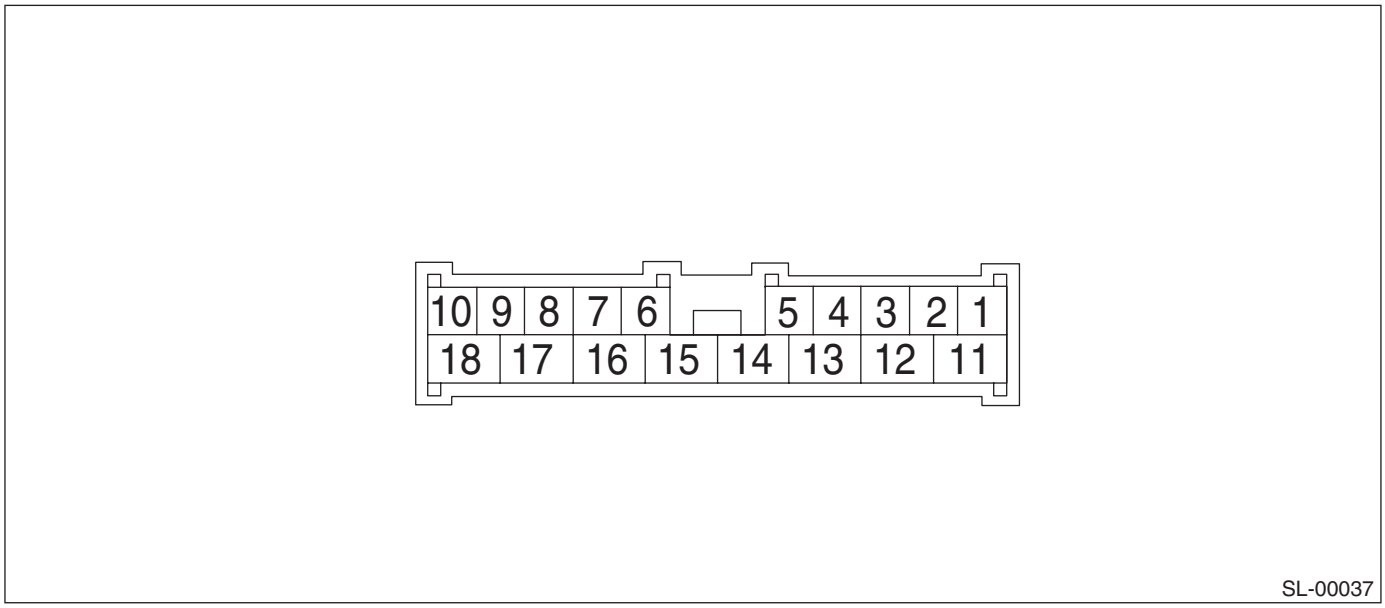
4. Security System

A: WIRING DIAGRAM

<Ref. to WI-136, WIRING DIAGRAM, Security System.>

B: ELECTRICAL SPECIFICATION



Content	Terminal No.	Measuring condition
Empty	1	—
Ignition switch (ON)	2 (INPUT)	Battery voltage is present when ignition switch is turned to ON.
Passive arm	3	—
Rear gate latch switch	4 (INPUT)	0 V is present when rear gate is open.
Door switch	5 (INPUT)	0 V is present when any door is open.
Empty	6	—
Keyless entry control module	7	—
Keyless entry control module	8	—
Security indicator light	9 (OUTPUT)	0 V is present when the alarm operation is activated.
Keyless entry control module	10	—
Power supply (Back-up)	13	Battery voltage is constantly present.
Ground	14	0 V is constantly present.
Interrupt relay	15 (OUTPUT)	Battery voltage is present when the alarm operation is activated.
Security horn relay	16 (INPUT)	Battery voltage is present when the alarm operation is activated.
Security horn	17 (OUTPUT)	Battery voltage is present when the alarm operation is activated.
Security horn relay	18 (INPUT)	Battery voltage is present when the alarm operation is activated.

C: INSPECTION

1. BASIC DIAGNOSTIC PROCEDURE

	Step	Check	Yes	No
1	**CHECK SECURITY SYSTEM SETTING OPERATION.** 1) Before starting this diagnosis, open all doors. 2) Remove the key from ignition key cylinder, and then close all doors and rear gate. 3) Press the LOCK/ARM button of transmitter.	Can the security system be set?	Go to step **2.**	Go to symptom 1. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.>
2	**CHECK SECURITY INDICATOR LIGHT AND HAZARD LIGHT BLINKING.** Check the security indicator light and hazard light blinking.	Do the security indicator light and hazard light blink?	Go to step **3.**	Go to symptom 2. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.>
3	**CHECK SECURITY ALARM OPERATION.** 1) Unlock all doors using the door lock switch on front door. 2) Open any door or rear gate.	Does the security alarm operate when any door or rear gate is opened?	Go to step **4.**	Go to symptom 3. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.>
4	**CHECK SECURITY ALARM OPERATION.** Check the security alarm operation.	Does all security alarm (horn, hazard light and security indicator light) operate? And is the starter motor deactivated?	Go to step **5.**	Go to symptom 4. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.>
5	**CHECK SECURITY ALARM CANCEL OPERATION.** Press the UNLOCK/DISARM button of transmitter.	Do all security alarm (horn and hazard light) stop? And is the starter motor activated?	Go to step **6.**	Go to symptom 5. <Ref. to SL-22, SYMPTOM CHART, INSPECTION, Security System.>
6	**CHECK BATTERY DISCONNECT PROTECTION.** Check the battery disconnect protection. <Ref. to SL-21, CHECK BATTERY DISCONNECT PROTECTION, INSPECTION, Security System.>	Does the security system operate normally when the system is disconnected to battery temporarily?	Go to step **7.**	Replace the security control module.
7	**PERFORM IMPACT SENSITIVITY TEST.** Perform the impact sensitivity test. <Ref. to SL-42, IMPACT SENSITIVITY TEST, INSPECTION, Security Control Module.>	Is the impact sensitivity properly set?	Press the UNLOCK/DISARM button of transmitter, and finish the diagnosis.	Adjust the impact sensitivity. <Ref. to SL-42, IMPACT SENSITIVITY, ADJUSTMENT, Security Control Module.>

2. CHECK BATTERY DISCONNECT PROTECTION

1) Remove the key from the ignition switch.
2) Close all the doors and rear gate.
3) Open the front hood.
4) Press the LOCK/ARM button of the transmitter.
5) Disconnect the ground cable from the battery.
6) Reconnect the cable to the battery.
7) Check that the security indicator light blinks after reconnecting the battery cable.

If NG, replace the security control module.

3. SYMPTOM CHART

Symptom			Repair order	Reference
1	Security system cannot be set.		1. Check the transmitter function.	<Ref. to SL-14, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
			2. Check the fuse.	<Ref. to SL-23, CHECK FUSE, INSPECTION, Security System.>
			3. Check the security control module power supply and ground circuit.	<Ref. to SL-23, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Security System.>
			4. Check the door switch.	<Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.>
			5. Replace the security control module.	<Ref. to SL-42, Security Control Module.>
2	Security system can be set, but the security indicator light or hazard light does not blink.	Security indicator light	Check the security indicator light circuit.	<Ref. to SL-24, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.>
		Hazard light	Check the hazard light operation.	<Ref. to SL-25, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.>
3	Security system does not alarm when one of the door is opened.		Check the door switch.	<Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.>
4	Security alarm does not activate.	All functions	Check the door switch.	<Ref. to SL-23, CHECK DOOR SWITCH, INSPECTION, Security System.>
		Security indicator light	Check the security indicator light circuit.	<Ref. to SL-24, CHECK SECURITY INDICATOR LIGHT CIRCUIT, INSPECTION, Security System.>
		Security horn	Check the security horn.	<Ref. to SL-24, CHECK SECURITY HORN, INSPECTION, Security System.>
		Hazard light	Check the hazard light operation.	<Ref. to SL-25, CHECK HAZARD LIGHT OPERATION, INSPECTION, Security System.>
		Starter motor deactivation	Check the interrupt relay circuit.	<Ref. to SL-26, CHECK INTERRUPT RELAY CIRCUIT, INSPECTION, Security System.>
5	Security system cannot be canceled.	Transmitter	Check the transmitter function.	<Ref. to SL-14, CHECK TRANSMITTER BATTERY AND FUNCTION, INSPECTION, Keyless Entry System.>
		Ignition switch	Check the ignition switch circuit.	<Ref. to SL-26, CHECK IGNITION SWITCH CIRCUIT, INSPECTION, Security System.>

4. CHECK FUSE

	Step	Check	Yes	No
1	**CHECK FUSE.** Remove and visually check the fuse No. 2 (in main fuse box).	Is the fuse blown out? (15 A)	Replace the fuse with a new one.	Check the power supply and ground circuit. <Ref. to SL-23, CHECK POWER SUPPLY AND GROUND CIRCUIT, INSPECTION, Security System.>

5. CHECK POWER SUPPLY AND GROUND CIRCUIT

	Step	Check	Yes	No
1	**CHECK POWER SUPPLY.** 1) Disconnect the security control module harness connector. 2) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B93) No. 13 (+) — chassis ground (–):***	Is the voltage more than 10 V?	Go to step **2.**	Check the harness for open circuits and shorts between the security control module and fuse.
2	**CHECK GROUND CIRCUIT.** Measure the resistance between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B93) No. 14 — chassis ground:***	Is the resistance less than 10 Ω?	The power supply and ground circuit are OK.	Repair the harness.

6. CHECK DOOR SWITCH

	Step	Check	Yes	No
1	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the security control module harness connector terminal and chassis ground. ***Connector & terminal*** ***Front and rear door:*** ***(B93) No. 5 (+) — chassis ground (–):*** ***Rear gate:*** ***(B93) No. 4 (+) — chassis ground (–):***	Is the voltage 0 V when any door or rear gate is opened?	Go to step **2.**	Go to step **3.**
2	**CHECK DOOR SWITCH CIRCUIT.** Measure the voltage between the security control module harness connector terminal and chassis ground. ***Connector & terminal*** ***Front and rear door:*** ***(B93) No. 5 (+) — chassis ground (–):*** ***Rear gate:*** ***(B93) No. 4 (+) — chassis ground (–):***	Is the voltage more than 10 V when any door and rear gate are closed?	The door switch is OK.	Go to step **3.**
3	**CHECK DOOR SWITCH.** 1) Disconnect the door switch harness connector. 2) Measure the resistance between the door switch terminals. ***Terminal*** ***Door switch No. 1 — No. 3:*** ***Rear gate latch switch No. 1 — No. 2:***	Is the resistance more than 1 MΩ when door switch is pushed?	Go to step **4.**	Replace the door switch.

	Step	Check	Yes	No
4	**CHECK DOOR SWITCH.** Measure the resistance between the door switch terminals. ***Terminal*** ***Door switch No. 1 — No. 3:*** ***Rear gate latch switch No. 1 — No. 2:***	Is the resistance less than 1 Ω when door switch is released?	Check the harness for open circuits and shorts between the security control module and door switch.	Replace the door switch.

7. CHECK SECURITY INDICATOR LIGHT CIRCUIT

	Step	Check	Yes	No
1	**CHECK SECURITY INDICATOR LIGHT.** 1) Disconnect the security control module harness connector. 2) Ground the harness connector terminal with a suitable wire. ***Connector & terminal*** ***(B93) No. 9 — chassis ground:***	Does the security indicator light illuminate?	Replace the security control module.	Go to step **2.**
2	**CHECK POWER SUPPLY FOR SECURITY INDICATOR LIGHT.** 1) Disconnect the connector from the combination meter. 2) Measure the voltage between the combination meter harness connector terminal and chassis ground. ***Connector & terminal*** ***(i10) No. 8 (+) — chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open circuits and shorts between the combination meter and the fuse.
3	**CHECK SECURITY INDICATOR LIGHT CIRCUIT.** Measure the resistance between the combination meter harness connector terminal and security control module harness connector terminal. ***Connector & terminal*** ***(i12) No. 4 — (B93) No. 9:***	Is the resistance less than 10 Ω?	Replace the combination meter printed circuit.	Check the harness for open circuits and shorts between the combination meter and security control module.

8. CHECK SECURITY HORN

	Step	Check	Yes	No
1	**CHECK SECURITY HORN RELAY.** Remove and check the security horn relay. <Ref. to SL-44, Security Horn Relay.>	Is the security horn relay OK?	Go to step **2.**	Replace the security horn relay.
2	**CHECK POWER SUPPLY FOR SECURITY HORN RELAY.** Measure the voltage between the security horn relay harness connector terminal and chassis ground. ***Connector & terminal*** ***(B243) No. 1 (+) — chassis ground (–):***	Is the voltage more than 10 V?	Go to step **3.**	Check the harness for open circuits and shorts between the security horn relay and horn relay.
3	**CHECK POWER SUPPLY FOR SECURITY HORN RELAY.** Measure the voltage between the security horn relay harness connector terminal and chassis ground. ***Connector & terminal*** ***(B243) No. 2 (+) — chassis ground (–):***	Is the voltage more than 10 V?	Go to step **4.**	Check the harness for open circuits and shorts between the security horn relay and the fuse.

	Step	Check	Yes	No
4	**CHECK HARNESS BETWEEN SECURITY HORN RELAY AND SECURITY CONTROL MODULE.** 1) Disconnect the security control module harness connector. 2) Measure the resistance between the security horn relay harness connector terminal and security control module harness connector terminal. ***Connector & terminal*** ***(B243) No. 3 — (B93) No. 18:***	Is the resistance less than 10 Ω?	Go to step **5.**	Check the harness for open circuits and shorts between the security horn relay and security control module.
5	**CHECK HARNESS BETWEEN SECURITY HORN RELAY AND SECURITY CONTROL MODULE.** Measure the resistance between the security horn relay harness connector terminal and security control module harness connector terminal. ***Connector & terminal*** ***(B243) No. 4 — (B93) No. 16:***	Is the resistance less than 10 Ω?	Go to step **6.**	Check the harness for open circuits and shorts between the security horn relay and security control module.
6	**CHECK HARNESS BETWEEN SECURITY CONTROL MODULE AND SECURITY HORN.** 1) Disconnect the security horn harness connector. 2) Measure the resistance between the security control module harness connector terminal and security horn harness connector terminal. ***Connector & terminal*** ***(B93) No. 17 — (B204) No. 1:***	Is the resistance less than 10 Ω?	Go to step **7.**	Check the harness for open circuits and shorts between the security control module and security horn.
7	**CHECK SECURITY HORN.** Remove and check the security horn. <Ref. to SL-43, Security Horn.>	Is the security horn OK?	Replace the security control module.	Replace the security horn.

9. CHECK HAZARD LIGHT OPERATION

	Step	Check	Yes	No
1	**CHECK SECURITY CONTROL MODULE OUTPUT SIGNAL.** 1) Remove the key from the ignition switch. 2) Open the driver's window, and then close all doors and rear gate. 3) Lock all doors with the transmitter or door lock switch to activate the security system. 4) Unlock all doors with the door lock switch. 5) Measure the voltage between the security control module harness connector terminal and chassis ground when any door is open. ***Connector & terminal*** ***(B93) No. 10 — Chassis ground:***	Is the voltage 1 — 4 V?	Go to step **2.**	Replace the security control module.

	Step	Check	Yes	No
2	**CHECK HARNESS BETWEEN SECURITY CONTROL MODULE AND KEYLESS ENTRY CONTROL MODULE.** 1) Disconnect the security control module harness connector and keyless entry control module harness connector. 2) Measure the resistance between the security control module harness connector terminal and keyless entry control module harness connector terminal. ***Connector & terminal*** ***(B93) No. 10 — (B176) No. 3:***	Is the resistance less than 10 Ω?	Check the hazard light output of keyless entry control module. <Ref. to SL-19, CHECK HAZARD LIGHT OPERATION, INSPECTION, Keyless Entry System.>	Check the harness for open circuit and shorts between the security control module and keyless entry control module.

10.CHECK INTERRUPT RELAY CIRCUIT

	Step	Check	Yes	No
1	**CHECK INTERRUPT RELAY.** Remove and check the interrupt relay. <Ref. to SL-45, Interrupt Relay.>	Is the interrupt relay OK?	Go to step **2.**	Replace the interrupt relay.
2	**CHECK POWER SUPPLY FOR INTERRUPT RELAY.** Measure the voltage between the interrupt relay harness connector terminal and chassis ground. ***Connector & terminal*** ***(B59) No. 1 (+) — chassis ground (–):***	Is the voltage more than 10 V when ignition switch is turned to START?	Go to step **3.**	Check the harness for open circuits and shorts between the interrupt relay and ignition switch.
3	**CHECK HARNESS BETWEEN INTERRUPT RELAY AND SECURITY CONTROL MODULE.** 1) Turn the ignition switch to OFF. 2) Disconnect the security control module harness connector. 3) Measure the resistance between the interrupt relay harness connector terminal and security control module harness connector terminal. ***Connector & terminal*** ***(B59) No. 4 — (B93) No. 15:***	Is the resistance less than 10 Ω?	Replace the security control module.	Check the harness for open circuits and shorts between the interrupt relay and security control module.

11.CHECK IGNITION SWITCH CIRCUIT

	Step	Check	Yes	No
1	**CHECK IGNITION SWITCH SIGNAL.** 1) Disconnect the security control module harness connector. 2) Turn the ignition switch to ON. 3) Measure the voltage between the harness connector terminal and chassis ground. ***Connector & terminal*** ***(B93) No. 2 (+) — chassis ground (–):***	Is the voltage more than 10 V?	Ignition switch circuit is OK.	Check the harness for open circuits and shorts between the security control module and ignition switch.