

7. Subaru Select Monitor

A: OPERATION

1. READ DIAGNOSTIC TROUBLE CODE (DTC)

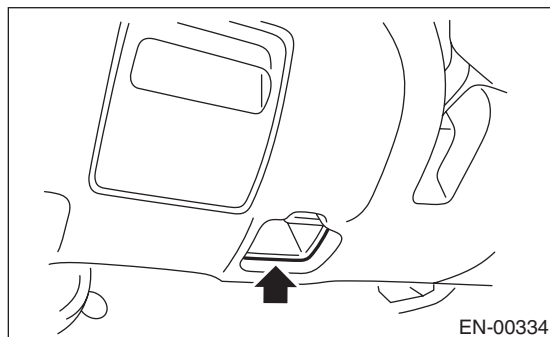
When malfunction of the airbag system occurs, the DTC stored in airbag control module will be read out.

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 the data link connector.

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



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

CAUTION:

Do not connect the 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» display screen, select {Each System Check}.

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

7) Select the [OK] after the {ABS} is displayed.

8) On the «Airbag System» screen, select the {DTC Display}.

NOTE:

- For details concerning the operation procedure, refer to the «help on PC application for Subaru Select Monitor».
- For details concerning DTCs, refer to List of Diagnostic Trouble Code (DTC). <Ref. to AB(diag)-40, List of Diagnostic Trouble Code (DTC).>

2. DISPLAY OF STATUS INFORMATION

Check the operating condition of each sensor in the event of malfunction in the 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 {Each System Check}.
- 2) On the «System Selection Menu» display screen, select the {Airbag System}.
- 3) On the «Airbag System» display screen, select the {Status Data}.

The following table is for support data.

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

*1: Displayed when it is initial.

*2: Seat position sensor not supported

*3: Seat belt fastened

*4: Seat belt not fastened

*5: Displayed when data other than belt fastened or not fastened, (such as breakdowns) is entered.

*6: Seat belt buckle switch not supported

*7: Passenger's seat airbag operating state

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

*9: Seat position is at the front end.

*10: Seat position is at the rear end.

*11: Displayed when data other than seat position (forward/rear), is entered (ie. breakdown data)

NOTE:

For details concerning the operation procedure, refer to the «PC application for Subaru Select Monitor».

3. CLEAR MEMORY MODE

Clear the DTC stored in the airbag control module after repairing the 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 {Each System Check}.
- 2) On the «System Selection Menu» display screen, select the {Airbag System}.
- 3) On the {Airbag System} menu screen, select the {Clear Memory}.
- 4) When the "Clear Memory?" is shown on the screen, select the [OK].
- 5) When "Done" is displayed, close the Subaru Select Monitor.

NOTE:

For details concerning the operation procedure, refer to the «PC application for Subaru Select Monitor».

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AIRBAG SYSTEM (DIAGNOSTICS)

B: INSPECTION

1. COMMUNICATION FOR INITIALIZING IMPOSSIBLE

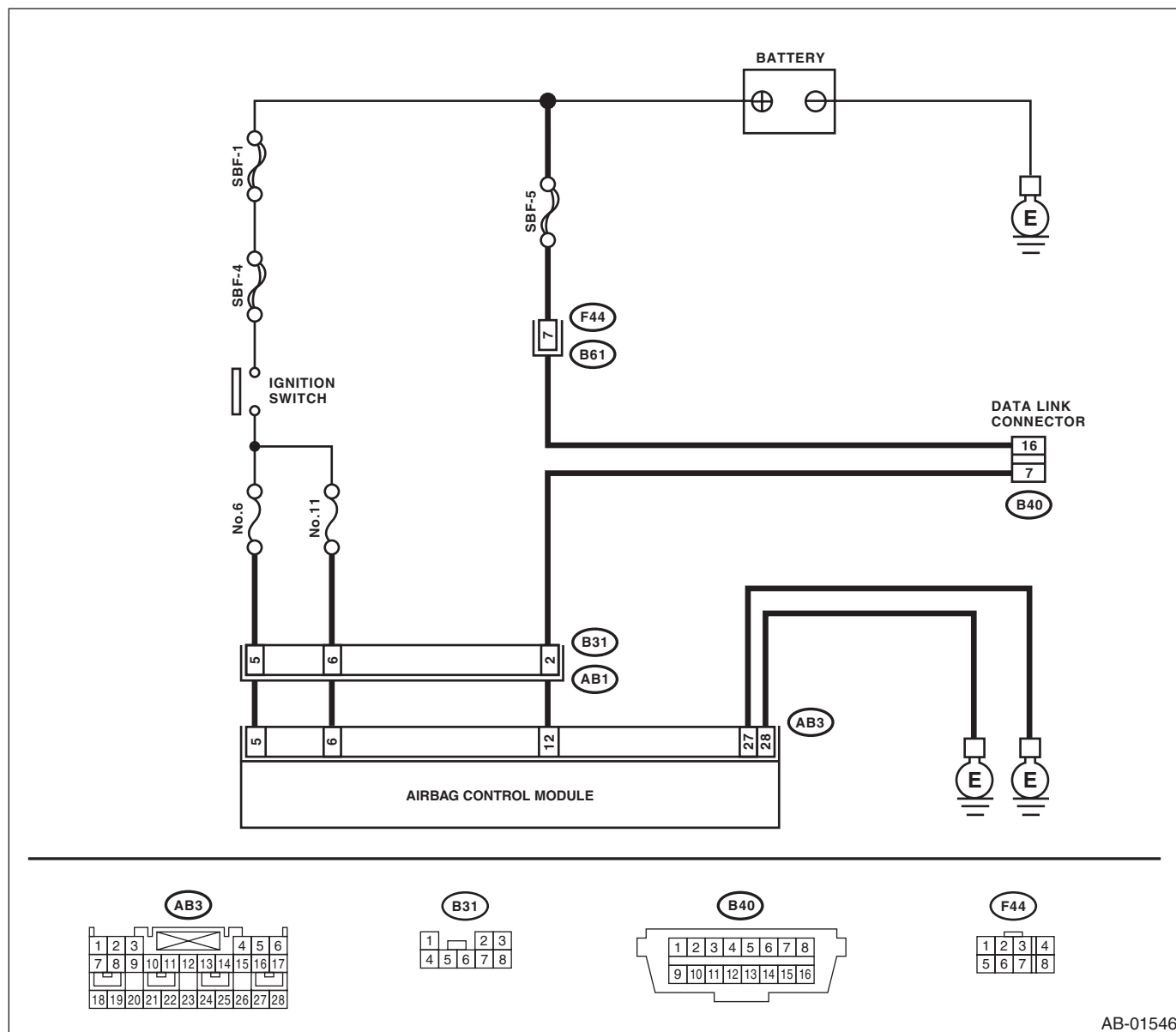
DETECTING CONDITION:

Defective harness connector

TROUBLE SYMPTOM:

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

WIRING DIAGRAM:



AB-01546

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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 the 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 SUBARU SELECT MONITOR COMMUNICATION. 1) Turn the ignition switch to OFF. 2) Disconnect the battery ground cable, and wait more than 20 seconds. 3) Disconnect the airbag control module connector. 4) Turn the ignition switch to ON. 5) 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-18, Airbag Control Module.>	Go to step 6.
6 CHECK HARNESS CONNECTOR BETWEEN EACH CONTROL MODULE AND DATA LINK CONNECTOR. 1) Turn the ignition switch to OFF. 2) Disconnect the airbag control module, ABSCM&H/U, ECM and TCM. 3) Measure the resistance between data link connector and chassis ground. Connector & terminal (B40) No. 7 — Chassis ground:	Is the resistance 1 MΩ or more?	Go to step 7.	Repair the harness and connector between each control module and data link connector. (Replace the harness without repairing the airbag harness.)
7 CHECK OUTPUT SIGNAL TO THE AIRBAG CONTROL MODULE. 1) Turn the ignition switch to ON in the condition of step 6. 2) Measure the voltage between data link connector and chassis ground. Connector & terminal (B40) No. 7 (+) — Chassis ground (–):	Is the voltage less than 1 V?	Go to step 8.	Repair the harness and connector between each control module and data link connector. (Replace the harness without repairing the airbag harness.)

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AIRBAG SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
8 CHECK THE HARNESS BETWEEN THE AIRBAG CONTROL MODULE AND DATA LINK CONNECTOR. 1) Turn ignition switch OFF, disconnect the battery ground cable, and wait more than 20 seconds. 2) Disconnect connector (AB3) from airbag control module. 3) Connect connector (1R) in the test harness R to the connector (AB3). 4) Measure resistance between connector (4R) in the test harness R and data link connector. Connector & terminal (4R) No. 18 — (B40) No. 7:	Is the resistance less than 10 Ω ?	Go to step 9.	Repair the harness between the airbag control module and the data link connector. Or replace the airbag main harness along with the bulkhead harness.
9 CHECK POWER SUPPLY CIRCUIT. 1) Turn the ignition switch to ON. 2) Measure the voltage between connector (2R) in the test harness R and chassis ground. Connector & terminal (2R) No. 1 (+) — Chassis ground (-): (2R) No. 6 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 10.	Repair the harness between the airbag control module and the battery. Or replace the airbag main harness along with the bulkhead harness.
10 CHECK BETWEEN THE AIRBAG CONTROL MODULE AND CHASSIS GROUND. 1) Turn the ignition switch to OFF. 2) Measure resistance between the connector (2R) in the test harness R and chassis ground. Connector & terminal (2R) No. 10 — Chassis ground: (2R) No. 11 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 11.	Repair the harness between the airbag control module and the chassis ground. Or replace the airbag main harness along with the bulkhead harness.
11 CHECK POOR CONTACT OF 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 only airbag control module. <Ref. to AB-18, 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)-36, Airbag Warning Light Failure.>

NOTE:

When the airbag warning light is OFF and NO TROUBLE CODE is displayed on Subaru Select Monitor, the system is operating properly.