4. Seat Belt Warning System

A: WIRING DIAGRAM

<Ref. to WI-122, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

TROUBLE SYMPTOM:
- Driver's side seat belt warning light does not turn on or off.
- Warning buzzer does not beep.

	Step	Check	Yes	No
1	**CHECK BODY INTEGRATED UNIT.** 1) Sit on the driver's seat and passenger's seat. 2) Prepare the Subaru Select Monitor kit. 3) Turn the ignition switch to ON (engine OFF), and run the "PC application for Subaru Select Monitor". 4) Read the data of ignition power supply voltage from Subaru Select Monitor. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the voltage 10 V or more?	Go to step **2**.	Check the ignition switch circuit.
2	**CHECK THE BODY INTEGRATED UNIT.** Read the data of the belt warning switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the belt warning display ON?	Go to step **3**.	Turn the belt warning ON with unit customization.
3	**CHECK BODY INTEGRATED UNIT.** 1) Read the data of the driver's seat belt switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.> 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **8**.	Go to step **4**.
4	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Measure the resistance between the body integrated unit and the seat belt buckle switch LH. *Connector & terminal* *(i84) No. 4 — (R8) No. 3:*	Is the harness normal?	Go to step **5**.	Repair the harness.
5	**CHECK HARNESS.** Check for short circuit to battery, open circuit and short circuit to ground between the seat belt buckle switch LH and chassis ground. *Connector & terminal* *(R8) No. 1 — Chassis ground:*	Is the harness normal?	Go to step **6**.	Repair the harness.
6	**CHECK SEAT BELT BUCKLE SWITCH LH.** 1) Insert the tongue plate to the driver's seat belt buckle. 2) Check for short circuit to battery and open circuit between the seat belt switch LH connectors (R8). *Connector & terminal* *(R8) No. 1 — (R8) No. 3:*	Is resistance less than 10 Ω?	Go to step **7**.	Replace the inner belt assembly LH. <Ref. to SB-13, REMOVAL, Front Seat Belt.>

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	Step	Check	Yes	No
7	**CHECK SEAT BELT BUCKLE SWITCH LH.** 1) Disconnect the driver's seat belt buckle and the tongue plate. 2) Measure the resistance between the terminals of the seat belt switch LH connectors (R8). ***Connector & terminal*** ***(R8) No. 1 — (R8) No. 3:***	Is the resistance 1 MΩ or more?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-13, REMOVAL, Front Seat Belt.>
8	**CHECK BODY INTEGRATED UNIT.** 1) Read the data of the passenger's seat belt switch. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.> 2) Connect and disconnect the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **12**.	Go to step **9**.
9	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the airbag control module. ***Connector & terminal*** ***(i84) No. 13 — (AB6) No. 15:***	Is the harness normal?	Go to step **10**.	Repair the harness.
10	**CHECK HARNESS.** Check short circuit to battery, open circuit and short circuit to ground between the airbag control module and the occupant detection control module, between the occupant detection control module and the seat belt buckle switch RH, and between the seat belt buckle switch RH and the chassis ground. ***Connector & terminal*** ***(AB18) No. 16 — (AB43) No. 10:*** ***(AB18) No. 24 — (AB43) No. 5:*** ***(AB43) No. 1 — (AB60) No. 1:*** ***(AB43) No. 2 — (AB60) No. 2:*** ***(AB60) No. 1 — Chassis ground:*** ***(AB60) No. 2 — Chassis ground:***	Is the harness normal?	Go to step **11**.	Repair the harness.

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	Step	Check	Yes	No
11	**CHECK AIRBAG CONTROL MODULE, OCCUPANT DETECTION SENSOR AND SEAT BELT BUCKLE SWITCH RH.** Check the airbag control module, occupant detection sensor and seat belt buckle switch RH. • Airbag control module: <Ref. to AB(diag)-2, Basic Diagnostic Procedure.> • Occupant detection sensor: <Ref. to OD(diag)-2, Basic Diagnostic Procedure.> • Seat belt buckle switch RH: Measure the resistance between the terminals of connectors (AB60). Switch ON (When connecting the seat belt) - The resistance is less than 10 Ω. Switch OFF (When disconnecting the seat belt) - The resistance is 1 MΩ or more.	Are airbag control module, occupant detection sensor and seat belt buckle switch RH normal?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	• Airbag control module malfunction: Replace the airbag control module. <Ref. to AB-19, REMOVAL, Airbag Control Module.> • Occupant detection sensor malfunction: Replace the seat cushion pad & frame assembly. <Ref. to SE-10, PASSENGER'S SEAT, DISASSEMBLY, Front Seat.> • Seat belt buckle switch RH malfunction: Replace the inner seat belt assembly RH. <Ref. to SB-13, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
12	**CHECK SEAT BELT WARNING LIGHT.** Turn the ignition switch to OFF, disconnect the seat belt of the driver's and passenger's seat.	Does the driver's seat belt warning light blink?	Go to step **15**.	Go to step **13**.
13	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for open circuit between the body integrated unit and the combination meter. **Connector & terminal (i84) No. 20 — (i10) No. 9:**	Is resistance less than 10 Ω?	Go to step **14**.	Repair the harness.
14	**CHECK SEAT BELT WARNING LIGHT.** 1) Connect the ground cable to the battery. 2) Disconnect the connector from body integrated unit. 3) Short No. 20 of the body integrated unit connector (i84).	Does seat belt warning light illuminate?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
15	**CHECK SEAT BELT WARNING LIGHT.** Check the passenger's seat belt warning light.	Does the passenger's seat belt warning light blink?	Go to step **19**.	Go to step **16**.
16	**CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for more than 20 seconds. 2) Check for open circuit between the body integrated unit and the map light. **Connector & terminal (B280) No. 27 — (R150) No. 5:**	Is resistance less than 10 Ω?	Go to step **17**.	Repair the harness.
17	**CHECK HARNESS.** 1) Connect the ground cable to the battery. 2) Measure the voltage between the map light connector and chassis ground. **Connector & terminal (R150) No. 4 (+) — Chassis ground (–):**	Is the voltage 10 V or more?	Go to step **18**.	Repair the harness.

Step	Check	Yes	No
18 **CHECK SEAT BELT WARNING LIGHT.** 1) Connect the ground cable to the battery. 2) Disconnect the connector from the map light. 3) Short No. 5 of the map light connector (R150).	Does seat belt warning light illuminate?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	Check the map light.
19 **CHECK BODY INTEGRATED UNIT.** Check if the warning buzzer sounds.	Does the warning buzzer sound?	Go to step **20**.	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>
20 **CHECK SEAT BELT WARNING LIGHT.** 1) Connect the passenger's seat belt. 2) Wait until the warning buzzer stops sounding. 3) Start the engine, and set the vehicle speed to 15 km/h (9 MPH) or faster.	Does the driver's seat belt warning light blink and buzzer sound?	Go to step **24**.	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
21 **CHECK BODY INTEGRATED UNIT.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC U1223 detected?	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **22**.
22 **CHECK BODY INTEGRATED UNIT.** Read the data of the "front wheel speed" from the body integrated unit. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Is the data displayed as 999.9 km/h?	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>	Go to step **23**.

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Step	Check	Yes	No
23 **CHECK BODY INTEGRATED UNIT.** Read the data of the "front wheel speed" from the body integrated unit. <Ref. to LAN(diag)-12, OPERATION, Subaru Select Monitor.>	Does the data indicate the normal vehicle speed?	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>	• Check the LAN system. <Ref. to LAN(diag)-79, DTC U1223 CAN-HS VDC/ABS NO-RECEIVE DATA, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> • Check VDC or ABS. • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>
24 **CHECK WARNING LIGHT AND BUZZER.** Connect the driver's seat belt.	Does the driver's seat belt warning light go off and the buzzer stop sounding?	Go to step **25**.	Replace the combination meter. <Ref. to IDI-12, REMOVAL, Combination Meter.>
25 **CHECK WARNING LIGHT AND BUZZER.** Disconnect the passenger's seat belt.	Does the passenger's seat belt warning light blink and buzzer sound?	Go to step **26**.	Go to step **21**.
26 **CHECK WARNING LIGHT AND BUZZER.** Connect the passenger's seat belt.	Does the passenger's seat belt warning light go off and the buzzer stop sounding?	System is normal. A temporary contact failure.	Replace the body integrated unit. <Ref. to SL-52, REMOVAL, Body Integrated Unit.>