4. Seat Belt Warning System

A: WIRING DIAGRAM

Refer to “Seat Belt Warning System” in the wiring diagram. <Ref. to WI-203, WIRING DIAGRAM, Seat Belt Warning System.>

B: INSPECTION

CAUTION:
• Before diagnosing the airbag system, always turn the ignition switch to OFF, disconnect the battery ground cable, and then wait for 60 seconds or more.
• When replacing the airbag module, seat belt pretensioner, roll connector, control module, or sensors, reconnect the replacement part and check that the warning light operates normally.
• Before inspecting the airbag main harness, disconnect the driver’s side and passenger’s side airbag module connectors to ensure safety.
• Before inspecting the airbag rear harness, disconnect the side airbag module connectors, curtain airbag module connectors and seat belt pretensioner connectors to ensure safety.

	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 customization.
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 10 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, 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.	Do 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 **20**.
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 or short circuit to ground between the body integrated unit and the seat belt buckle switch LH. ***Connector & terminal*** ***MANUAL SEAT*** ***(i84) No. 30 — (R108) No. 1:*** ***POWER SEAT*** ***(i84) No. 30 — (R381) No. 1:***	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*** ***MANUAL SEAT*** ***(R108) No. 2 — Chassis ground:*** ***POWER SEAT*** ***(R381) No. 2 — 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*** ***MANUAL SEAT*** ***(R108) No. 1 — (R108) No. 2:*** ***POWER SEAT*** ***(R381) No. 1 — (R381) No. 2:***	Is the resistance when the belt is fastened 1 MΩ or more, and less than 10 Ω when the belt is detached?	Replace the body integrated unit. <Ref. to SL-72, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-17, OUTER BELT ASSY, REMOVAL, Front Seat Belt.>
10	**CHECK DTC.** Read the DTC using 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 the self-diagnosis of combination meter. <Ref. to IDI-6, SELF-DIAGNOSIS DISPLAY MODE, OPERATION, 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-20, REMOVAL, Combination Meter.>

	Step	Check	Yes	No
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 BC(diag)-15, 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**.
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)-65, DTC 27 ODS COMMUNICATION ERROR, Diagnostic Chart with Trouble Code.>	Is there any problem on the inspection result?	Go to step **14**.	Repair or replace the harness.
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)-21, 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**.	Repair or replace the harness.
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)-68, 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-72, REMOVAL, Body Integrated Unit.>	Repair or replace the harness.
16	**CHECK HARNESS.** 1) Disconnect the clock connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the ignition power supply and the 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 OFF. 2) Disconnect the body integrated unit connector. 3) Check for a short circuit to battery, open circuit or short circuit to ground between the clock and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the harness normal?	Go to step **18**.	Repair or replace the harness.
18	**CHECK HARNESS.** 1) Turn the ignition switch to OFF. 2) Disconnect the connector of combination meter. 3) Check for a short circuit to battery, open circuit or short circuit to ground between the clock and combination meter. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the harness normal?	Go to step **19**.	Repair or replace the harness.

Step		Check	Yes	No
19	**CHECK CLOCK.** 1) Connect the clock connector. 2) Turn the ignition switch to ON. 3) Short the circuit between clock and chassis ground using a wire harness. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Does passenger's seat belt warning light in the clock illuminate?	Replace the body integrated unit. <Ref. to SL-72, REMOVAL, Body Integrated Unit.>	Replace the clock. <Ref. to IDI-30, REMOVAL, Multi Display.>
20	**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 **21**.
21	**CHECK CURRENT DATA.** Select "Current Data Display" and read the data of the "Front Wheel Speed". <Ref. to BC(diag)-15, OPERATION, Read Current Data.>	Does the data indicate the normal vehicle speed?	Go to step **11**.	Check the following items. • LAN system <Ref. to BC(diag)-2, Basic Diagnostic Procedure.> • VDC <Ref. to VDC(diag)-2, Basic Diagnostic Procedure.>