4. Seat Belt Warning System

A: WIRING DIAGRAM

<Ref. to WI-93, 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 terminal from battery, and wait 20 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 "Current Data Display" and read the data of "Belt Warning Switch".	Is the belt warning display ON?	Go to step **2**.	Turn the belt warning ON with unit customizing.
2 **CHECK CURRENT DATA.** 1) Select "Current Data Display" and read the data of "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, matching the ignition switch ON ←→ OFF operation?	Go to step **3**.	Check the ignition switch circuit.
3 **CHECK FUNCTION.** 1) Sit in the driver's seat and passenger's seat, and disconnect the seat belts of both seats. 2) Turn the ignition switch to ON (engine OFF). 3) Check the illumination of the driver's seat belt warning light in the combination meter and the passenger's seat belt warning light in the clock unit, and the sounding of the buzzer.	Do the driver's and passenger's warning lights flash, and does the buzzer sound while the warning lights are flashing?	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 sound stops in step 3. (Approximately 6 seconds from starting to sound) 2) Fasten and detach the driver's and passenger's seat belts. 3) Check the illumination of the driver's seat belt warning light in the combination meter, and the passenger's seat belt warning light in the clock unit, and the sounding of the buzzer.	Does each seat belt warning light illuminate ←→ turn off according to the action?	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**.

Step	Check	Yes	No
5 **CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 3. (Approximately 6 seconds from starting to sound) 2) Start the engine, and set the vehicle speed to 15 km/h (9 MPH) or faster. 3) Check the driver's and passenger's seat belt warning lights, and sounding of the alarm buzzer.	Do the driver's and passenger's warning lights flash, and does the buzzer sound while the warning lights are flashing?	The seat belt warning system is normal.	Go to step **19**.
6 **CHECK CURRENT DATA.** 1) Select "Current Data Display" and read the data of the driver's seat belt switch. 2) Fasten and detach the seat belt buckle.	Does the seat belt SW display turn ON ←→ OFF according to the operation?	Go to step **10**.	Go to step **7**.
7 **CHECK HARNESS.** 1) Disconnect the negative terminal from the battery, and wait for 20 seconds or more. 2) Disconnect the connectors of the body integrated unit and the seat belt buckle switch. 3) Check for a short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the seat belt buckle switch LH. *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 seat belt buckle switch LH 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 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 MΩ or higher, and less then 10 Ω when the belt is detached?	Replace the body integrated unit. <Ref. to SL-49, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-17, INNER SEAT BELT ASSEMBLY, REMOVAL, Front Seat Belt.>
10 **CHECK DTC.** Read the DTC using the Subaru Select Monitor.	Are any body CAN related DTC detected?	Check the CAN according to DTC.	Go to step **11**.
11 **CHECK COMBINATION METER.** Perform self-diagnosis of the combination meter. <Ref. to IDI-4, 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. There may be a communication malfunction of the body integrated unit, or a reception malfunction of the combination meter.	Replace the combination meter. <Ref. to IDI-15, REMOVAL, Combination Meter.>
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)-32, OPERATION, Read Current Data.>	Does the seat belt switch display turn ON ←→ OFF according to the operation of the seat belt buckle?	Go to step **16**.	Go to step **13**.

Step	Check	Yes	No
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)-56, 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)-26, 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)-58, 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-49, 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 the body integrated unit and the clock. ***Connector & terminal*** ***(i59) No. 8 (+) — Chassis ground (–):***	Is the voltage 10 V or higher?	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 a short circuit to battery, open circuit and short circuit to ground between the body integrated unit and the 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 the 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-49, REMOVAL, Body Integrated Unit.>	Replace the clock. <Ref. to IDI-20, 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**.

Step	Check	Yes	No
20 **CHECK CURRENT DATA.** Select "Current Data Display" and read the data of the "Front Wheel Speed" of the body integrated unit. <Ref. to LAN(diag)-32, OPERATION, Read Current Data.>	Does the data indicate the normal vehicle speed?	Go to step **11**.	Check the following items. • LAN system <Ref. to LAN(diag)-68, 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.>