the ABS warning light is displayed.	ON or OFF
VDC OFF Light	ON/OFF condition of the VDC warning light/VDC OFF indicator light is displayed. (ON/OFF is displayed by operating the VDC OFF switch and EAM signal.)	ON or OFF
EBD Warning Light	ON/OFF condition of the EBD warning light is displayed.	ON or OFF
EAM Signal	Engine control command signal is displayed.	1 or 0
PATA Signal	ON/OFF condition of the VDC OFF switch is displayed.	ON or OFF
Gear Position	Gear position is displayed by number. 0: N or P, 1: 1st, 2: 2nd, 3: 3rd, 4: 4th, 7: R	—
Engine Speed	Engine speed is displayed.	rpm
PW Signal	Acceleration opening is displayed.	%
Car Line	Vehicle type is displayed by number. Normally “1.”	—

### NOTE:

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

### 3. CLEAR MEMORY MODE

- 1) On the «Main Menu» display screen, select the {2. 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 the engine type is displayed.
- 4) On the «Brake Control Diagnosis» display screen, select the {Clear Memory} and press the [YES] key.
- 5) When the “Done” is shown on the display screen, turn the Subaru Select Monitor and ignition switch OFF.

#### NOTE:

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

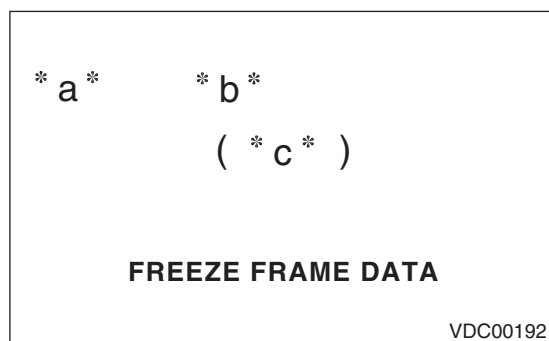
### 4. FUNCTION CHECK

Display	Contents of Display	Index No.
ABS check mode	Operate the valve and pump motor by turns to perform the ABS sequence control.	<Ref. to VDC-16, ABS Sequence Control.>
VDC check mode	Operate the valve and pump motor by turns to perform the VDC sequence control.	<Ref. to VDC-19, VDC Sequence Control.>
Steering angle sensor neutral & lateral G sensor 0 pt mode	Set the steering angle sensor neutral position and the lateral G sensor “0” points.	<Ref. to VDC-25, Steering Angle Sensor.>

### 5. FREEZE FRAME DATA

#### NOTE:

- Data stored at the time of failure occurred is shown on display.
- Each time a failure occurs, the latest information is stored in the freeze frame data in memory.
- 1 freeze frame data is stored.
- If a freeze frame data is not properly stored in memory (due to a drop in VDCCM power supply, etc.), a DTC suffixed with a question mark “?” appears on the Subaru Select Monitor display. This shows it may be an unreliable reading.



\*a\*: DTC (2 digits)

\*b\*: Trouble contents

\*c\*: Detail DTC (4 digits)

# Subaru Select Monitor

## VEHICLE DYNAMICS CONTROL (VDC) (DIAGNOSTICS)

### FREEZE FRAME DATA LIST

Display	Contents to be monitored
FR Wheel Speed	Wheel speed detected by the front ABS wheel speed sensor RH is displayed in km/h.
FL Wheel Speed	Wheel speed detected by the front ABS wheel speed sensor LH is displayed in km/h.
RR Wheel Speed	Wheel speed detected by the rear ABS wheel speed sensor RH is displayed in km/h.
RL Wheel Speed	Wheel speed detected by the rear ABS wheel speed sensor LH is displayed in km/h.
Steering angle sensor	Steering wheel angle detected by steering angle sensor is displayed.
Yaw Rate Sensor	Vehicle angular speed detected by the yaw rate sensor is converted and displayed in volts.
Lateral G Sensor	Vehicle lateral direction acceleration detected by lateral G sensor is converted and displayed in volts.
Primary Pressure Sensor	Brake fluid pressure detected by the primary pressure sensor is converted and displayed in volts.
Secondary Pressure Sensor	Brake fluid pressure detected by the secondary pressure sensor is converted and displayed in volts.
Vehicle speed	The vehicle speed is displayed.
Required Torque	Engine torque required by the driver is displayed.
Current Torque	Current engine torque is displayed.
Target Torque	The target torque is displayed.
Acceleration Opening Angle	Acceleration opening is displayed.
Engine Speed	Engine speed is displayed.
Gear Position	Gear position is displayed.
IG Power Supply Voltage	Voltage supplied to VDC control module is displayed.
ABS Warning Light	ON/OFF condition of the ABS warning light is displayed.
EBD Warning Light	ON/OFF condition of the EBD warning light is displayed.
VDC Warning Light	ON/OFF condition of the VDC warning light/VDC OFF indicator light is displayed. (ON is displayed when there is a VDC failure.)
VDC OFF Light	ON/OFF condition of the VDC warning light/VDC OFF indicator light is displayed. (ON/OFF is displayed by operating the VDC OFF switch and EAM signal.)
VDC Operation Light	ON/OFF condition of VDC OFF indicator light is displayed.
Valve Relay Signal	The valve relay operating condition is displayed.
Motor Relay Driving Vibration	The motor relay operating condition is displayed.
Motor Relay Monitor	The motor relay operating condition is displayed.
Decreasing Required Torque	Engine torque decrease request is displayed.
EAM Signal	Engine control command signal is displayed.
VDC O Control Flag	VDC operation condition (over-steering) is displayed.
VDC U Control Flag	VDC operation condition (under-steering) is displayed.
ABS Control Flag	ABS operating condition is displayed.
VDC OK B Signal	VDC sensor normal flag