

Seat Belt Warning System

SEAT BELT SYSTEM

4. Seat Belt Warning System

A: WIRING DIAGRAM

Refer to "Seat Belt Warning System" in the wiring diagram. <Ref. to WI-86, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

CAUTION:

- Before diagnosing the airbag system, be sure to turn the ignition switch to OFF, disconnect the ground cable from battery, and wait 60 seconds or more before starting to work.
- When replacing the airbag module, seat belt pretensioner, roll connector, control module and sensor, reconnect each part and check that the warning light operates properly.
- When inspecting the airbag main harness, disconnect the airbag module connectors of the driver's and passenger's seats for safety.
- When inspecting the airbag rear harness, disconnect the side airbag module connector, curtain airbag module connector and seat belt pretensioner connector for safety reasons.

TROUBLE SYMPTOM:

- Driver's side seat belt warning light does not illuminate or it remains illuminating.
- Warning buzzer does not beep.

Step	Check	Yes	No
1 CHECK CURRENT SETTINGS. 1) Prepare the Subaru Select Monitor. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) Select the "current data display" and read the data of the "Belt Warning Switch".	Is the belt warning display ON?	Go to step 2.	Turn the belt warning ON with unit customization.
2 CHECK CURRENT DATA. 1) Select the "current data display" and read the data of the "IG power supply voltage". 2) Turn the ignition switch ON ↔ OFF.	Does the voltage change between 9 V or higher ↔ less than 1.5 V, according to the ignition switch ON ↔ OFF operation?	Go to step 3.	Check the ignition switch circuit.
3 CHECK FUNCTION. 1) Sit on the driver's seat and passenger's seat and disconnect the seat belts of the both. 2) Turn the ignition switch to ON (engine OFF). 3) Check if the driver's seat belt warning light in the combination meter and the passenger's seat belt warning light in the clock unit illuminate, and if the warning buzzer sounds.	Do the driver's warning light and passenger's warning light blink and the buzzer sound while blinking?	Go to step 4.	• Malfunction of the driver's seat belt warning light →Go to step 10. • Malfunction of the passenger's seat belt warning light →Go to step 16. • The buzzer does not sound →Go to step 6.
4 CHECK FUNCTION. 1) Wait until the buzzer stops sounding in step 3. (for approximately six seconds after starting sounding) 2) Connect and disconnect the seat belts of the driver's and passenger's. 3) Check if the driver's seat belt warning light in the combination meter and the passenger's seat belt warning light in the clock unit illuminate, and if the warning buzzer sounds.	Do the seat belts warning light illuminate ↔ go off according to the operation?	Go to step 5.	• Malfunction of the driver's seat belt warning light →Go to step 6. • Malfunction of the passenger's seat belt warning light →Go to step 12.

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Step	Check	Yes	No
5 CHECK FUNCTION. 1) Wait until the buzzer stops sounding in step 3. (for approximately six seconds after starting sounding) 2) Start the engine, and set the vehicle speed at 15 km/h (9 MPH) or more. 3) Check the seat belt warning lights of the driver's and the passenger's, and if the warning buzzer sounds.	Do the driver's warning light and passenger's warning light blink and the buzzer sound while blinking?	Seat belt warning system is normal.	Go to step 19.
6 CHECK CURRENT DATA. 1) Select the "current data display" and read the data of the seat belt switch of the driver's. 2) Fasten and detach the driver's side seat belt buckle, and read the data of the seat belt switch. <Ref. to LAN(diag)-30, OPERATION, Read Current Data.>	Does the seat belt switch display turn ON $\longleftrightarrow$ OFF according to the operation of the seat belt buckle?	Go to step 10.	Go to step 7.
7 CHECK HARNESS. 1) Disconnect the negative terminal from the battery, and wait for 60 seconds or more. 2) Disconnect the connector of body integrated unit and the seat belt buckle switch. 3) Check for a short circuit to battery, open circuit or short circuit to ground between the body integrated unit and the driver's seat belt buckle switch. Connector & terminal (B281) No. 16 — (R107) No. 3:	Is the harness normal?	Go to step 8.	Repair or replace the harness.
8 CHECK HARNESS. Measure the resistance between the driver's seat belt buckle switch and chassis ground. Connector & terminal (R107) No. 1 — Chassis ground:	Is the resistance less than 10 Ω ?	Go to step 9.	Repair or replace the harness.
9 CHECK DRIVER'S SEAT BELT BUCKLE SWITCH LH. Measure the resistance between the connector terminals of the driver's seat belt switch when the driver's seat belt is fastened and detached. Connector & terminal (R107) No. 1 — (R107) No. 3:	Is the resistance when the belt is fastened 1 M Ω or more, and less than 10 Ω when the belt is detached?	Replace the body integrated unit. <Ref. to SL-48, REMOVAL, Body Integrated Unit.>	Replace the driver's side inner belt assembly. <Ref. to SB-18, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
10 CHECK DTC. Read the DTC using Subaru Select Monitor.	Is any CAN-related body system DTC detected?	Check the CAN system according to the DTC.	Go to step 11.
11 CHECK COMBINATION METER. Perform the self-diagnosis of combination meter. <Ref. to IDI-5, SELF-DIAGNOSIS, INSPECTION, Combination Meter System.>	At the start of combination meter self diagnosis, did the buzzer sound and the seat belt warning light illuminate?	Replace the body integrated unit or the combination meter. Or replace both. It may be due to the transmission failure of the body integrated unit or the reception failure of the combination meter.	Replace the combination meter. <Ref. to IDI-16, REMOVAL, Combination Meter.>

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12 CHECK CURRENT DATA. 1) Sit in the passenger's seat. 2) Select "Current Data Display" and display the data of "P seatbelt SW input". 3) Fasten and detach the passenger's side seat belt buckle, and read the data of the seat belt switch. <Ref. to LAN(diag)-30, OPERATION, Read Current Data.>	Does the seat belt switch display turn ON $\longleftrightarrow$ OFF according to the operation of the seat belt buckle?	Go to step 16.	Go to step 13.
13 CHECK AIRBAG SYSTEM AND OCCUPANT DETECTION SYSTEM. Perform the check in accordance with the diagnostic procedure DTC 27 of the airbag system. <Ref. to AB(diag)-69, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Go to step 14.	Replace with new parts according to DTC 27.
14 CHECK BUCKLE SWITCH RH. Perform the check in accordance with the diagnostic procedure DTC 37 of the occupant detection system. <Ref. to OD(diag)-27, DTC 37 BUCKLE SWITCH RH FAILURE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is there any problem on the inspection result?	Go to step 15.	Replace with new parts according to DTC 37.
15 CHECK AIRBAG CONTROL MODULE AND BODY INTEGRATED UNIT. Check the airbag control module, occupant detection sensor and seat belt buckle switch RH. Perform the check in accordance with the diagnostic procedure DTC 39 of the airbag system. <Ref. to AB(diag)-72, DTC 39 SEAT BELT WARNING FAILURE, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Replace the body integrated unit. <Ref. to SL-48, REMOVAL, Body Integrated Unit.>	Replace with new parts according to DTC 39.
16 CHECK HARNESS. 1) Disconnect the clock connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between body integrated unit and clock. Connector & terminal (i59) No. 8 (+) — Chassis ground (-):	Is the voltage 10 V or more?	Go to step 17.	Repair or replace the harness.
17 CHECK HARNESS. 1) Turn the ignition switch to ON. 2) Disconnect the connector of body integrated unit. 3) Check for battery short and open circuits, and short to ground between the body integrated unit and clock. Connector & terminal (i84) No. 25 — (i59) No. 2:	Is the harness normal?	Go to step 18.	Repair or replace the harness.
18 CHECK CLOCK. 1) Connect the clock connector. 2) Turn the ignition switch to ON. 3) Use an appropriate wiring harness to create a short between the body integrated unit and clock. Connector & terminal (i84) No. 25 — Chassis ground: (i59) No. 2 — Chassis ground:	Does passenger's seat belt warning light in the clock illuminate?	Replace the body integrated unit. <Ref. to SL-48, REMOVAL, Body Integrated Unit.>	Replace the clock. <Ref. to IDI-21, REMOVAL, Clock.>
19 CHECK DTC. Read the DTCs for all systems using the Subaru Select Monitor.	Is a DTC detected?	Perform a check according to the DTC.	Go to step 20.

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20 CHECK CURRENT DATA. Select "Current Data Display" and read the data of the "Front Wheel Speed". <Ref. to LAN(diag)-30, OPERATION, Read Current Data.>	Does the data display the wheel speed data correctly?	Go to step 11.	Check the following items. • LAN system <Ref. to LAN(diag)-60, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>