

7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

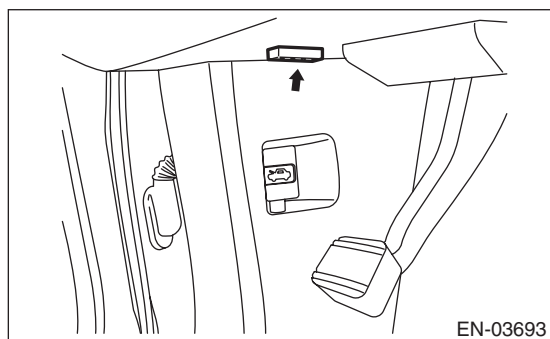
When malfunction of airbag system occurs, the DTC stored in airbag control module will be read out.

1) Prepare the Subaru Select Monitor kit. <Ref. to AB(diag)-8, SPECIAL TOOL, PREPARATION TOOL, General Description.>

2) Connect the diagnosis cable to the Subaru Select Monitor.

3) 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).



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

CAUTION:

Do not connect scan tools other than the Subaru Select Monitor.

4) Turn the ignition switch to ON (engine OFF) and run the Subaru Select Monitor.

5) On the «Main Menu», select {Each System Check}.

6) On the «System Selection Menu», select {Airbag System}.

7) After {Airbag System} is displayed, select [OK].

8) Select the {Diagnostic Code(s) Display} in «Airbag System».

NOTE:

- For details concerning the operation procedure, refer to the "PC application help for Subaru Select Monitor".
- For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to AB(diag)-37, List of Diagnostic Trouble Code (DTC).>

2. DISPLAY OF STATUS INFORMATION

Check the operating condition of each sensor in the event of malfunction in seat belt buckle switch and seat position sensor, or when the seat belt buckle switch and seat position sensor has been replaced.

- 1) On the «Main Menu» display screen, select the {Each System Check}.
- 2) On the «System Selection Menu» display screen, select {Airbag System}.
- 3) Select the {Status Data} in «Airbag System» display screen.

The following table is for support data.

Item	Display contents
Seat position sensor LH	Front position ^{*1} /Rear position ^{*2} /Other ^{*3} /Initial Setting ^{*3} /— ^{*5}
Seat position sensor RH	— ^{*5}
Seat belt buckle switch LH	Belted ^{*6} /Unbelted ^{*7} /Other ^{*8} /Initial Setting ^{*4} /— ^{*9}
Seat belt buckle switch RH	Belted ^{*6} /Unbelted ^{*7} /Other ^{*8} /Initial Setting ^{*4} /— ^{*9}
Passenger's airbag control status	ON ^{*10} /OFF ^{*11} /Initial Setting ^{*4}

*1: The seat position is forward.

*2: The seat position is rearward.

*3: Displayed when data other than before and behind the seat, such as the breakdown etc, is input.

*4: Displayed when it is initial.

*5: Seat position sensor not supported

*6: Seat belt fastened

*7: Seat belt not fastened

*8: Displayed when data other than belt fastened or not fastened, such as breakdowns is input.

*9: Seat belt buckle switch not supported

*10: Passenger's seat airbag operating state

*11: Passenger's seat airbag non-operating state

NOTE:

For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

3. CLEAR MEMORY MODE

Clear the DTC stored in the airbag control module after repairing airbag system. (After the breakdown is recovered, the breakdown code for completed recoveries are read out when the next breakdown occurs if the memory clear work is not performed.)

- 1) On the «Main Menu» display screen, select the {Each System Check}.
- 2) On the «System Selection Menu» display screen, select {Airbag System}.
- 3) Select the {Clearing Memory} in «Airbag System» display screen.
- 4) When “Clear Memory?” is shown on the screen, press [ON].
- 5) When “Done” is displayed, end the Subaru Select Monitor.

NOTE:

For details concerning the operation procedure, refer to the “PC application help for Subaru Select Monitor”.

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

Defective harness connector

Communication is impossible between the airbag control module and the Subaru Select Monitor.

The diagram illustrates the electrical connections for the airbag system. The BATTERY is connected to the AIRBAG CONTROL MODULE (AB6) and the DATA LINK CONNECTOR. The AIRBAG CONTROL MODULE is connected to the MAIN SBF, SBF-6, IGNITION SWITCH, and No.25. The DATA LINK CONNECTOR is connected to the AIRBAG CONTROL MODULE and the BATTERY. The diagram also shows the B402 connector and the AB1 connector.

Legend:

- B402:** 16-pin connector with pins 1 through 16.
- AB1:** 10-pin connector with pins 1 through 10.
- AB6:** 28-pin connector with pins 1 through 28.

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AIRBAG SYSTEM (DIAGNOSTICS)

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 the airbag mode using the Subaru Select Monitor.
2 CHECK BATTERY. 1) Turn the ignition switch to OFF. 2) Measure the battery voltage.	Is the voltage 11 V or more?	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 systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Go to step 9.	Go to step 5.
5 CHECK AIRBAG CONTROL MODULE CONNECTOR. 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more. 2) Check the connector of the airbag control module.	Is the connector of the airbag control module securely connected?	Go to step 6.	Connect the connector of the airbag control module.
6 CHECK SUBARU SELECT MONITOR COMMUNICATION. 1) Turn the ignition switch to OFF. 2) Disconnect the connector of airbag control module. 3) Turn the ignition switch to ON. 4) Check whether communication to other systems can be executed normally.	Is the system name displayed on Subaru Select Monitor?	Replace the airbag control module. <Ref. to AB-19, Airbag Control Module.>	Go to step 7.
7 CHECK HARNESS CONNECTOR BETWEEN CONTROL MODULE IN EACH SYSTEM AND THE DATA LINK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the airbag control module, VDCCM&H/U, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. Connector & terminal (B402) No. 7 — Chassis ground:	Is the resistance 1 MΩ or more?	Go to step 8.	Repair the harness and connector between control module in each system and the data link connector. (Replace the entire harness if repair is necessary for airbag harness.)
8 CHECK OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE. 1) Turn the ignition switch to ON in the condition of step 7. 2) Measure the voltage between data link connector and chassis ground. Connector & terminal (B402) No. 7 (+) — Chassis ground (–):	Is the voltage less than 1 V?	Go to step 9.	Repair the harness and connector between control module in each system and the data link connector. (Replace the entire harness if repair is necessary for airbag harness.)

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AIRBAG SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
9 CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR. 1) Turn the ignition switch to OFF, disconnect the battery ground cable, and wait for 20 seconds or more. 2) Disconnect the connector (AB6) from airbag control module. 3) Connect the connector (1U) in the test harness U to connector (AB6). 4) Measure the resistance between connector (4U) in the test harness U and the data link connector. Connector & terminal (4U) No. 18 — (B402) No. 7:	Is the resistance less than 10 Ω ?	Go to step 10.	Repair the harness between the airbag control module and the data link connector. Or replace the airbag main harness along with the bulkhead harness.
10 CHECK POWER SUPPLY CIRCUIT. 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2U) in the test harness U and chassis ground. Connector & terminal (2U) No. 1 (+) — Chassis ground (-): (2U) No. 6 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 11.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
11 CHECK BETWEEN THE AIRBAG CONTROL MODULE AND CHASSIS GROUND. 1) Turn the ignition switch to OFF. 2) Measure the resistance between connector (2U) in the test harness U and chassis ground. Connector & terminal (2U) No. 10 — Chassis ground: (2U) No. 11 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 12.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.
12 CHECK POOR CONTACT IN CONNECTOR.	Is there poor contact in the control module power supply, ground circuit and data link connector?	Repair the connector. (For airbag system connectors, do not repair but replace the entire harness.)	Replace the airbag control module only. <Ref. to AB-19, REMOVAL, Airbag Control Module.>

2. WITHOUT DTC

DETECTING CONDITION:

- Defective combination meter
- Open circuit of harness

TROUBLE SYMPTOM:

- Airbag warning light remains on.
- “NO TROUBLE CODE” will be displayed on the Subaru Select Monitor.

For detailed operation procedures, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-33, Airbag Warning Light Failure.>

NOTE:

- For detailed operation procedures, refer to “Airbag Warning Light Failure”. <Ref. to AB(diag)-33, Airbag Warning Light Failure.>
- When the airbag warning light is OFF and “NO TROUBLE CODE” is displayed on Subaru Select Monitor, the system is operating properly.