4. Seat Belt Warning System

A: WIRING DIAGRAM

Refer to “Seat Belt Warning System” in the wiring diagram. <Ref. to WI-270, 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.
• 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.

	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 10 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 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 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 sound stops 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 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 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**.

	Step	Check	Yes	No
5	**CHECK FUNCTION.** 1) Wait until the buzzer sound stops in step 3. (for approximately six seconds after starting sounding) 2) Start the engine, and set the vehicle speed at 20 km/h (12 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 **20**.
6	**CHECK CURRENT DATA.** 1) Select the "current data display" and read the data of the seat belt switch of the driver's. 2) Connect and disconnect 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 60 seconds or more. 2) Disconnect the connector of body integrated unit and the seat belt buckle switch. 3) Check for 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*** ***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-84, REMOVAL, Body Integrated Unit.>	Replace the inner belt assembly LH. <Ref. to SB-18, OUTER BELT ASSY, 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-8, 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. 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-26, 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)-12, 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 B1650 of the airbag system. <Ref. to OD(diag)-22, DTC B1650 OCCUPANT CLASSIFICATION SYSTEM MALFUNCTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Is there any problem on the inspection result?	Go to step **14**.	Repair or replace with new parts according to DTC 27.
14	**CHECK BUCKLE SWITCH RH.** Perform the check in accordance with the diagnostic procedure DTC B1655 of the occupant detection system. <Ref. to OD(diag)-24, DTC B1655 FRONT 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 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 B16F1 of the airbag system. <Ref. to AB(diag)-90, DTC B16F1 PASSENGER'S 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-84, REMOVAL, Body Integrated Unit.>	Repair or replace with new parts according to DTC 39.
16	**CHECK CLOCK POWER SUPPLY VOLTAGE.** 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. 10 (+) — Chassis ground (–):*** ***(i59) No. 8 (+) — Chassis ground (–):***	Is the voltage 10 V or more?	Go to step **17**.	Check the harness for a open or short between the fuse and clock.
17	**CHECK CLOCK GROUND CIRCUIT.** 1) Turn the ignition switch to OFF. 2) Measure the resistance between clock and chassis ground. ***Connector & terminal*** ***(i59) No. 6 — Chassis ground:***	Is the resistance less than 10 Ω?	Go to step **18**.	Repair or replace the harness.
18	**CHECK BODY INTEGRATED UNIT DATA.** Read the DTC of body integrated unit using Subaru Select Monitor.	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step **19**.

	Step	Check	Yes	No
19	**CHECK HARNESS BETWEEN BODY INTEGRATED UNIT AND COMBINATION METER.** 1) Turn the ignition switch to OFF. 2) Disconnect the harness of the body integrated unit and the combination meter. 3) Measure the resistance between body integrated unit and combination meter. ***Connector & terminal*** ***(i84) No. 27 — (i10) No. 33:*** ***(i84) No. 35 — (i10) No. 32:***	Is the resistance less than 10 Ω?	Go to step **20**.	Repair or replace the harness.
20	**CHECK HARNESS BETWEEN CLOCK AND COMBINATION METER.** 1) Disconnect the harness of the clock and the combination meter. 2) Measure the resistance between clock and combination meter. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the resistance less than 10 Ω?	Go to step **21**.	Repair or replace the harness.
21	**CHECK COMMUNICATION STATUS BETWEEN CLOCK AND COMBINATION METER.** 1) Remove the clock, and install a properly operating clock (new clock). 2) Connect the connector and then turn the ignition switch to ON. ***Connector & terminal*** ***(i59) No. 5 — (i10) No. 3:***	Is the clock properly displayed?	Replace the clock.	Replace the meter case assembly.