SECURITY AND LOCKS > Keyless Entry System

INSPECTION

1. SYMPTOM CHART

Symptom	Repair order	Reference
None of the functions of the keyless entry system operate.	1. Check the keyless transmitter battery.	
	2. Remove and visually check fuse No. 3 (in the fuse & relay box) and No. 7 (in the fuse & relay box).	If the fuse is blown out, replace the fuse with a new part. When there is no defective with the fuse, check the power supply and ground circuit.
	3. Check the keyless entry control module.	
	4. Check the power supply and ground circuit for body integrated unit.	
	5. Check the registration connector circuit.	
	6. Check the key warning switch.	
	7. Check the door switch.	
	8. Check the body integrated unit.	
The keyless transmitter cannot be registered.	1. Check the keyless transmitter battery.	
	2. Check the registration connector circuit.	
	3. Check the key warning switch.	
	4. Check the door lock switch signal.	
	5. Check the body integrated unit.	
Door lock or unlock does not operate. **NOTE: If the door lock control system does not operate when using the door lock switch, check the door lock control system.**	1. Check the keyless transmitter battery.	
	2. Check the keyless entry control module.	
	3. Check the key warning switch.	
	4. Check the door switch.	
	5. Check the body integrated unit.	

Symptom	Repair order	Reference
Trunk lid unlock does not operate. (4 door model)	1. Check the keyless transmitter battery.	
	2. Check the keyless entry control module.	
	3. Check the key warning switch.	
	4. Check the trunk lid lock actuator.	
	5. Check the body integrated unit.	
The hazard light does not operate.	1. Check the hazard light operation.	
	2. Check the body integrated unit.	
Room light does not operate.	1. Check the room light operation.	
	2. Check the body integrated unit.	
Ignition switch illumination does not operate.	1. Check the ignition switch illumination.	
	2. Check the body integrated unit.	

2. CHECK KEYLESS TRANSMITTER BATTERY AND FUNCTION

CAUTION:

Be sure to reset keyless transmitter of other vehicles registered to the inspection target vehicle, and vehicles to which keyless transmitters were registered for inspection, to the condition before performing the inspection. (Re-register the keyless transmitters.)

STEP	CHECK	YES	NO
1.CHECK KEYLESS TRANSMITTER BATTERY. 1) Remove the battery from the keyless transmitter. 2) Check the battery voltage.	Is the voltage 2.5 V or more?		Replace the keyless transmitter battery.
2.CHECK KEYLESS TRANSMITTER. Register the keyless transmitter which operates normally on other vehicles to the inspection target vehicle. 1) Close all the doors and rear gate (5 door model) or trunk lid (4 door model) of the inspection target vehicle.	Can lock, unlock of doors and unlock of the trunk lid be performed properly on the inspection target vehicle?		Due to vehicle malfunction, continue the keyless entry system diagnosis.

STEP	CHECK	YES	NO
2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. For the 4 door model, unlock the trunk lid.			
3.CHECK KEYLESS TRANSMITTER. Register the keyless transmitter of the inspected vehicle to another vehicle whose keyless system operates normally.	Is the keyless transmitter registered correctly?		Replace the keyless transmitter.
4.CHECK KEYLESS TRANSMITTER. Check the registered keyless transmitter. 1) Close all the doors and rear gate of the vehicle which keyless system operates normally. 2) Using the keyless transmitter, lock and unlock the doors and rear gate of vehicle. For the 4 door model, unlock the trunk lid.	Can lock, unlock of doors and unlock of the trunk lid be performed properly on the vehicle?	Keyless transmitter is OK.	Replace the keyless transmitter.

3. CHECK KEYLESS ENTRY CONTROL MODULE

STEP	CHECK	YES	NO
1.CHECK DIAGNOSTIC TROUBLE CODE (DTC). 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Diagnostic Code(s) Display}. 5) Check that the DTC is displayed.	Is DTC B1500 "Keyless UART com. Malfunction" displayed?		Keyless entry control module is normal.
2.CHECK POWER SUPPLY. 1) Disconnect the keyless entry control module connector. 2) Measure the voltage between keyless entry control module connector and chassis ground. **Connector & terminal** (R80) No. 4 (+) — Chassis ground (−):	Is the voltage 10 V or more?		Check the harness for open or short circuits between the keyless entry control module and the fuse.

STEP	CHECK	YES	NO
3.CHECK GROUND CIRCUIT. Measure the resistance between keyless entry control module connector and chassis ground. **Connector & terminal** (R80) No. 7 — Chassis ground:	Is the resistance less than 10 Ω?		Repair or replace the harness.
4.CHECK KEYLESS ENTRY CONTROL MODULE CIRCUIT. 1) Disconnect the connector of body integrated unit. 2) Measure the resistance between the body integrated unit connector and keyless entry control module connector. **Connector & terminal** (i84) No. 24 — (R80) No. 3:	Is the resistance less than 10 Ω?	Replace the keyless entry control module.	Repair or replace the harness.

4. CHECK BODY INTEGRATED UNIT POWER SUPPLY AND GROUND CIRCUIT

Refer to the INSPECTION of POWER SUPPLY AND GROUND CIRCUIT of the Door Lock Control System for detailed procedures.

5. CHECK REGISTRATION CONNECTOR

STEP	CHECK	YES	NO
1.CHECK INPUT CIRCUIT. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Current Data Display & Save}. 5) Select the {Registration SW input}.	Does the display switch between OFF ⇔ ON when the registration connector is inserted/removed?	Registration connector is OK.	
2.CHECK HARNESS. 1) Disconnect the body integrated unit connector and registration connector. 2) Check the harness for open or short circuit between body integrated unit connector and registration connector. **Connector & terminal** (B281) No. 13 — (B183) No. 1:	Is harness normal?		Repair or replace the harness.
3.CHECK HARNESS.	Is the resistance less than 10 Ω?		

STEP	CHECK	YES	NO
Measure the resistance between the registration connector and chassis ground. **Connector & terminal** (B184) No. 1 — Chassis ground:		Replace the body integrated unit.	Repair or replace the harness.

6. CHECK DOOR SWITCH

STEP	CHECK	YES	NO
1.CHECK INPUT CIRCUIT. 1) Prepare the Subaru Select Monitor kit. 2) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 3) On «System Selection Menu» display, select {Integ. unit mode}. 4) Select the {Current Data Display}. 5) Select the {Driver's door SW input}, {P-door SW input}, {Rear right door SW input}, {Rear left door SW input}, and {R Gate SW input}.	Does the display switch between OFF ⇔ ON when each door, rear gate or trunk lid is opened/closed?	The door switch circuit is OK.	
2.CHECK HARNESS. 1) Disconnect the connector of body integrated unit. 2) Disconnect the door switch connector that the display does not change. 3) Check the harness for open or short circuit between body integrated unit connector and faulty door switch connector. **Connector & terminal** **Front door RH** **LHD model** (i84) No. 32 — (R12) No. 1: **RHD model** (i84) No. 19 — (R12) No. 1: **Front door LH** **LHD model** (i84) No. 19 — (R9) No. 1: **RHD model** (i84) No. 32 — (R12) No. 1: **Rear door RH** (i84) No. 6 — (R16) No. 1: **Rear door LH** (i84) No. 20 — (R22) No. 1:	Is harness normal?		Repair or replace the harness.

STEP	CHECK	YES	NO
Trunk lid switch (i84) No. 33 — (R186) No. 3: **Rear gate latch switch** (i84) No. 33 — (D46) No. 3:			
3.CHECK HARNESS. Measure the resistance between the faulty door switch connector and chassis ground. **Connector & terminal** **Front door RH** (R12) No. 1 — Chassis ground: **Front door LH** (R9) No. 1 — Chassis ground: **Rear door RH** (R16) No. 1 — Chassis ground: **Rear door LH** (R22) No. 1 — Chassis ground: **Trunk lid switch** (R186) No. 3 — Chassis ground: **Rear gate latch switch** (D46) No. 3 — Chassis ground:	Is the resistance less than 10 Ω?		Repair or replace the harness.
4.CHECK DOOR SWITCH. Measure the resistance between faulty door switch terminals. **Connector & terminal** **Front RH door switch** (R12) No. 1 — No. 3: **Front LH door switch** (R9) No. 1 — No. 3: **Rear RH door switch** (R16) No. 1 — No. 3: **Rear LH door switch** (R22) No. 1 — No. 3: **Trunk lid switch** (R186) No. 1 — No. 3: **Rear gate latch switch** (D46) No. 3 — No. 4:	Is the resistance 1 MΩ or more when switch is pushed?		Replace the faulty parts. • Door switch • Trunk lid latch and actuator ASSY • Rear gate latch and actuator ASSY
5.CHECK DOOR SWITCH. Measure the resistance between faulty door switch terminals. **Connector & terminal** **Front RH door switch** (R12) No. 1 — No. 3: **Front LH door switch** (R9) No. 1 — No. 3: **Rear RH door switch** (R16) No. 1 — No. 3: **Rear LH door switch** (R22) No. 1 — No. 3: **Trunk lid switch** (R186) No. 1 — No. 3:	Is the resistance less than 10 Ω when switch is released?	Replace the body integrated unit.	Replace the faulty parts. • Door switch • Trunk lid latch and actuator ASSY • Rear gate latch and actuator ASSY

STEP	CHECK	YES	NO
Rear gate latch switch (D46) No. 3 — No. 4:			

7. CHECK KEY WARNING SWITCH

STEP	CHECK	YES	NO
1.CHECK KEY WARNING SWITCH. 1) Prepare the Subaru Select Monitor kit. 2) On «System Selection Menu» display, select {Integ. unit mode}. 3) Select the {Current Data Display & Save}. 4) Select the {key-lock warning SW}.	Is the proper input signal displayed when the key is inserted and removed from the ignition switch?	The key warning switch is OK.	
2.CHECK FUSE. Remove and visually check fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	
3.CHECK KEY WARNING SWITCH CIRCUIT. 1) Disconnect the connector of body integrated unit. 2) Insert the key into ignition switch. (LOCK position) 3) Measure the voltage between body integrated unit connector and chassis ground. **Connector & terminal** (B279) No. 2 (+) — Chassis ground (−):	Is the voltage 10 V or more?		
4.CHECK KEY WARNING SWITCH CIRCUIT. 1) Remove the key from ignition switch. 2) Measure the voltage between body integrated unit connector and chassis ground. **Connector & terminal** (B279) No. 2 (+) — Chassis ground (−):	Is the voltage 0 V?	Replace the body integrated unit.	
5.CHECK KEY WARNING SWITCH. 1) Disconnect the key warning switch connector.	Is the resistance less than 1 Ω?		Replace the key warning switch.

STEP	CHECK	YES	NO
2) Insert the key into ignition switch. (LOCK position) 3) Measure the resistance between key warning switch terminals. **Connector & terminal** (B350) No. 3 — No. 4:			
6.CHECK KEY WARNING SWITCH. 1) Remove the key from ignition switch. 2) Measure the resistance between key warning switch terminals. **Connector & terminal** (B350) No. 3 — No. 4:	Is the resistance 1 MΩ or more?	Check the following: • Harness for open circuits or shorts between the key warning switch and fuse. • Harness for open or short between the body integrated unit and key warning switch	Replace the key warning switch.

8. CHECK ROOM LIGHT OPERATION

STEP	CHECK	YES	NO
1.CHECK ROOM LIGHT OPERATION. Make sure the room light illuminates when the room light switch is ON, and goes off when the switch is OFF.	Does the room light illuminate or go off?		Check the room light circuit.
2.CHECK ROOM LIGHT OPERATION. 1) Turn the room light switch to the "DOOR" position. 2) Open and close any door.	Does the room light illuminate ⇔ go off (including off delay) when the door is opened and closed?		
3.CHECK KEYLESS ENTRY OPERATION. Press the LOCK/UNLOCK button of the keyless transmitter.	Does it operate properly?	Replace the body integrated unit.	Check the keyless entry control module.
4.CHECK ROOM LIGHT. 1) Disconnect the room light connector. 2) Check the room light.	Is room light normal?		Replace the bulb or room light assembly.
5.CHECK HARNESS. 1) Disconnect the connector of body integrated unit. 2) Measure the resistance between body integrated unit connector and room light connector. **Connector & terminal** (B279) No. 5 — (R52) No. 2:	Is the resistance less than 10 Ω?		Repair or replace the harness.
6.CHECK HARNESS.	Is the voltage 10 V or more?	Replace the body	

STEP	CHECK	YES	NO
Measure the voltage between room light connector and chassis ground. **Connector & terminal** **Model without sunroof** (R52) No. 3 (+) — Chassis ground (−): **Model with sunroof** (R52) No. 1 (+) — Chassis ground (−):		integrated unit.	Repair or replace the harness.

9. CHECK HAZARD LIGHT OPERATION

STEP	CHECK	YES	NO
1.CHECK HAZARD LIGHT OPERATION. Make sure the hazard light blinks when hazard switch is turned to ON.	Does the hazard light blink?		Check the hazard light circuit.
2.CHECK OUTPUT TO HAZARD LIGHT. 1) Turn the ignition switch to OFF. 2) Disconnect the key warning switch harness connector. 3) Prepare the Subaru Select Monitor kit. 4) Turn the ignition switch to ON (engine OFF) and run the "PC application for Subaru Select Monitor". 5) On «System Selection Menu» display, select {Integ. unit mode}. 6) Select {ECM customizing}. 7) Check {Hazard answer-back setup}, and then switch to ON setting if necessary. 8) Select the {Current Data Display & Save}. 9) Remove the key from ignition switch. 10) Select the {Hazard Output}.	Is output signal present when operating the transmitter LOCK/UNLOCK button?		Check body integrated unit.
3.CHECK CIRCUIT OF HAZARD LIGHT. 1) Disconnect the body integrated unit connector and turn signal & hazard module connector. 2) Measure the resistance between body integrated unit connector and turn signal & hazard module connector. **Connector & terminal** (B281) No. 22 — (B32) No. 8:	Is the resistance less than 10 Ω?	Check body integrated unit.	Repair or replace the harness.

10. CHECK TRUNK LID LOCK ACTUATOR

STEP	CHECK	YES	NO
1.CHECK UNLOCK OPERATION OF TRUNK ALONE. By using the keyless transmitter, perform the UNLOCK operation of trunk alone.	Does answer-back occur?		
2.CHECK KEYLESS ENTRY SYSTEM CIRCUIT. 1) Remove the keyless entry control module from the vehicle with faults. 2) Install the keyless control module that was removed to the other vehicle which is working normally. 3) Perform the UNLOCK operation by using the keyless transmitter of vehicle with faults.	Does UNLOCK occur?	Check body integrated unit.	Check the following: • Keyless entry control module • Transmitter
3.CHECK HARNESS. 1) Disconnect the body integrated unit connector and trunk lid lock actuator connector. 2) Measure the resistance between body integrated unit connector and trunk lid lock actuator connector. **Connector & terminal** (i84) No. 22 — (R186) No. 2:	Is harness normal?		Repair or replace the harness.
4.CHECK HARNESS. Measure the resistance between the trunk lid lock actuator connector and chassis ground. **Connector & terminal** (R186) No. 1 — Chassis ground:	Is the resistance less than 10 Ω?		Repair or replace the harness.
5.CHECK TRUNK LID LOCK ACTUATOR. Check the trunk lid lock actuator.	Is trunk lid lock actuator normal?	Replace the body integrated unit.	Replace the trunk lid latch & actuator assembly.

11. CHECK DOOR LOCK ACTUATOR AND CIRCUIT (MODEL WITHOUT DOUBLE LOCK, WITHOUT KEYLESS ACCESS)

For diagnostic procedures, refer to the INSPECTION of DOOR LOCK ACTUATOR & CIRCUIT of the Door Lock Control System.

12. CHECK DOOR LOCK ACTUATOR AND CIRCUIT (MODEL WITH DOUBLE LOCK, WITHOUT KEYLESS ACCESS)

For diagnostic procedures, refer to the INSPECTION of DOOR LOCK ACTUATOR & CIRCUIT of the Door Lock Control System.

13. CHECK DOOR LOCK ACTUATOR AND CIRCUIT (MODEL WITHOUT DOUBLE LOCK, WITH KEYLESS ACCESS)

For diagnostic procedures, refer to the INSPECTION of DOOR LOCK ACTUATOR & CIRCUIT of the Door Lock Control System.

14. CHECK DOOR LOCK ACTUATOR AND CIRCUIT (MODEL WITH DOUBLE LOCK, WITH KEYLESS ACCESS)

For diagnostic procedures, refer to the INSPECTION of DOOR LOCK ACTUATOR & CIRCUIT of the Door Lock Control System.

15. CHECK IGNITION SWITCH ILLUMINATION

STEP	CHECK	YES	NO
1.CHECK IGNITION CIRCUIT. Check the ignition circuit.	Is the circuit normal?		Repair or replace.
2.CHECK DOOR SWITCH CIRCUIT. Check the door switch.	Is the circuit normal?		Repair or replace.
3.CHECK FUSE. Remove and visually check fuse No. 14 (in the main fuse box).	Is the fuse blown out?	Replace the fuse with a new part.	
4.CHECK HARNESS. 1) Disconnect the ignition switch illumination connector. 2) Measure the voltage between ignition switch illumination connector and chassis ground. **Connector & terminal** (B224) No. 2 (+) — Chassis ground (−):	Is the voltage 10 V or more?		Check the harness for open or short circuits between the ignition switch illumination and fuse.
5.CHECK IGNITION SWITCH ILLUMINATION CIRCUIT. 1) Disconnect the connector of body integrated unit. 2) Check the harness for open or short circuit between body integrated unit connector and ignition switch illumination connector. **Connector & terminal** (B281) No. 23 — (B224) No. 1:	Is harness normal?		Check the harness for open circuits and shorts between the body integrated unit and ignition switch illumination.
6.CHECK IGNITION SWITCH ILLUMINATION BULB. Apply battery voltage to the bulb.	Does the bulb illuminate?	Replace the body integrated unit.	Replace the ignition switch illumination bulb.