

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

15. Diagnostics with Phenomenon

A: INSPECTION

1. KEYLESS ACCESS LOCK/UNLOCK CANNOT BE PERFORMED FROM ANY OF THE DOORS

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
 - Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
 - Check that the keyless access function is not stopped.
 - When the access key or keyless access CM is replaced, registration of the immobilizer is required.
- For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK OPERATION OF KEYLESS DOOR LOCK. Using the keyless function of the access key, check the operation of the door lock.	Does it lock/unlock normally?	Check the exterior antenna, oscillator, touch sensor, lock/unlock buttons.	Go to step 2.
2 CHECK ACCESS KEY. Check for whether lock and unlock is possible with the registered access key.	Is there any access key which can lock/unlock when the touch sensor is operated?	Check the access key that does not operate.	Go to step 3.
3 CHECK DOOR LOCK. Operate the driver's center door lock switch.	Does the door lock operate?	Go to step 4.	Check the door lock control system. <Ref. to SL-11, INSPECTION, Door Lock Control System.>
4 CHECK RECEIVER. Replace with a receiver that is operating normally. <Ref. to SL-104, REMOVAL, Receiver.>	When the front unlock sensor, the trunk opener or the rear gate opener button is operated, does it lock/unlock?	Malfunction occurred in receiver.	Go to step 5.
5 CHECK HARNESS. 1) Disconnect the receiver connector (R296). 2) Using a tester, measure the resistance between receiver and chassis ground. Connector & terminal (R296) No. 1 — Chassis ground:	Is the resistance less than 10 Ω?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between receiver and keyless access CM. Connector & terminal (R296) No. 4 — (i241) No. 5: (R296) No. 5 — (i241) No. 17: (R296) No. 2 — (i241) No. 19:	Is the resistance less than 10 Ω?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK HARNESS. Using a tester, measure the voltage between the keyless access CM and chassis ground. Connector & terminal (B572) No. 2 (+) — Chassis ground (-):	Is the voltage 10 V or more when the ignition switch is turned to ON?	Go to step 8.	Check the keyless access CM power supply circuit.
8 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 10 Ω?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the open circuit of harness.

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2. ALL KEYLESS ACCESS FUNCTIONS DO NOT OPERATE

CAUTION:

- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK KEYLESS ACCESS FUNCTION STOP. Check for whether the keyless access system is in a stop status or simple cancel function status. <Ref. to SL-124, OPERATION, Function Setting (Customize).>	Is the keyless access system in a stop status?	Release the keyless access function stop status. <Ref. to SL-124, OPERATION, Function Setting (Customize).>	Go to step 2.
2 CHECK KEYLESS ACCESS CM. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 2 (+) — Chassis ground (-):</i>	Is the voltage 10 V or more?	Go to step 3.	Repair or replace the open circuit of harness.
3 CHECK KEYLESS ACCESS CM. Using a tester, check continuity between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the open circuit of harness.

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3. CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK CURRENT DATA. 1) Display the current data «Driver's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the driver's side lock actuator.	Does the data change from ON/OFF?	Go to step 3.	Check the door lock switch circuit.
3 CHECK CURRENT DATA. 1) Display the current data «Driver's lock touch sensor SW» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the front lock button of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the antenna connector. 3) Using a tester, measure the resistance between the keyless access CM connector and antenna connector. <i>Connector & terminal</i> <i>(i242) No. 20 — (D66) No. 3:</i>	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between antenna connector and chassis ground. <i>Connector & terminal</i> <i>(i242) No. 20 — Chassis ground:</i> <i>(B66) No. 3 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 6.	Repair or replace the short circuit of the harness.
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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4. CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 3.	Replace the fuse.
3 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector, and between oscillator connector and chassis ground. Connector & terminal <i>(i242) No. 12 — (D65) No. 10:</i> <i>(i242) No. 13 — (D65) No. 5:</i> <i>(i242) No. 19 — (D65) No. 4:</i> <i>(D66) No. 7 — Chassis ground:</i>	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. Connector & terminal <i>(i242) No. 12 — Chassis ground:</i> <i>(D65) No. 10 — Chassis ground:</i> <i>(i242) No. 13 — Chassis ground:</i> <i>(D65) No. 5 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 5.	Repair or replace the short circuit of the harness.
5 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Turn the ignition switch to OFF, close all doors and take the access key out of passenger room. 3) Using the Subaru Select Monitor, measure the waveform between the oscillator connectors. Connector & terminal <i>(D65) No. 5 — No. 10:</i>	Does pulse output change from pulse output OFF → pulse output ON by the lock operation using access key?	Go to step 6.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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5. CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK CURRENT DATA. 1) Display the current data «Driver's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the driver's side lock actuator.	Does the data change from ON/OFF?	Go to step 3.	Check the door lock switch circuit.
3 CHECK CURRENT DATA. 1) Display the current data «Driver's unlock touch sensor switch» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the touch sensor of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector. <i>Connector & terminal</i> <i>(i242) No. 22 — (D65) No. 6:</i>	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. <i>Connector & terminal</i> <i>(i242) No. 22 — Chassis ground:</i> <i>(D65) No. 6 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 6.	Repair or replace the short circuit of the harness.
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the driver's side front outer handle with the passenger's side front outer handle.	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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6. CANNOT LOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK CURRENT DATA. 1) Display the current data «Passenger's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the passenger's side lock actuator.	Does the data change from ON/OFF?	Go to step 3.	Check the door lock switch circuit.
3 CHECK CURRENT DATA. 1) Display the current data «Passenger's lock touch sensor SW» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the front lock button of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the antenna connector. 3) Using a tester, measure the resistance between the keyless access CM connector and antenna connector. <i>Connector & terminal</i> <i>(i242) No. 8 — (D56) No. 3:</i>	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between antenna connector and chassis ground. <i>Connector & terminal</i> <i>(i242) No. 8 — Chassis ground:</i> <i>(D56) No. 3 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 6.	Repair or replace the short circuit of the harness.
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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7. CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 3.	Replace the fuse.
3 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector, and between oscillator connector and chassis ground. Connector & terminal <i>(i242) No. 11 — (D55) No. 10:</i> <i>(i242) No. 10 — (D55) No. 5:</i> <i>(i242) No. 23 — (D55) No. 6:</i> <i>(D56) No. 7 — Chassis ground:</i>	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. Connector & terminal <i>(i242) No. 11 — Chassis ground:</i> <i>(D55) No. 10 — Chassis ground:</i> <i>(i242) No. 10 — Chassis ground:</i> <i>(D55) No. 5 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 5.	Repair or replace the short circuit of the harness.
5 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Turn the ignition switch to OFF, close all doors and take the access key out of passenger room. 3) Using the Subaru Select Monitor, measure the waveform between the oscillator connectors. Connector & terminal <i>(D55) No. 5 — No. 10:</i>	Does pulse output change from pulse output OFF → pulse output ON by the lock operation using access key?	Go to step 6.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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8. CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DOOR LOCK SWITCH. Check that the lock/unlock operates with the driver's door lock switch.	Does it lock/unlock normally?	Go to step 2.	Check the door lock circuit. <Ref. to SL-11, SYMPTOM CHART, INSPECTION, Door Lock Control System.>
2 CHECK CURRENT DATA. 1) Display the current data «Passenger's seat lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the passenger's side lock actuator.	Does the data change from ON/OFF?	Go to step 3.	Check the door lock switch circuit.
3 CHECK CURRENT DATA. 1) Display the current data «Passenger's unlock touch sensor switch» of Keyless access system check for keyless access system using Subaru Select Monitor. 2) Read the data when operating the touch sensor of the door outer handle.	Does the data change from ON/OFF according to the sensor operation?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the oscillator connector. 3) Using a tester, measure the resistance between the keyless access CM connector and oscillator connector. <i>Connector & terminal</i> <i>(i242) No. 23 — (D55) No. 6:</i>	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between oscillator connector and chassis ground. <i>Connector & terminal</i> <i>(i242) No. 23 — Chassis ground:</i> <i>(D55) No. 6 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 6.	Repair or replace the short circuit of the harness.
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the passenger's side front outer handle with the driver's side front outer handle.	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-37, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

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9. THE KEYLESS ACCESS PASSENGER ROOM BUZZER DOES NOT SOUND

CAUTION:

- Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
- Check that the keyless access function is not stopped.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No	
1	CHECK COMBINATION METER. Check the combination meter.	Is combination meter OK?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Replace the combination meter. <Ref. to IDI-25, REMOVAL, Combination Meter.>

10. KEYLESS ACCESS EXTERNAL BUZZER DOES NOT BEEP

Step	Check	Yes	No	
1	CHECK BODY INTEGRATED UNIT SETTING. Using the Subaru Select Monitor, check the «Ans.-back Buzzer» data of body integrated unit.	Is the setting “ON”?	Go to step 2.	Change the setting to “ON”.
2	CHECK BUZZER OPERATION. Use the Subaru Select Monitor to perform the body integrated unit function check «Keyless Buzzer Output». <Ref. to BC(diag)-23, OPERATION, Function Check.>	Does the buzzer sound?	Go to step 3.	Go to step 5.
3	CHECK KEYLESS ACCESS SYSTEM. 1) Turn to IGN OFF. 2) With all doors closed and the access key carried, touch the touch sensor (lock) on the driver’s door handle.	Does the door lock?	Go to step 4.	Refer to “CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER’S DOOR” and perform inspection. <Ref. to KPS(diag)-90, CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER’S DOOR, INSPECTION, Diagnostics with Phenomenon.>
4	CHECK KEYLESS ACCESS SYSTEM. 1) Open the door, and open the door glass. 2) Place the access key on the driver’s seat, and close the door. 3) Touch the touch sensor (lock) on the driver’s door handle.	Does the buzzer sound? (Lock-out protection warning)	System is normal.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
5	CHECK HARNESS. 1) Turn to IGN OFF. 2) Disconnect the connectors of the body integrated unit and keyless buzzer. 3) Measure the resistance between body integrated unit connector and keyless buzzer connector. Connector & terminal (B280) No. 20 — (B490) No. 1:	Is the resistance less than 10 Ω?	Go to step 6.	Repair or replace the open circuit of harness.

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Step	Check	Yes	No
6 CHECK HARNESS. Measure the resistance between keyless buzzer connector and chassis ground. <i>Connector & terminal</i> <i>(B490) No. 1 — Chassis ground:</i>	Is the resistance 10 k Ω or more?	Go to step 7.	Repair or replace the short circuit of the harness.
7 CHECK HARNESS. Measure the resistance between keyless buzzer connector and chassis ground. <i>Connector & terminal</i> <i>(B490) No. 2 — Chassis ground:</i>	Is the resistance less than 10 Ω ?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK BODY INTEGRATED UNIT. 1) Connect the connector of body integrated unit. 2) Use the Subaru Select Monitor to perform the body integrated unit function check «Keyless Buzzer Output». <Ref. to BC(diag)-23, OPERATION, Function Check.> 3) Measure the voltage between body integrated unit connector and chassis ground using an oscilloscope. <i>Connector & terminal</i> <i>(B280) No. 20 (+) — Chassis ground (-):</i>	Is the frequency 2kHz, voltage 9 V or more?	Replace the keyless buzzer. <Ref. to SL-123, REMOVAL, Access Buzzer.>	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>

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11.INTERNAL COLLATION DOES NOT FUNCTION

CAUTION:

When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK ACCESS KEY. Check the access key. <Ref. to SL-83, INSPECTION, Access Key.>	Is the battery OK?	Go to step 2.	Replace the battery.
2 CHECK INTERIOR ANTENNA. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Front interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. Connector & terminal <i>(i242) No. 2 — No. 3:</i>	Is a pulse output?	Go to step 3.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
3 CHECK INTERIOR ANTENNA. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. Connector & terminal <i>(i241) No. 10 — No. 11:</i>	Is a pulse output?	Go to step 4.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
4 CHECK INTERIOR ANTENNA. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Trunk internal transmitter, interior tuner» or «Rear gate internal transmitter, interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Using a tester, check the output between keyless access CM connector terminals while performing the Keyless access system check. Connector & terminal <i>(i241) No. 8 — No. 9:</i>	Is a pulse output?	Go to step 5.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
5 CHECK WIRING HARNESS. 1) Disconnect the front interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the front interior antenna connector and the keyless access CM connector. Connector & terminal <i>(i25) No. 1 — (i242) No. 3:</i> <i>(i25) No. 3 — (i242) No. 2:</i>	Is there continuity?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK WIRING HARNESS. 1) Disconnect the center interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the center interior antenna connector and the keyless access CM connector. Connector & terminal <i>(R298) No. 1 — (i241) No. 11:</i> <i>(R298) No. 3 — (i241) No. 10:</i>	Is there continuity?	Go to step 7.	Repair or replace the open circuit of harness.

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Step	Check	Yes	No
7 CHECK WIRING HARNESS. 1) Disconnect the rear interior antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the rear interior antenna connector and the keyless access CM connector. Connector & terminal (R297) No. 1 — (i241) No. 9: (R297) No. 3 — (i241) No. 8:	Is there continuity?	Go to step 8 .	Repair or replace the open circuit of harness.
8 CHECK ANTENNA. Replace the front interior antenna with a new or properly functioning part.	Does it operate properly?	Replace the front interior antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step 9 .
9 CHECK ANTENNA. Replace the center passenger room antenna with a new or properly functioning part.	Does it operate properly?	Replace the center passenger room antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step 10 .
10 CHECK ANTENNA. Replace the rear interior antenna with a new or properly functioning part.	Does it operate properly?	Replace the rear interior antenna. <Ref. to SL-90, REMOVAL, Keyless Access Indoor Antenna.>	Go to step 11 .
11 CHECK WIRING HARNESS. 1) Disconnect the receiver connector and the keyless access CM connector. 2) Using a tester, check continuity between the receiver connector and keyless access CM connector. Connector & terminal (R296) No. 4 — (i241) No. 5: (R296) No. 5 — (i241) No. 17: (R296) No. 2 — (i241) No. 19:	Is there continuity?	Go to step 12 .	Repair or replace the open circuit of harness.
12 CHECK RECEIVER. Replace the receiver with a new or properly functioning part.	Does it operate properly?	Replace the receiver. <Ref. to SL-104, REMOVAL, Receiver.>	Go to step 13 .
13 CHECK KEYLESS ACCESS SYSTEM CHECK. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Front interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the audio panel, then come closer to within 0.8 m.	Does the buzzer sound?	Go to step 14 .	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
14 CHECK KEYLESS ACCESS SYSTEM CHECK. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear interior transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the center of the second row seats, then come closer to within 0.8 m.	Does the buzzer sound?	Go to step 15.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
15 CHECK KEYLESS ACCESS SYSTEM CHECK. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Trunk internal transmitter, interior tuner» or «Rear gate internal transmitter, interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the back of the rear seat, then come closer to within 0.8 m.	Does the buzzer sound?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

12. REAR GATE CANNOT BE UNLOCKED WITH THE REAR GATE OPENER BUTTON

CAUTION:

- Check that there are no other registered access keys inside the rear gate.
 - Inspect LAN system according to the basic diagnostic procedure, and make sure that there is no fault.
 - Check that the keyless access function is not stopped.
 - When the access key or keyless access CM is replaced, registration of the immobilizer is required.
- For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK KEYLESS OPERATION. Check that the rear gate unlocks when the rear gate unlock button of the access key is pressed.	Does it operate properly?	Go to step 6.	Go to step 2.
2 CHECK REAR GATE UNLOCK OPERATION. 1) Using the Subaru Select Monitor, select the function check «R gate/trunk UNLK output» of the body integrated unit. 2) Check that the rear gate unlocks when the R gate/trunk UNLK signal is output.	Does it operate properly?	Go to step 6.	Go to step 3.
3 CHECK HARNESS. 1) Disconnect the body integrated unit connector and rear gate lock actuator connector. 2) Check the continuity between body integrated unit connector and rear gate lock actuator connector. <i>Connector & terminal (i171) No. 7 — (D47) No. 1:</i>	Is there continuity?	Go to step 4.	Repair or replace the open circuit of harness.
4 CHECK HARNESS. 1) Check the continuity between the rear gate lock actuator connector and chassis ground. <i>Connector & terminal (D47) No. 2 — Chassis ground:</i>	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
5 CHECK REAR GATE LOCK ACTUATOR. 1) Check the rear gate lock actuator. <Ref. to SL-57, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-56, Rear Gate Latch and Actuator Assembly.>
6 CHECK ACCESS KEY. 1) Prepare all access keys registered to the vehicle. 2) Check that the rear gate lock can be unlocked with each access key.	Does it operate properly?	Go to step 7.	Replace the access key. <Ref. to SL-84, REPLACEMENT, Access Key.>
7 CHECK CURRENT DATA. 1) Display the current data «R Gate Release SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when pressing the rear gate opener button.	Does the data display ON?	Go to step 14.	Go to step 8.
8 CHECK WIRING HARNESS. 1) Disconnect the rear gate opener button connector and body integrated unit connector. 2) Using a tester, check the continuity between the rear gate opener button connector and body integrated unit connector. Connector & terminal (D77) No. 5 — (i84) No. 10:	Is there continuity?	Go to step 9.	Repair or replace the open circuit of harness.
9 CHECK WIRING HARNESS. 1) Using a tester, check the continuity between the rear gate opener button connector and chassis ground. Connector & terminal (D77) No. 6 — Chassis ground:	Is there continuity?	Go to step 10.	Repair or replace the open circuit of harness.
10 CHECK REAR GATE OPENER BUTTON. Using a tester, check the continuity between rear gate opener button switch terminals. Connector & terminal (D77) No. 6 — (D77) No. 5:	Is there continuity when pressing the switch?	Go to step 11.	Replace the rear gate opener button. <Ref. to SL-51, Rear Gate Opener Button.>
11 CHECK WIRING HARNESS. 1) Disconnect the exterior rear antenna connector and the keyless access CM connector. 2) Using a tester, check continuity between the exterior rear antenna connector and keyless access CM connector. Connector & terminal (D77) No. 1 — (i242) No. 2: (D77) No. 2 — (i242) No. 1:	Is there continuity?	Go to step 12.	Repair or replace the open circuit of harness.
12 CHECK OUTSIDE REAR ANTENNA. Replace the outside rear antenna with new or properly working parts.	Does it operate properly?	Replace the outside rear antenna.	Go to step 13.
13 CHECK CURRENT DATA. 1) Display the current data «R gate lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the rear gate lock actuator.	Does the data change from ON ←→ OFF?	Go to step 14.	Check body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
14 CHECK KEYLESS ACCESS SYSTEM CHECK. 1) Using the Subaru Select Monitor, select System check of the keyless access CM «Rear gate external transmitter + interior tuner». <Ref. to KPS(diag)-31, Keyless Access System Check.> 2) Hold the access key 1 m or more away from the trunk, then come closer to within 0.8 m.	Does the outside buzzer sound?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

13.CAN NOT LOCK WHEN USING THE REAR LOCK BUTTON

CAUTION:

- Check that there are no other registered access keys inside the vehicle.
- Check that the keyless access function is not stopped.
- Inspect LAN system or keyless access system according to the basic diagnostic procedure, and make sure that DTC is not input.
- When the access key or keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK REAR GATE ACTUATOR. While carrying the access key, operate the front lock button and touch sensor.	When the switch is operated, does the rear gate lock/unlock?	Go to step 2.	Go to step 10.
2 CHECK OUTSIDE REAR ANTENNA. Replace the outside rear antenna with new or properly working parts.	Does it operate properly?	Replace the outside rear antenna.	Go to step 3.
3 CHECK CURRENT DATA. 1) Display the current data «R gate lock status SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when locking/unlocking the rear gate lock actuator.	Does the data change from ON ←→ OFF?	Go to step 4.	Check body integrated unit. <Ref. to SL-80, REMOVAL, Body Integrated Unit.>
4 CHECK REAR LOCK BUTTON. 1) Display the «Rear Gate Request SW» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when operating the rear lock button.	Does the data change between ON/OFF?	Go to step 10.	Go to step 5.
5 CHECK HARNESS. 1) Disconnect the rear lock button connector and the keyless access CM connector. 2) Using a tester, measure the resistance between harness. <i>Connector & terminal (D77) No. 3 — (i241) No. 27:</i>	Is the resistance less than 10 Ω?	Go to step 6.	Repair or replace the open circuit of the harness.
6 CHECK HARNESS. Using a tester, measure the resistance between harness and chassis ground. <i>Connector & terminal (D77) No. 3 — Chassis ground:</i>	Is the resistance 10 MΩ or more?	Go to step 7.	Repair or replace the short of harness.
7 CHECK HARNESS. Using a tester, measure the resistance between harness and chassis ground. <i>Connector & terminal (D77) No. 4 — Chassis ground:</i>	Is the resistance less than 10 Ω?	Go to step 8.	Repair or replace the open circuit of the harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
8 CHECK REAR LOCK BUTTON. Measure the resistance when the rear lock button is operated using the tester. Connector & terminal (D77) No. 3 — No. 4:	Did the resistance change from 1 MΩ or more to less than 10 Ω?	Go to step 9.	Replace the rear lock button. <Ref. to SL-100, REMOVAL, Rear Lock Button.>
9 CHECK REAR LOCK BUTTON. 1) Display the «Rear Gate Request SW» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when operating the rear lock button.	Does the data change between ON/OFF?	Go to step 10.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
10 CHECK BODY INTEGRATED UNIT. 1) Connect the disconnected connectors. 2) Use the Subaru Select Monitor to perform the body integrated unit function check. 3) Actuate the door lock actuator LOCK output.	Does the rear gate lock actuator lock?	It is possible that temporary poor communication occurs.	Go to step 11.
11 CHECK HARNESS. 1) Disconnect the body integrated unit connector and rear gate lock actuator connector. 2) Check the continuity between body integrated unit connector and rear gate lock actuator connector. Connector & terminal (i171) No. 7 — (D47) No. 1:	Is there continuity?	Go to step 12.	Repair or replace the open circuit of harness.
12 CHECK HARNESS. 1) Check the continuity between the rear gate lock actuator connector and chassis ground. Connector & terminal (D47) No. 2 — Chassis ground:	Is there continuity?	Go to step 13.	Repair or replace the open circuit of harness.
13 CHECK REAR GATE LOCK ACTUATOR. 1) Check the rear gate lock actuator. <Ref. to SL-57, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-80, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-56, Rear Gate Latch and Actuator Assembly.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

14.THE STEERING LOCK IS NOT RELEASED

CAUTION:

When the steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK OPERATION. 1) Depress the brake pedal. 2) While turning the steering wheel lightly to the left and right, press the push button ignition switch. 3) Confirm that the steering lock is released and the engine start.	Does the engine fail to start with the steering lock released?	Perform the diagnosis for engine system. <Ref. to EN(H4DO)(diag)-63, Diagnostics for Engine Starting Failure.>	Go to step 2.
2 CHECK DTC. Read keyless access CM DTCs using the Subaru Select Monitor.	Is a DTC displayed?	Perform the diagnosis according to the corresponding procedures of DTC.	Go to step 3.
3 CHECK CURRENT DATA. 1) Using the Subaru Select Monitor, display the current data of the keyless access CM «Steering lock unlock request reception status» and «Steering lock lock/unlock command reception history». 2) Read the data when the push button ignition switch is pressed while in possession of the access key. (Maintain for 10 seconds after switch operation)	Does the data change from «Not yet received» to «Reception», and from «OFF» to «ON»?	Go to step 4.	Go to step 7.
4 CHECK STEERING LOCK CM. 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the voltage between the steering lock CM connector and chassis ground. <i>Connector & terminal (B424) No. 7 (+) — Chassis ground (-):</i>	Is the voltage 10 V or more?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK STEERING LOCK CM. Using a tester, check continuity between the steering lock CM connector and chassis ground. <i>Connector & terminal (B424) No. 1 — Chassis ground:</i>	Is there continuity?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK STEERING LOCK CM. 1) Connect the disconnected connectors. 2) Using a tester, measure the voltage between steering lock CM terminals right after the ignition switch is turned to ON. <i>Connector & terminal (B424) No. 3 (+) — (B424) No. 1 (-):</i>	Is the voltage 1 V or less right after the ignition ON?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Repair or replace the open circuit of harness.
7 CHECK STEERING LOCK CM. 1) Replace with a properly functioning or new steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.> 2) After registering, the steering lock operates when the ignition is turned to OFF and the driver's door is opened and closed. 3) Turn the ignition to ON. 4) Operate the steering and check for whether the steering lock is released.	Is the steering lock released, and does the engine start?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

15.THE STEERING LOCK DOES NOT OPERATE

CAUTION:

When the keyless access CM or steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DTC. Read keyless access system DTCs using the Subaru Select Monitor.	Is a DTC displayed?	Perform the diagnosis according to the corresponding DTC.	Go to step 2.
2 CHECK CURRENT DATA. 1) Display the current data «Driver’s door SW input» of body integrated unit using Subaru Select Monitor. 2) Read the data when opening and closing the driver’s door.	Does the data change from ON to OFF according to the opening and closing?	Go to step 3.	Inspect door switch circuit.
3 CHECK CURRENT DATA. Display the current data «Shift P Signal» of keyless access system using Subaru Select Monitor.	Is the status displayed correctly when the shift lever is shifted from P to other than P?	Go to step 4.	Check the P range switch and harness.
4 CHECK CURRENT DATA. Using the Subaru Select Monitor, display the current data «Code collation result between smart ECM and ID code box» of keyless access system.	Is the status normal?	Go to step 5.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
5 CHECK CURRENT DATA. Using the Subaru Select Monitor, display the current data «Code collation result between steering locked ECM and ID code box» of keyless access system.	Is the status normal?	Go to step 6.	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>
6 CHECK CURRENT DATA. 1) Using Subaru Select Monitor, display the current data «Steering lock lock/unlock command reception history» of keyless access system. 2) While in possession of the access key, perform engine start operations, and read data within 10 seconds after starting.	Is data displayed as ON?	Go to step 7.	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>
7 CHECK STEERING LOCK CM. Using a tester, measure the waveform between steering lock CM terminals immediately after the following operations. Perform ignition ON, driver’s side door close → shift lever “P” range, ignition OFF, and close → open the driver’s side door. Connector & terminal (B424) No. 3 — No. 1:	Is the waveform immediately after opening the driver’s side door abnormal?	Replace the steering lock CM. <Ref. to SL-107, REMOVAL, Steering Lock CM.>	Go to step 8.
8 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector and the steering lock CM connector. 2) Using a tester, check continuity between the keyless access CM connector and steering lock CM connector. Connector & terminal (B424) No. 3 — (i242) No. 29:	Is there continuity?	Go to step 9.	Repair or replace the open circuit of harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
9 CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, REMOVAL, Keyless Access CM.>	Repair or replace the open circuit of harness.

16. POWER WILL NOT TURN ON (BOTH ACCESSORY AND IGNITION)

CAUTION:

- When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.
- When the keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 2.	Replace the fuse.
2 CHECK POWER SUPPLY. 1) Remove IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). 2) Using a tester, measure the voltage between the relay block connector and chassis ground.	Is the voltage 10 V or more?	Go to step 3.	Check the DC power supply circuit.
3 CHECK CONNECTOR. Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step 4.	Repair the connector, or replace harness.
4 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 2 (+) — Chassis ground (-):</i>	Is the voltage between 8 V and 16 V?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is there continuity?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK DTC. 1) Connect the keyless access CM connector. 2) While in possession of the access key, depress the brake pedal, and push the push button ignition switch. 3) Read keyless access CM DTCs using the Subaru Select Monitor.	Is a DTC output?	Perform diagnosis according to the DTC.	Go to step 7.
7 CHECK CURRENT DATA. 1) Display the current data «Push start SW 1» and «Push start SW 2» of the keyless access CM using the Subaru Select Monitor. 2) Read the data when pressing the push button ignition switch.	Does it change from OFF to ON along with the operation?	Go to step 8.	Go to step 15.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
8 CHECK RELAY (PUSH BUTTON START). Check IG relay 1 and 2 (push button start), and accessory relay (push button start). <Ref. to SL-116, INSPECTION, IG Relay1 (Push Button Start).>	Is each relay normal?	Go to step 9.	Replace the faulty relay.
9 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector, IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). 2) Using a tester, check continuity between terminals of keyless access CM connector, IG relay 1 (push button start), IG relay 2 (push button start) and accessory relay (push button start). Connector & terminal <i>(i242) No. 6 — (B225) No. 35:</i> <i>(B572) No. 9 — (B225) No. 31:</i> <i>(i242) No. 4 — (B225) No. 27:</i>	Is there continuity?	Go to step 10.	Repair or replace the open circuit of harness.
10 CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. Connector & terminal <i>(B572) No. 9 — Chassis ground:</i> <i>(i242) No. 4 — Chassis ground:</i> <i>(i242) No. 6 — Chassis ground:</i>	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step 11.
11 CHECK WIRING HARNESS. Using a tester, check the continuity between the IG relay 2 (push button start) connector and chassis ground. Connector & terminal <i>(B225) No. 34 — Chassis ground:</i>	Is there continuity?	Go to step 12.	Repair or replace the open circuit of harness.
12 CHECK WIRING HARNESS. Using a tester, check the continuity between the IG relay 1 connector and chassis ground. Connector & terminal <i>(B225) No. 30 — Chassis ground:</i>	Is there continuity?	Go to step 13.	Repair or replace the open circuit of harness.
13 CHECK WIRING HARNESS. Using a tester, check the continuity between the accessory relay connector and chassis ground. Connector & terminal <i>(B225) No. 25 — Chassis ground:</i>	Is there continuity?	Go to step 14.	Repair or replace the open circuit of harness.
14 CHECK KEYLESS ACCESS CM. 1) Connect all the disconnected connectors. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. Connector & terminal <i>(B572) No. 9 (+) — Chassis ground (-):</i> <i>(i242) No. 4 (+) — Chassis ground (-):</i> <i>(i242) No. 6 (+) — Chassis ground (-):</i>	Did the voltage change from 1 V or less to +B-2 V or more?	Go to step 15.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
15 CHECK PUSH BUTTON IGNITION SWITCH. 1) Disconnect the push button ignition switch. 2) Using a tester, check the continuity between terminals. Connector & terminal <i>(i150) No. 7 — No. 5:</i> <i>(i150) No. 2 — No. 5:</i>	When the button was pressed, did it change to continuity exists? (No continuity when button is released)	Go to step 16.	Replace the push button ignition switch. <Ref. to SL-109, REMOVAL, Push Button Ignition Switch.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
16 CHECK WIRING HARNESS. Using a tester, check the continuity between the push button ignition switch connector and chassis ground. Connector & terminal <i>(i150) No. 4 — Chassis ground:</i> <i>(i150) No. 5 — Chassis ground:</i>	Is there continuity?	Go to step 17.	Repair or replace the open circuit of harness.
17 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, check continuity between the keyless access CM connector and push button ignition switch. Connector & terminal <i>(i150) No. 7 — (i242) No. 28:</i> <i>(i150) No. 2 — (i242) No. 30:</i>	Is there continuity?	System is normal.	Repair or replace the open circuit of harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

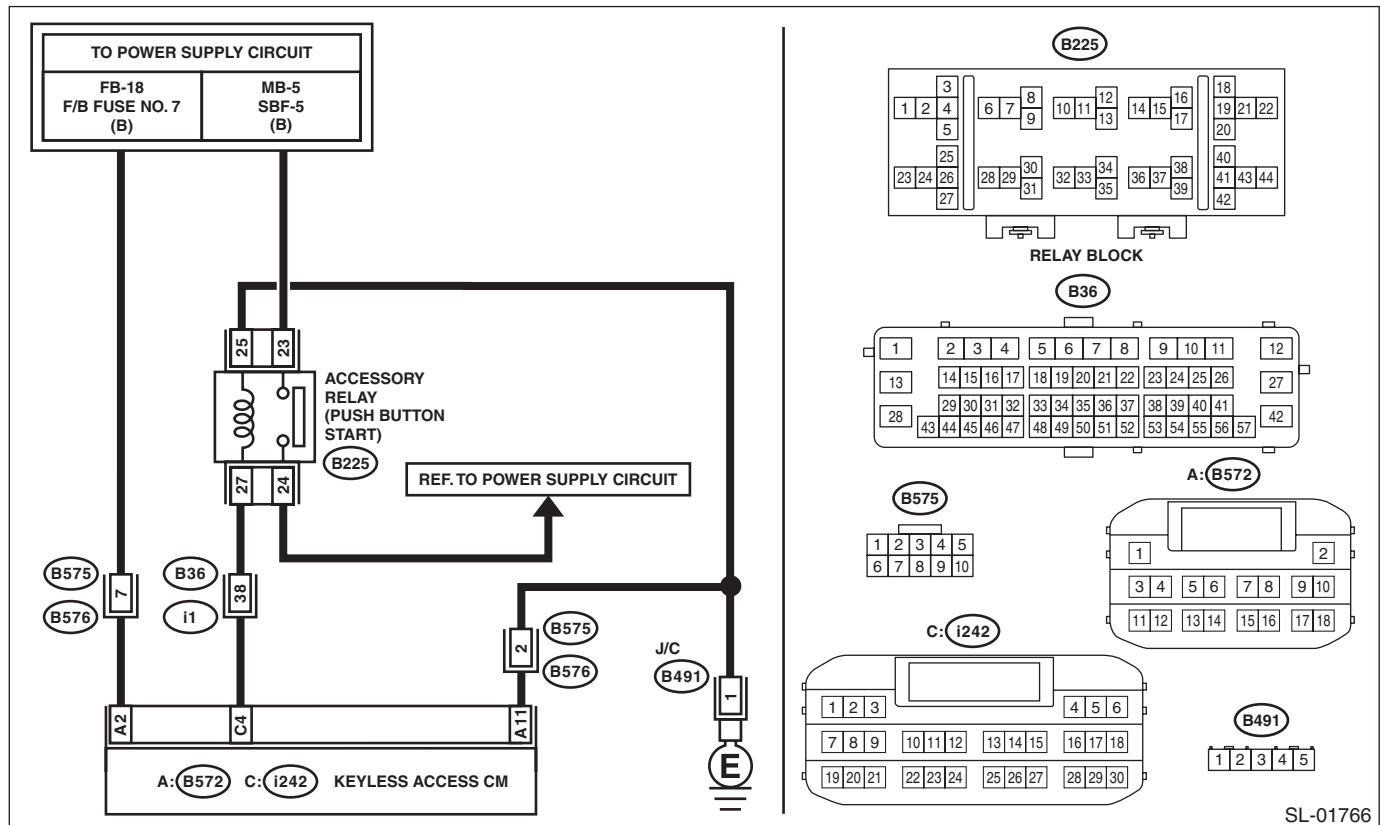
17. POWER WILL NOT TURN ON (ACCESSORY DOES NOT TURN ON, BUT IGNITION TURNS ON)

CAUTION:

- When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.
- When the keyless access CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



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Step	Check	Yes	No	
1	CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 2.	Replace the fuse.
2	CHECK CONNECTOR. Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step 3.	Repair the connector, or replace harness.
3	CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 2 (+) — Chassis ground (-):	Is the voltage between 8 V and 16 V?	Go to step 4.	Repair or replace the open circuit of harness.
4	CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
5 CHECK ACCESSORY RELAY (PUSH BUTTON START). Check the accessory relay (push button start). <Ref. to SL-120, INSPECTION, Accessory Relay (Push Button Start).>	Is the relay OK?	Go to step 6.	Replace the relay.
6 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector and the accessory relay (push button start). 2) Using a tester, check continuity between the keyless access CM connector and accessory relay (push button start). Connector & terminal (i242) No. 4 — (B225) No. 27:	Is there continuity?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. Connector & terminal (i242) No. 4 — Chassis ground:	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step 8.
8 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. Connector & terminal (i242) No. 4 (+) — Chassis ground (-):	Did the voltage change from 1 V or less → +B-2 V or more?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

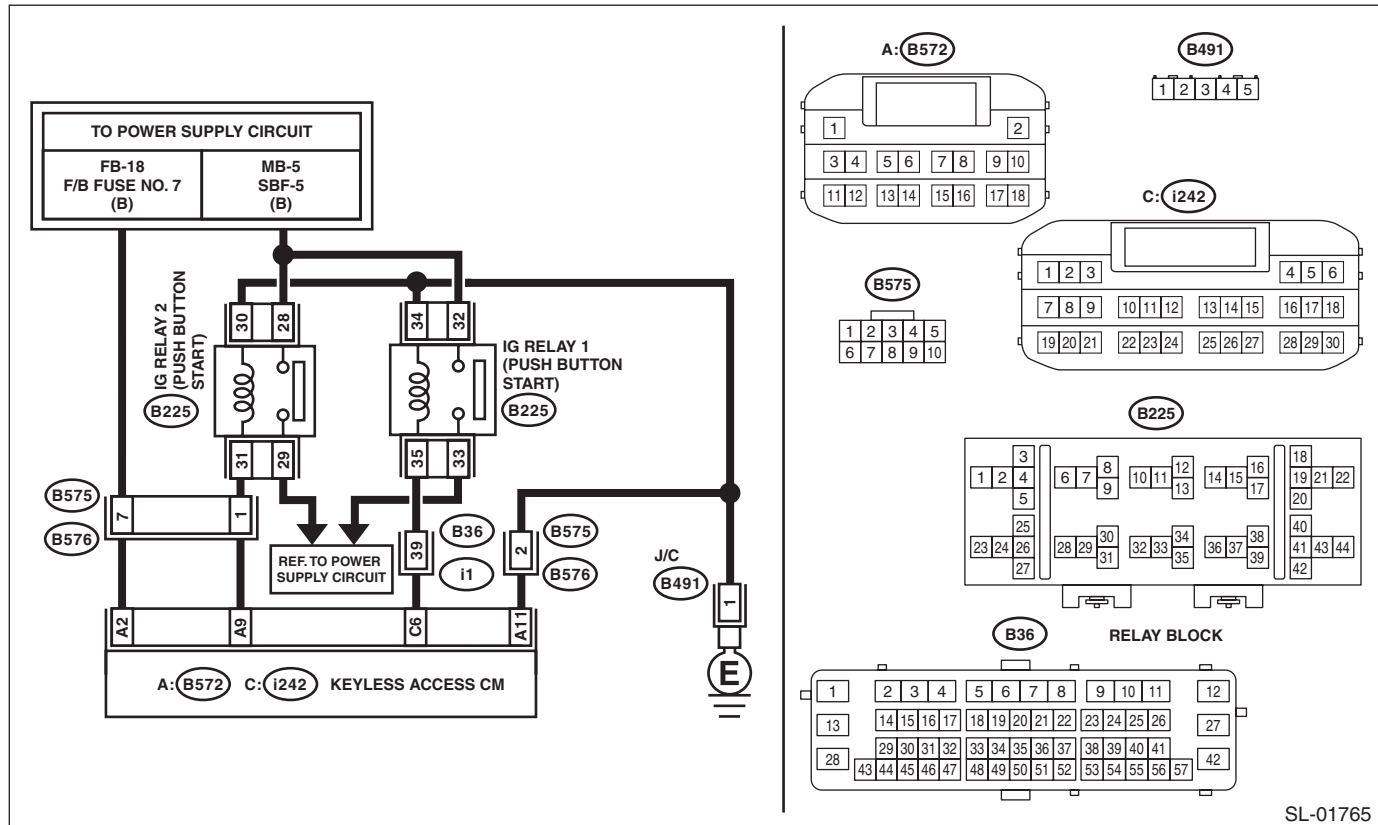
18. POWER WILL NOT TURN ON (ACCESSORY TURNS ON, BUT IGNITION DOES NOT TURN ON)

CAUTION:

When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.

WIRING DIAGRAM:

Push button start system <Ref. to WI-245, WIRING DIAGRAM, Push Button Start System.>



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Step	Check	Yes	No	
1	CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 2.	Replace the fuse.
2	CHECK CONNECTOR. Check the engagement of each connector and for any deformation or looseness.	Are the connectors and terminals normal?	Go to step 3.	Repair the connector, or replace harness.
3	CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 2 (+) — Chassis ground (-):	Is the voltage between 8 V and 16 V?	Go to step 4.	Repair or replace the open circuit of harness.
4	CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
5 CHECK IG RELAY 1 AND 2 (PUSH BUTTON START). Check IG relay 1 (push button start) and IG relay 2 (push button start). <Ref. to SL-116, INSPECTION, IG Relay1 (Push Button Start).>	Is the relay OK?	Go to step 6.	Replace the relay.
6 CHECK WIRING HARNESS. 1) Disconnect the keyless access CM connector and the IG relay 1 and 2 (push button start). 2) Using a tester, check continuity between keyless access CM connector and IG relay 1 (push button start) or IG relay 2 (push button start). <i>Connector & terminal</i> <i>(B572) No. 9 — (B225) No. 31:</i> <i>(i242) No. 6 — (B225) No. 35:</i>	Is there continuity?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK WIRING HARNESS. Using a tester, check continuity between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 9 — Chassis ground:</i> <i>(i242) No. 6 — Chassis ground:</i>	Is there continuity?	Repair or replace the short circuit of the harness.	Go to step 8.
8 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the ignition is turned from OFF to ON. <i>Connector & terminal</i> <i>(B572) No. 9 (+) — Chassis ground (-):</i> <i>(i242) No. 6 (+) — Chassis ground (-):</i>	Did the voltage change from 1 V or less → +B-2 V or more?	System is normal.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

19.ENGINE DOES NOT START

CAUTION:

- When the keyless access CM is replaced with a new unit, and the battery ground terminal is connected, it will become ignition ON. Also, if the battery is disconnected, it will resume to a condition with the battery cut off.
- When the keyless access CM or steering lock CM is replaced, registration of the immobilizer is required. For the relevant procedures, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 INITIALIZE STEERING LOCK. 1) Place the shift lever in the Parking range. 2) Operate the driver's door switch ON/OFF with the ignition switch OFF. 3) Wait for 10 seconds. 4) Place the access key on the driver's seat. 5) Press the push button ignition switch while depressing the brake pedal.	Can the engine start?	System is normal.	Go to step 2.
2 CHECK DTC. Read the DTC of the keyless access system using Subaru Select Monitor.	Is DTC detected?	Perform the diagnosis according to the DTC. <Ref. to KPS(diag)-33, LIST, List of Diagnostic Trouble Code (DTC).>	Go to step 3.
3 CHECK POWER SUPPLY SWITCHING. 1) Place the access key on the driver's seat. 2) Press the push button ignition switch without depressing the brake pedal.	When the switch is operated, does the <IG-OFF> → <ACC-ON> → <IG-ON> → <IG-OFF> change occur?	Go to step 4.	Perform the diagnostics according to the symptom for power supply switching system in General Diagnostic Table. <Ref. to KPS(diag)-87, POWER SUPPLY SWITCHING SYSTEM, INSPECTION, General Diagnostic Table.>
4 CHECK CURRENT DATA. 1) Place the access key on the driver's seat. 2) Press the push button ignition switch while depressing the brake pedal. 3) Using the Subaru Select Monitor, confirm the keyless access CM, the current data «STSW signal monitor» when pressing the push button ignition switch. NOTE: If it is difficult to confirm, press the push button ignition switch for approximately five seconds longer.	Does the data change from OFF → ON?	Go to step 10.	Go to step 5.
5 CHECK CURRENT DATA. Check the keyless access CM, current data «Shift P Signal» using the Subaru Select Monitor.	Is ON displayed in parking position, and OFF displayed in other positions?	Go to step 6.	Go to step 11.
6 CHECK CURRENT DATA. Confirm the keyless access CM, current data «Stop Light Switch» using the Subaru Select Monitor.	Is ON displayed when brake pedal depressed, and OFF displayed when brake pedal not depressed?	Go to step 7.	Go to step 13.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
7 CHECK CURRENT DATA. Confirm the keyless access CM, current data «Neutral SW/Clutch SW» using the Subaru Select Monitor.	For AT model, is ON displayed in parking and neutral positions, and OFF displayed in other positions? For MT model, is ON displayed when the clutch pedal is depressed, and OFF displayed when the clutch pedal is not depressed?	Go to step 8.	Go to step 15.
8 CHECK STEERING LOCK. Operate the push button ignition switch to perform the power supply switching and check steering lock condition during ACC-ON condition.	Is the steering lock in unlocked condition?	Go to step 9.	Perform the diagnostics according to the symptom for steering lock system in General Diagnostic Table. <Ref. to KPS(diag)-87, STEERING LOCK SYSTEM, INSPECTION, General Diagnostic Table.>
9 CHECK KEYLESS ACCESS CM. 1) Turn the ignition switch to OFF. 2) Disconnect the ECM connector. 3) Using a tester, measure the battery voltage in following procedures. 1. Press the push button ignition switch with the brake pedal depressed. (Measure within 10 seconds.) 2. Release the push button ignition switch from the condition of step 1. above. Connector & terminal (B572) No. 13 (+) — Chassis ground (-):	Does the value change from 1 V or less to +B-2 V or more in the step 1, and return to 1 V or less in the step 2?	Perform the diagnosis for engine system. <Ref. to EN(H4DO)(diag)-63, Diagnostics for Engine Starting Failure.>	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
10 CHECK CURRENT DATA. 1) Connect the disconnected connectors. 2) Confirm the keyless access CM, current data «Engine start permission request reception status» using the Subaru Select Monitor.	Is “Reception” displayed with ignition switch ON, and “Not yet received” displayed in other positions?	Perform the diagnosis for engine system.	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>
11 CHECK “P” RANGE SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the AT shift lever connector. 3) Using a tester, check the continuity of “P” range switch. Connector & terminal (B116) No. 1 — 2:	Does it change from Continuity ←→ No continuity according to shift lever operation?	Go to step 12.	Replace the “P” range switch. <Ref. to CS-57, REMOVAL, AT Shift Lock Solenoid and “P” Range Switch.>
12 CHECK HARNESS. 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector. 3) Using a tester, check continuity between the keyless access CM and AT select lever. Connector & terminal (B116) No. 1 — (i242) No. 25: (B116) No. 2 — Chassis ground:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
13 CHECK STOP LIGHT SWITCH. 1) Turn the ignition switch to OFF. 2) Disconnect the stop light switch connector. 3) Using a tester, check the continuity of the stop light switch. Connector & terminal (B65) No. 3 — No. 4:	Does it change from Continuity ←→ No continuity according to brake pedal operation?	Go to step 14 .	Replace the stop light switch. <Ref. to BR-63, REMOVAL, Stop Light Switch.>
14 CHECK HARNESS. 1) Turn the ignition switch to OFF. 2) Using a tester, check continuity between the keyless access CM and stop light switch. Connector & terminal (i242) No. 18 — (B65) No. 3: (B65) No. 2 — F/B fuse No. 8:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.
15 CHECK INHIBITOR SWITCH. Check the inhibitor switch. <Ref. to CVT-96, INSPECTION, Inhibitor Switch.>	Is the inhibitor switch working normal?	Go to step 16 .	Replace the inhibitor switch. <Ref. to CVT-99, REMOVAL, Inhibitor Switch.>
16 CHECK HARNESS. 1) Turn the ignition switch to OFF. 2) Disconnect the inhibitor switch connector. 3) Using a tester, check continuity between the keyless access CM connector and inhibitor switch connector. Connector & terminal (i242) No. 5 — (B12) No. 16: (B12) No. 15 — Starter motor:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-105, Keyless Access CM.>	Repair or replace the harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

BODY CONTROL SYSTEM (DIAGNOSTICS)

BC(diag)

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