

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

KPS(diag)

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Basic Diagnostic Procedure

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

1. Basic Diagnostic Procedure

A: PROCEDURE

CAUTION:

- Subaru Select Monitor kit is required for reading DTC, performing diagnosis and reading current data.
- Before removal or installation, be sure to remove any foreign matter (dust, moisture, oil, etc.).
- For models with the keyless access system, registration of the immobilizer may be required after a replacement of the control module, etc. For detailed procedure, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

NOTE:

- Using the Function Setting (Customize), check that the keyless access system is not in a cancelled state. <Ref. to SL-110, OPERATION, Function Setting (Customize).>
- Check List for Interview <Ref. to KPS(diag)-3, Check List for Interview.>

Step	Check	Yes	No
1 CHECK BATTERY. Using a tester, measure the battery voltage.	Is the voltage 11 V or more?	Go to step 2.	Charge or replace the battery and perform check pre-inspection. Go to step 2.
2 CHECK PRE-INSPECTION. Use the interview check list to interview the user. <Ref. to KPS(diag)-3, Check List for Interview.>	Was the symptoms of the trouble recorded in the interview?	Go to step 3.	Interview the user again.
3 BASIC INSPECTION. Check the DTC of the LAN system. <Ref. to LAN(diag)-7, INSPECTION, General Description.>	Is LAN system normal?	Go to step 4.	Follow the DTC of the LAN system to repair or replace.
4 CHECK TROUBLE SYMPTOM. 1) Read diagnostic trouble code (DTC) for the keyless access system. <Ref. to KPS(diag)-21, OPERATION, Read Diagnostic Trouble Code (DTC).> NOTE: If the communication function of the Subaru Select Monitor cannot be executed properly, check the communication circuit. <Ref. to KPS(diag)-18, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.> 2) Record all DTCs, time stamp and freeze frame data. NOTE: For time stamp, refer to "LAN SYSTEM". <Ref. to LAN(diag)-6, TIME STAMP, CAUTION, General Description.>	Is DTC displayed on Subaru Select Monitor?	Perform diagnosis according to the DTC.	Go to step 5.
5 CHECK PHENOMENON LIST. Check the "Phenomenon List". <Ref. to KPS(diag)-88, General Diagnostic Table.>	Is there a symptom that corresponds in the phenomenon list?	Perform diagnosis according to the procedures in the phenomenon list.	Go to step 6.
6 CHECK TROUBLE PHENOMENON. 1) Perform check of current data. 2) Perform a function check. 3) Perform a unit check.	Was the trouble cause found?	Repair the cause of trouble.	Repeat a basic check again.

Check List for Interview

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

2. Check List for Interview

A: CHECK

Inspect the following items regarding the vehicle's state.

Keyless Access with Push Button Start System Trouble Check List for Interview Received		Year	Month	Date
Customer's name		Registration No.	Initial year of registration Year Month Date	
		Vehicle model	Frame number	
Interviewer	Inspector	Engine type	Odometer reading	
Customer specified content				
Date and time when the trouble occurred		Frequency of trouble occurrence		
Condition of trouble occurrence		Weather		
Road conditions		Occurrence location		
Accessory installation condition				
Trouble condition				
☐ Diagnostic code		☐ ()		
☐ Immobilizer system	Engine does not start	☐ Starter does not operate ☐ Starter operates but engine does not start ☐ Engine starts but stops immediately		
	Does not start with remote engine starter			
☐ Steering lock system	The steering lock is not released			
	The steering lock does not lock			
☐ Keyless access system	Cannot lock/unlock using the touch sensor (lock), touch sensor (unlock), rear gate opener button and rear lock button			
	Cannot lock with the touch sensor (lock)	☐ Driver's side door ☐ Passenger's side door ☐ Rear gate door		
	Cannot unlock with the touch sensor (unlock)			
	Cannot lock nor unlock with the touch sensor (lock), touch sensor (unlock)			
	Rear gate can not be locked with the rear lock button			
	Cannot unlock with the rear gate opener button			
	The access key lockout prevention feature does not function	☐ Passenger room ☐ Luggage room		
	The LED does not illuminate when the access key button is pressed			
The external buzzer does not beep				
The passenger room buzzer does not sound				
☐ Other	The room light or map light does not illuminate ()			

NOTE:

- Perform the diagnostics according to the basic diagnostic procedure.
- If the room light or map light does not illuminate and the steering lock does not lock at the same time, the back-up fuse may be loose or blown.

General Description

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

3. General Description

A: CAUTION

1. SRS AIRBAG SYSTEM

The airbag system wiring harness is routed near the keyless access with push button start system.

CAUTION:

- Do not use the electrical test equipment on all airbag system wiring harnesses and connectors.
- Be careful not to damage the wiring harness of the airbag system when servicing the keyless access with push button start system.

2. KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM

NOTE:

- Using the function setting (ECM customizing), check that the keyless access system is not OFF. <Ref. to SL-110, OPERATION, Function Setting (Customize).>
 - The dark current is approx. 400 mA if there is communication between the vehicle and access key.
 - The dark current is approx. 40 mA if there is no communication between the vehicle and access key.*
- * No communication with the vehicle means that the keyless access function has been cancelled or that the access key has not been near the vehicle for 15 minutes or more after door locking.

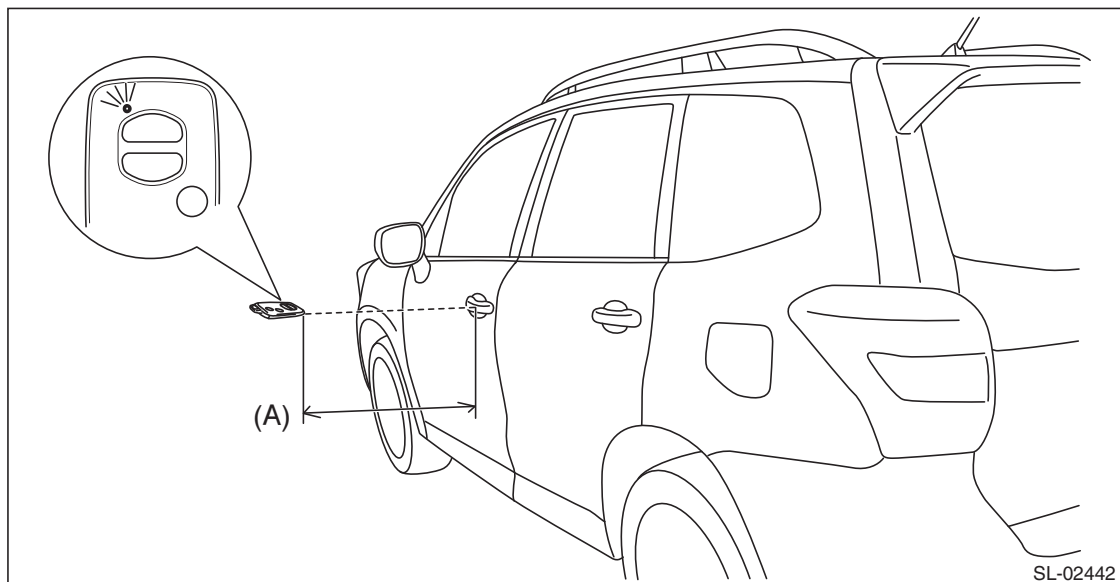
1) Keyless access door unlock function check

(1) When carrying the access key with all doors locked by keyless lock operation, check that when the touch sensor (unlock) built in to the back side surface of door outer handle of front door is touched, the door will unlock (model with double lock), all doors will unlock (model without double lock) and the answer-back function operates (hazard light blinks twice).

(2) In the keyless access door unlock detection area, hold the access key at the same height as the outer handle (approx. 80 cm from the ground) and in the direction shown in the figure, and check that the vehicle becomes unlock mode [access key LED (red) blinks] at 40 to 80 cm (A) from the vehicle.

NOTE:

Check the access key battery if the LED (red) does not illuminate when the access key button is pressed.
<Ref. to SL-81, INSPECTION, Access Key.>



General Description

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

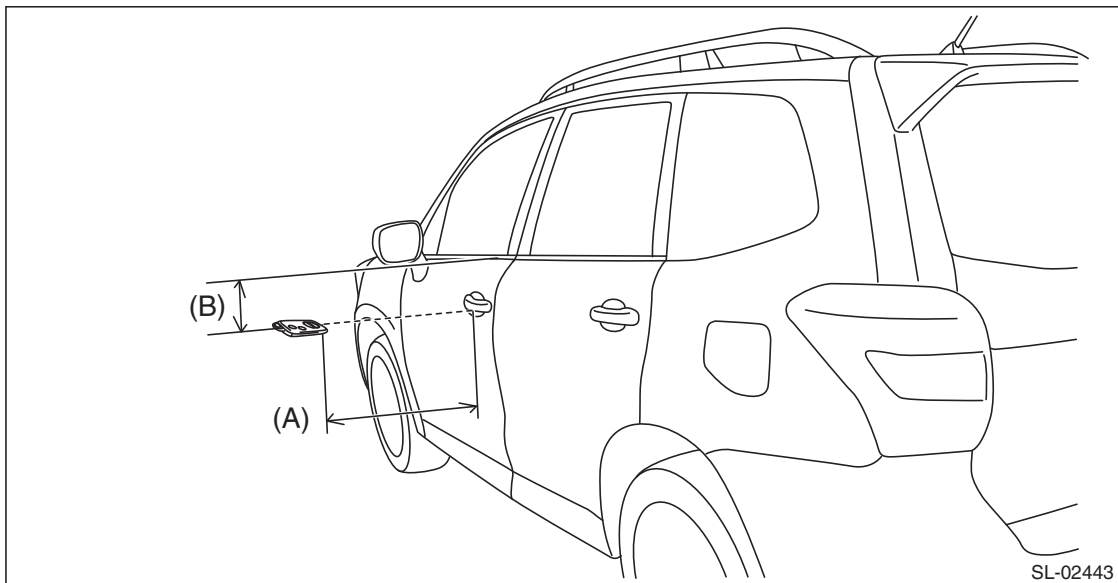
2) Check keyless access door lock function

(1) When carrying the access key outside of the vehicle with all doors closed and unlocked, check that when the touch sensor (lock) on the surface of door outer handle of front door is touched, all doors will lock and the answer-back function operates (hazard light blinks once).

CAUTION:

If the access key is within the vehicle but not within the detection area (in the instrument panel, on the rear tray, in the glove box, on the floor, in the door trim pocket or at the corner of the luggage room), then lockout protection will not function when the doors are locked and the access key will be locked into the vehicle.

(2) To check the keyless access door lock operation range, hold the access key at a height (B) of 10 cm under the bottom edge of the door glass (approx. 80 cm from the ground) in the direction shown in the figure, and check that all doors lock and the answer-back function operates (hazard light blinks once) when you touch the touch sensor (lock) at a distance (A) of approx. 30 cm from the vehicle.



(3) Check the passenger's side door in the same manner.

NOTE:

- When the door does not lock even if the touch sensor (lock) is touched, touch the touch sensors (lock) located at the upper and lower part of the door handle by holding with your hand.
- Since communication is not possible within close range (20 cm or less) of the door outer handle, the access key may not operate if you touch the touch sensor (lock) with the same hand you are holding the access key.
- If the lockout prevention buzzer sounds, it is possible that the interior transmitter has radio wave leakage.

3) Check of the keyless access rear gate function

(1) With the rear gate locked, check that the all doors unlock and rear gate opens simultaneously and the answer-back function operates (hazard light blinks twice) when you press the rear gate opener button while carrying the access key.

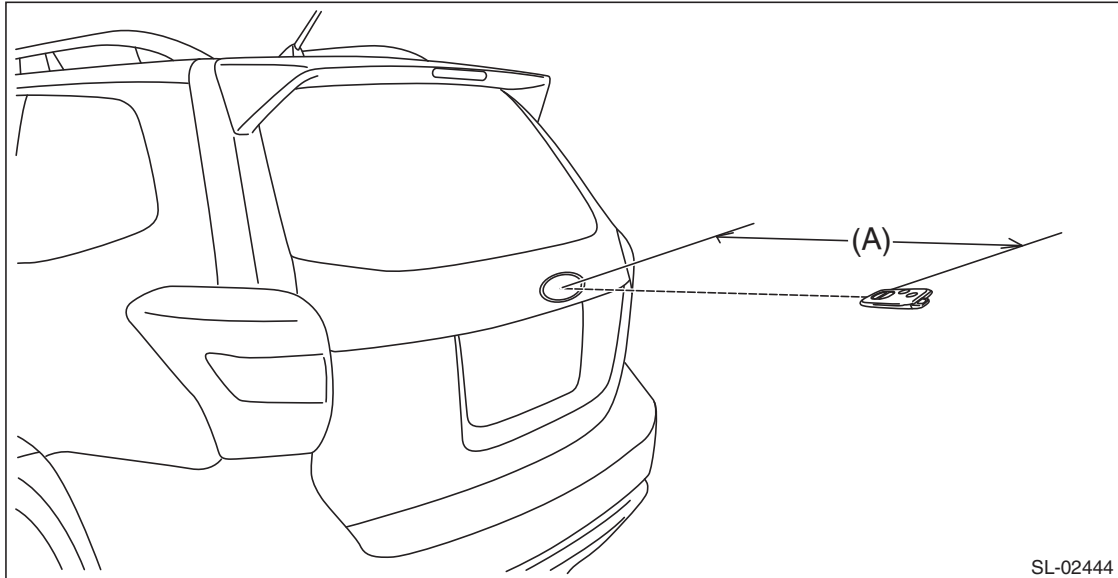
NOTE:

- For vehicles with power rear gate, the rear gate opens automatically. Holding down the button switches the operation to manual mode.
- The hazard light for the answer-back function blinks twice on vehicles without power rear gate, and four times on vehicles with power rear gate.

General Description

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(2) To check the range for keyless access rear gate open operation, hold the access key behind and in the center of the vehicle at the same height as the rear gate opener button (90 cm from the ground) in the direction shown in the figure, and check that all doors unlock, the rear gate opens, and the answer-back function operates (hazard light blinks twice) when the rear gate opener button is pressed at a distance of 40 to 80 cm (A) from the vehicle.



(3) With the rear gate unlocked, check that all doors lock and the answer-back function operates (hazard light blinks once) when you press the rear lock button while carrying the access key.

4) Check of the keyless access ignition switching function

(1) With the ignition OFF, enter the vehicle while carrying the access key. With the shift lever in the P range, check that the push button ignition switch indicator is illuminated in green when you depress the brake pedal, and check that the engine starts when you press the push button ignition switch while the indicator illuminated in green.

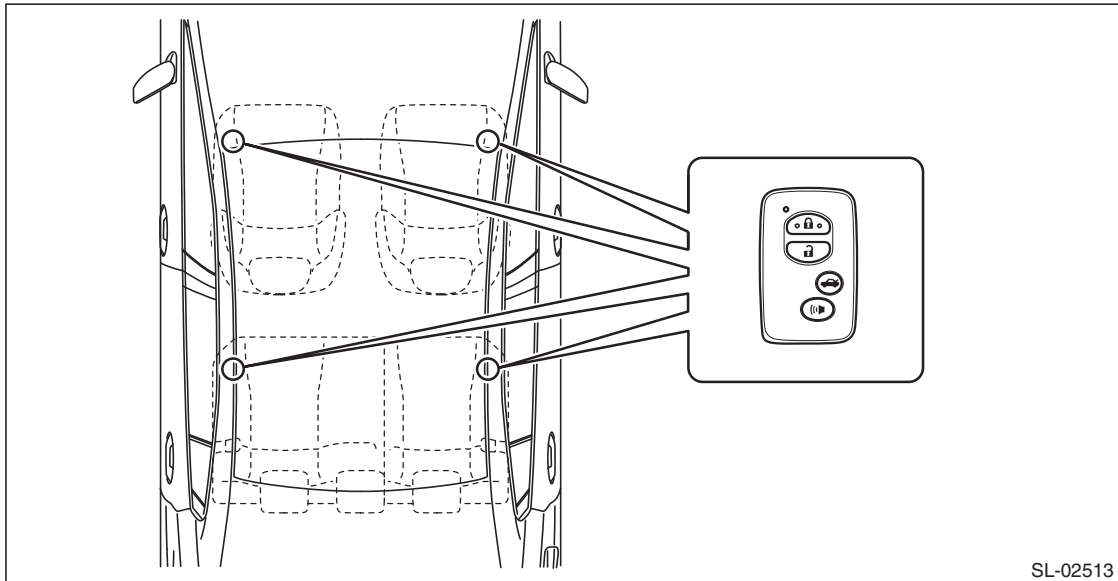
(2) While carrying the access key, check that when you press the push button ignition switch without depressing the brake pedal, the following occurs: 'Ignition OFF' → 'ACC ON' → 'Ignition ON' → 'Ignition OFF'. However, if the shift lever is any range except for the P range and the push button ignition switch is pressed from ignition ON, then it will change to ACC ON without changing to ignition OFF.

(3) After the vehicle has stopped, press the push button ignition switch and ignition is turned OFF (engine stopped · all power supplies OFF). However, if the shift lever is in any range except for the P range and the push button ignition switch is pressed with the vehicle stopped, then the ignition is not turned OFF and instead the power supplies changes to ACC ON. Check that the steering lock operates if the door is opened in the ignition OFF state (shift P range).

General Description

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

(4) To check the range of the keyless access ignition operation, check that the engine can start when you set the access key at the check position on the sheet in the direction indicated in the figure.



CAUTION:

The access key may not be correctly detected even though it is within the detection area within the passenger room, if it is in the instrument panel, on the rear tray, in the glove box, on the floor, in the door trim pocket, or at the corner of the luggage room.

NOTE:

Perform the check twice, once each with the access key positioned on the driver's, passenger's and rear seats.

5) Lockout protection function check (in the passenger room)

CAUTION:

Open one of the windows before performing this check in order to prevent the key from being locked inside the vehicle.

- (1) Position the access key on the driver's or passenger's seat.
- (2) Close all doors. (with all doors unlocked)
- (3) Check that the doors do not lock and the lockout protection buzzer (exterior) sounds for 2 seconds when you touch the touch sensor (lock) of either the driver's or passenger's door.

General Description

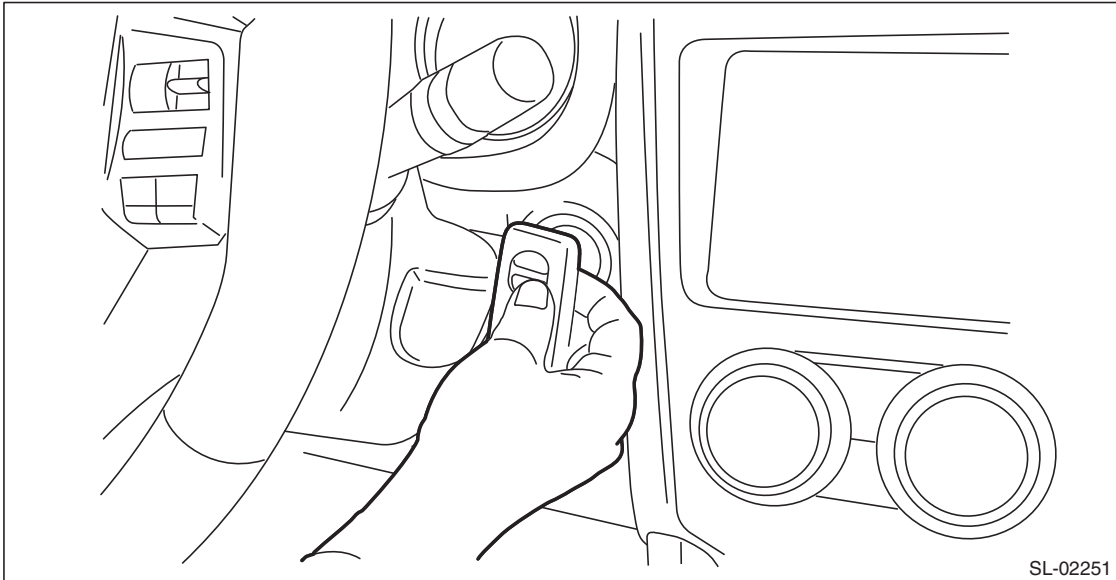
KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

6) Check of the keyless access cancel function

- (1) After setting the keyless access cancel function, check that all keyless access and start system (keyless access) functions are inoperable. (For cancel setting, refer to <Ref. to SL-110, OPERATION, Function Setting (Customize).>)

NOTE:

When keyless access is cancelled, door lock and unlock can be operated by access key button operation and the starter system can be operated by passing the access key over the push button ignition switch with the access key button toward you.



7) Access key diagnostic mode

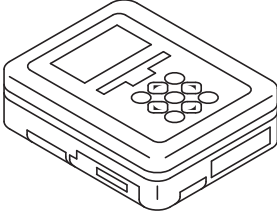
- (1) Connect the Subaru Select Monitor, and select «Work Support» of {Keyless access system}. <Ref. to KPS(diag)-28, Keyless Access System Check.>
- (2) From {Work Support}, select «Function Check Sequence».
- (3) From {Function Check Sequence}, select «Keyless access system check».
- (4) Select the transmitter to check from the items.
- (5) Check that the door lock buzzer sounds (short blips, a continuous beeping sound for the center room antenna) when the access key is near the selected transmitter or antenna.

General Description

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

B: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.

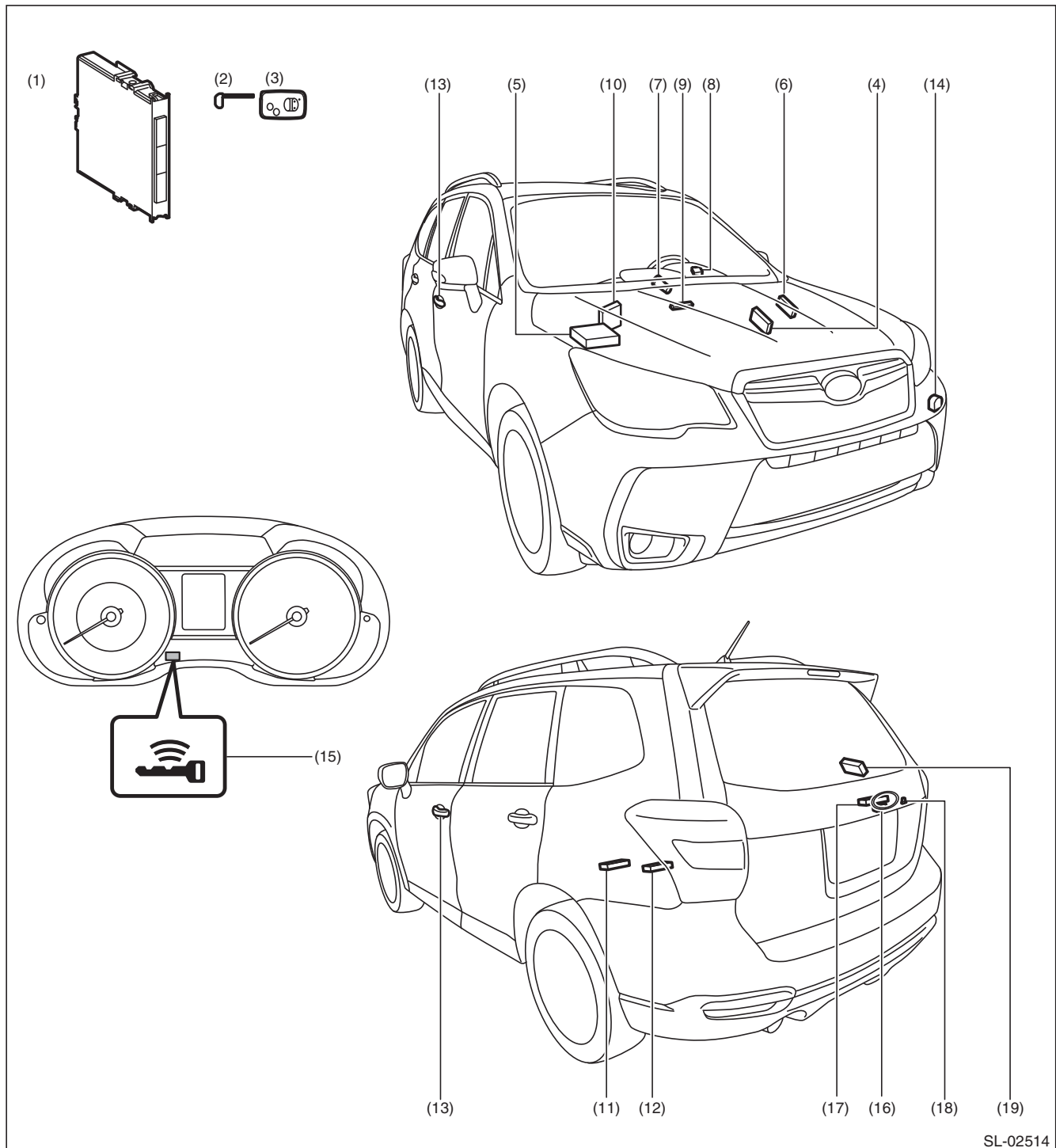


Electrical Component Location

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

4. Electrical Component Location

A: LOCATION



Electrical Component Location

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

- | | | |
|---------------------------------|--|-------------------------------|
| (1) Keyless access CM | (8) Steering lock CM | (14) Access buzzer |
| (2) Mechanical key | (9) Front interior antenna | (15) Access key warning light |
| (3) Access key | (10) ECM (non-turbo model) | (16) Rear gate opener button |
| (4) TCM | (11) Center interior antenna | (17) Rear exterior antenna |
| (5) ECM (turbo model) | (12) Rear interior antenna | (18) Rear lock button |
| (6) Body integrated unit | (13) Front outer handle (front exterior antenna) <ul style="list-style-type: none">– Touch sensor (lock)– Touch sensor (unlock) | (19) Receiver |
| (7) Push button ignition switch | | |

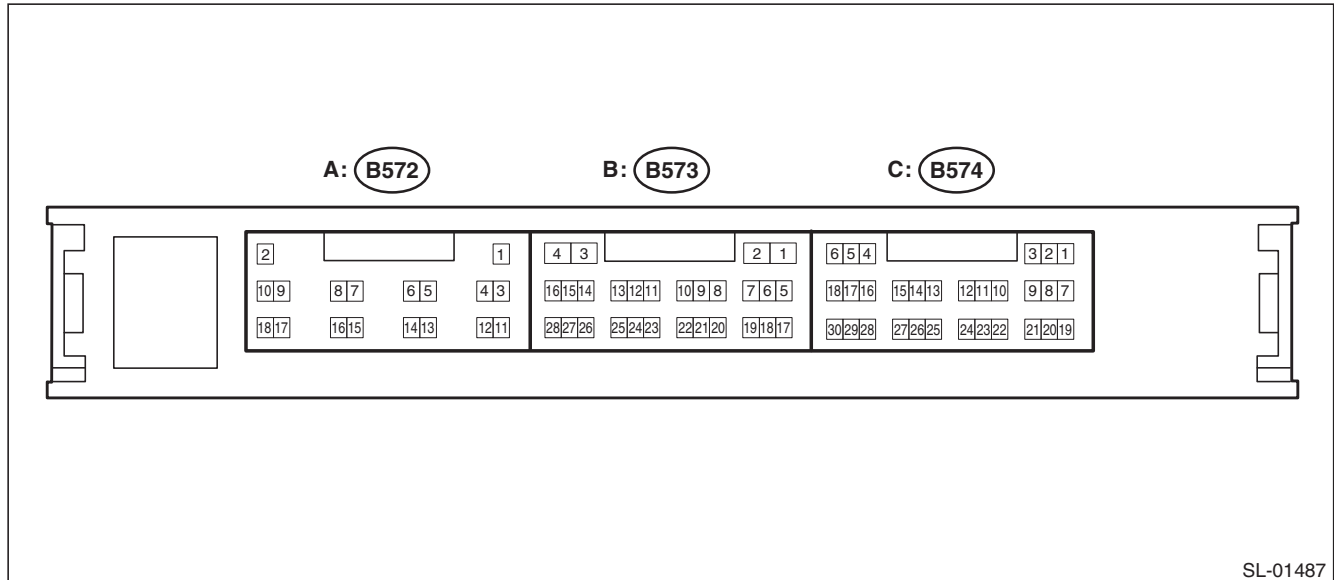
Control Module I/O Signal

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION

1. KEYLESS ACCESS CM



SL-01487

Disconnect the control module connector (B572) before checking the following items.

NOTE:

If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Item	Measuring condition	Standard
(B572) No. 2 (+B) ↔ (B572) No. 11 (E)	Voltage	Always	9.5 — 16 V
(B572) No. 11 (E) ↔ Chassis ground	Resistance	Always	Less than 1 Ω

Disconnect the control module connectors (B574) and (B572) before checking the following items.

NOTE:

If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Item	Measuring condition	Standard
(B574) No. 4 (ACCD) ↔ Chassis ground	Resistance	Always (20°C)	152.61 — 216.5 Ω
(B572) No. 9 (IG2D) ↔ Chassis ground	Resistance	Always (20°C)	74.15 — 460.88 Ω
(B574) No. 6 (IG1D) ↔ Chassis ground	Resistance	Always (20°C)	50.87 — 72.17 Ω
(B572) No. 18 (STP1) ↔ Chassis ground (AT model only)	Voltage	Brake pedal depressed → released	11 — 14 V → 1 V or less
(B574) No. 25 (P) ↔ Chassis ground (AT model only)	Resistance	Except for shift positions P → Shift position P	40 kΩ or more → 200 Ω or less
(B574) No. 27 (SPD) ↔ Chassis ground	Resistance	Always	30 kΩ or more
(B574) No. 28 (SSW1) ↔ Chassis ground	Resistance	Push button ignition switch pressed → released	Less than 1 Ω → 10 kΩ or more
(B574) No. 29 (SLR+) ↔ Chassis ground	Resistance	Always	10 kΩ or more
(B574) No. 30 (SSW2) ↔ Chassis ground	Resistance	Push button ignition switch pressed → released	Less than 1 Ω → 10 kΩ or more
(B574) No. 17 (LIN) ↔ Chassis ground	Continuity	Always	Continuity does not exist
(B574) No. 14 (CANH) ↔ Chassis ground	Pulse	ACC ON or IGN ON or power OFF, and open/close the door	Pulse generation
(B574) No. 15 (CANL) ↔ Chassis ground	Pulse	ACC ON or IGN ON or power OFF, and open/close the door	Pulse generation

Control Module I/O Signal

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Connect the control module connector before checking the following items.

NOTE:

If the measured value is out of standard, it is possible that the keyless access CM has a fault.

Terminal No.	Item	Measuring condition	Standard
(B574) No. 1 (VC5) ↔ (B574) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal (AT model) or clutch pedal (MT model) released.	1 V or less
	Waveform	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.	Waveform 1
(B574) No. 2 (CG5B) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B574) No. 3 (CLG5) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B574) No. 4 (ACCD) ↔ (B572) No. 11 (E)	Voltage	IG OFF → ACC ON	1 V or less → 9 — 14 V
(B574) No. 6 (IG1D) ↔ (B572) No. 11 (E)	Voltage	ACC ON → IG ON	1 V or less → 9 — 14 V
(B574) No. 7 (CODE) ↔ (B574) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal (AT model) or clutch pedal (MT model) released.	1 V or less
	Waveform	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch*1	Waveform 2
(B574) No. 9 (TXCT) ↔ (B574) No. 24 (AGND)	Voltage	30 seconds or more have passed after the door was opened or closed with IG OFF and the brake pedal (AT model) or clutch pedal (MT model) released.	1 V or less
	Waveform	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch*1	Waveform 3
(B574) No. 10 (CG2B) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(B574) No. 11 (CLG2) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(B574) No. 12 (CLG1) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(B574) No. 13 (CG1B) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, all doors locked by lock operation with wireless remote control, access key not in passenger room	No pulse output → Pulse output detected
(B574) No. 19 (POS1) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF → ACC or IG ON	9 — 14 V → less than 2V
(B574) No. 21 (POS2) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF → ACC or IG ON	9 — 14 V → less than 2V
(B574) No. 24 (AGND) ↔ Chassis ground	Resistance	Always	Less than 1 Ω
(B574) No. 25 (P) ↔ (B572) No. 11 (E) (AT model only)	Voltage	Except for shift positions P → Shift position P	9 — 14 V or more → 1.5 V or less



Control Module I/O Signal

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Terminal No.	Item	Measuring condition	Standard
(B574) No. 26 (SLP) ↔ (B572) No. 11 (E)	Voltage	With ignition switch OFF and shift position P, Steering lock → Steering unlock	11 — 14 V → 1.2 V or less
(B574) No. 27 (SPD) ↔ Chassis ground	Pulse	Driving at approx. 5 km/h	Pulse generation according to vehicle speed (approx. 5 km/h: 3.54 Hz)
(B574) No. 28 (SSW1) ↔ (B572) No. 11 (E)	Voltage	Push button ignition switch released → pressed	11 — 14 V → 1 V or less
(B574) No. 29 (SLR+) ↔ (B572) No. 11 (E)	Voltage	When the following conditions are met, the doors are closed → opened, and steering lock motor is driven - Steering lock is unlocked - IG OFF - Shift position P	11 — 14 V (Steering lock motor is stopped) → 1 V or less (Steering lock motor is driven)
(B574) No. 30 (SSW2) ↔ (B572) No. 11 (E)	Voltage	Push button ignition switch released → pressed	11 — 14 V → 1 V or less
(B573) No. 1 (CG8B) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, trunk or rear gate opener button OFF → ON	No pulse output → Pulse output detected
(B573) No. 2 (CLG8) ↔ (B572) No. 11 (E)	Pulse	ACC and IG OFF, all doors closed, trunk or rear gate opener button OFF → ON	No pulse output → Pulse output detected
(B573) No. 5 (RCO) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF, access key is locked or unlock switch OFF → ON	1 V or less → 4.5 — 5.5 V
(B573) No. 8 (CG7B) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B573) No. 9 (CLG7) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B573) No. 19 (RSSI) ↔ (B572) No. 11 (E)	Voltage	All doors closed, all doors locked, access key is locked or unlock switch OFF → ON	11 — 14 V → 2 V or less
(B573) No. 27 (TSW5) ↔ (B572) No. 11 (E)	Pulse/voltage	ACC and IG OFF, all doors locked, trunk or rear gate lock button OFF → ON	9 V or more → less than 2 V
(B572) No. 9 (IG2D) ↔ (B572) No. 11 (E)	Voltage	ACC ON → IG ON	1 V or less → 9 — 14 V
(B572) No. 13 (EGIO) ↔ (B572) No. 11 (E)	Voltage/pulse	IG ON	11 — 14 V → pulse generates temporarily (waveform 4)
(B574) No. 8 (TSW2) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, passenger's seat touch sensor (lock) OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(B574) No. 18 (TSW1) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, driver's seat touch sensor (lock) OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(B574) No. 23 (SEN2) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, passenger's seat touch sensor (unlock) OFF → ON	9 V or more → less than 2 V (→ 9 V or more)
(B574) No. 22 (SEN1) ↔ (B572) No. 11 (E)	Voltage	ACC and IG OFF, all doors closed, all doors locked, access key carried, driver's seat touch sensor (unlock) OFF → ON	9 V or more → less than 2 V (→ 9 V or more)

Control Module I/O Signal

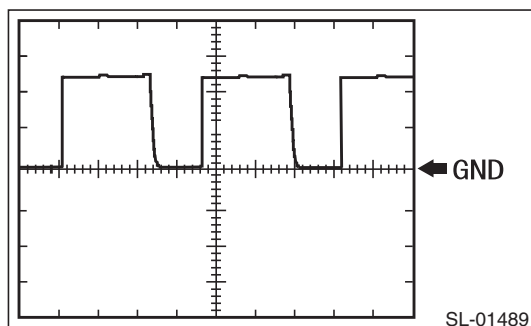
KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Terminal No.	Item	Measuring condition	Standard
(B574) No. 16 (SWIL) ↔ (B572) No. 11 (E)	Voltage	When illumination of start switch goes off, the headlight is OFF → ON, after setting the illumination control to MAX	Less than 2 V → 9 V or more
(B574) No. 17 (TACH) ↔ Chassis ground	Waveform	While engine idling	Pulse generation (waveform 5)
(B573) No. 28 (ACCR) ↔ (B572) No. 11 (E)	Voltage	When brake pedal (AT model) or clutch pedal (MT model) depressed, push button ignition switch pressed (while cranking) → Except when cranking	Less than 2 V → 9 V or more
(B572) No. 5 (N-SW) ↔ (B572) No. 11 (E) (AT model only)	Voltage	Shift position N → other than P or N	Less than 2 V → 9 V or more
(B573) No. 10 (CG6B) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B573) No. 11 (CLG6) ↔ (B572) No. 11 (E)	Pulse	All doors closed, ACC and IG OFF, access key not in passenger room, touch sensor (lock) OFF → ON	No pulse output → Pulse output detected
(B572) No. 17 (RDA) ↔ (B572) No. 11 (E)	Pulse	All doors closed, all doors locked, access key is locked or unlock switch OFF → ON	2 V or less → 11 — 14 V → 2 V or less
(B572) No. 7 (STSW) ↔ (B572) No. 11 (E)	Voltage	Shift lever is in position P or position N and access key is in passenger room. While depressing the brake pedal (AT model) or clutch pedal (MT model), press the push button ignition switch. (Engine start)	Less than 2 V → 9 V or more
(B572) No. 3 (INDS) ↔ (B572) No. 11 (E)	Voltage	Depress the brake pedal (AT model) or clutch pedal (MT model).	9 V or more
(B574) No. 18 (INDW) ↔ (B572) No. 11 (E)	Voltage	With ACC ON or IG ON, brake pedal (AT model) or clutch pedal (MT model) not depressed	9 V or more

NOTE:

*1: Remove the access key battery before checking.

1. Waveform 1

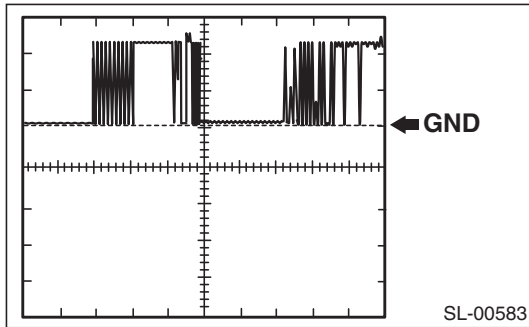


Item	Content
Measured terminal	(B574) No. 1 (VC5) ↔ (B574) No. 24 (AGND)
Equipment setting	2 V/DIV, 200 ms/DIV
Measuring condition	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.

Control Module I/O Signal

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

2. Waveform 2

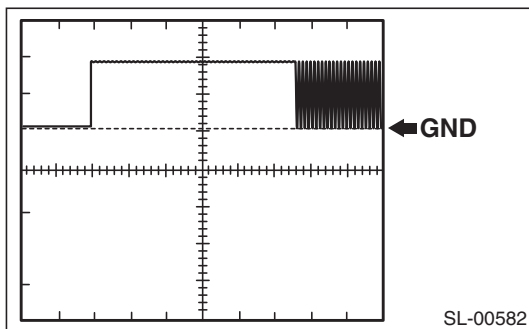


Item	Content
Measured terminal	(B574) No. 7 (CODE) ↔ (B574) No. 24 (AGND)
Equipment setting	2 V/DIV, 20 ms/DIV
Measuring condition	Turn the ignition switch to OFF and with the access key near the push button ignition switch, press the push button ignition switch. *1

NOTE:

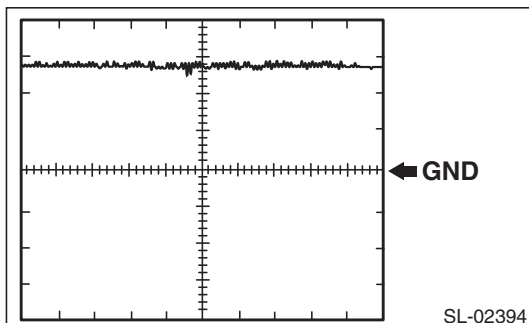
*1: Remove the access key battery before checking.

3. Waveform 3



Item	Content
Measured terminal	(B574) No. 9 (TXCT) ↔ (B574) No. 24 (AGND)
Equipment setting	2 V/DIV, 20 ms/DIV
Measuring condition	Within 30 seconds after the push button ignition switch is pressed with IG OFF and access key not in the passenger room.

4. Waveform 4

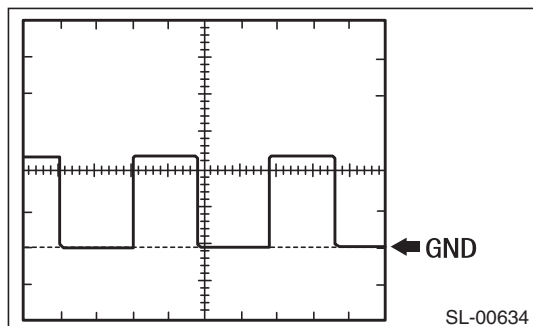


Item	Content
Measured terminal	(B572) No. 13 (EGIO) ↔ (B572) No. 11 (E)
Equipment setting	5 V/DIV, 100 ms/DIV
Measuring condition	IG ON

Control Module I/O Signal

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

5. Waveform 5

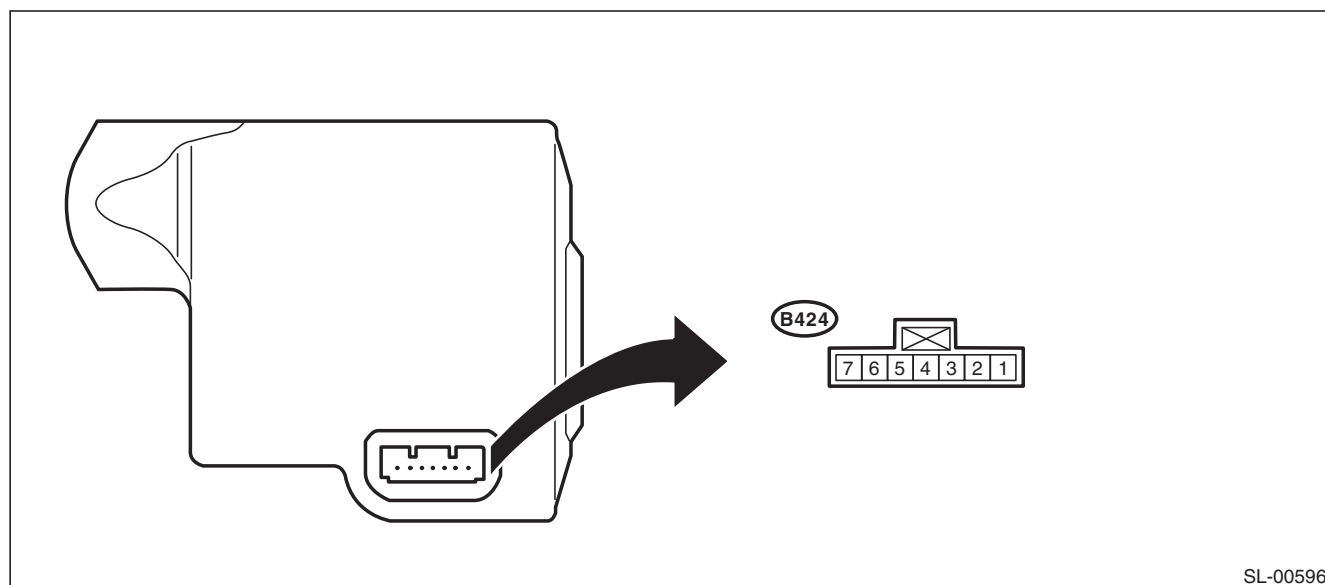


Item	Content
Equipment setting	5 V/DIV, 100 ms/DIV

2. BODY INTEGRATED UNIT

Refer to the BODY CONTROL SYSTEM (DIAGNOSTICS) for the I/O Signal of the body integrated unit. <Ref. to BC(diag)-6, ELECTRICAL SPECIFICATION, Control Module I/O Signal.>

3. STEERING LOCK CM



NOTE:

Perform the following check from the back side of the connector, with the connector of the control module connected.

If the measured value is out of standard, it is possible that the vehicle has a fault.

Terminal No.	Standard	Measuring condition	Item
1 (GND) ↔ Chassis ground	Continuity exists	Always	Continuity
—	—	—	—
3 (SLR+) ↔ Chassis ground	10 — 14 V → 1 V or less	Motor not operating → Motor operating	Voltage
4 (SLP) ↔ Chassis ground	10 — 14 V → 1 V or less	Lock → Unlock	Voltage
5 (LIN)	Input/output signal	—	—
6 (IG2) ↔ Chassis ground	10 — 14 V	Ignition ON	Voltage
7 (B) ↔ Chassis ground	10 — 14 V	Always	Voltage

B: WIRING DIAGRAM

<Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>

Subaru Select Monitor

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

6. Subaru Select Monitor

A: OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

B: COMMUNICATION FOR INITIALIZING IMPOSSIBLE

NOTE:

Confirm that the LAN system is working properly before the diagnosis.

Subaru Select Monitor communication line is open or shorted.

DETECTING CONDITION:

- Defective harness
- Power supply circuit malfunction
- Defective keyless access CM
- Defective CAN communication circuit
- Defective Subaru Select Monitor

TROUBLE SYMPTOM:

Not communicable with Subaru Select Monitor.

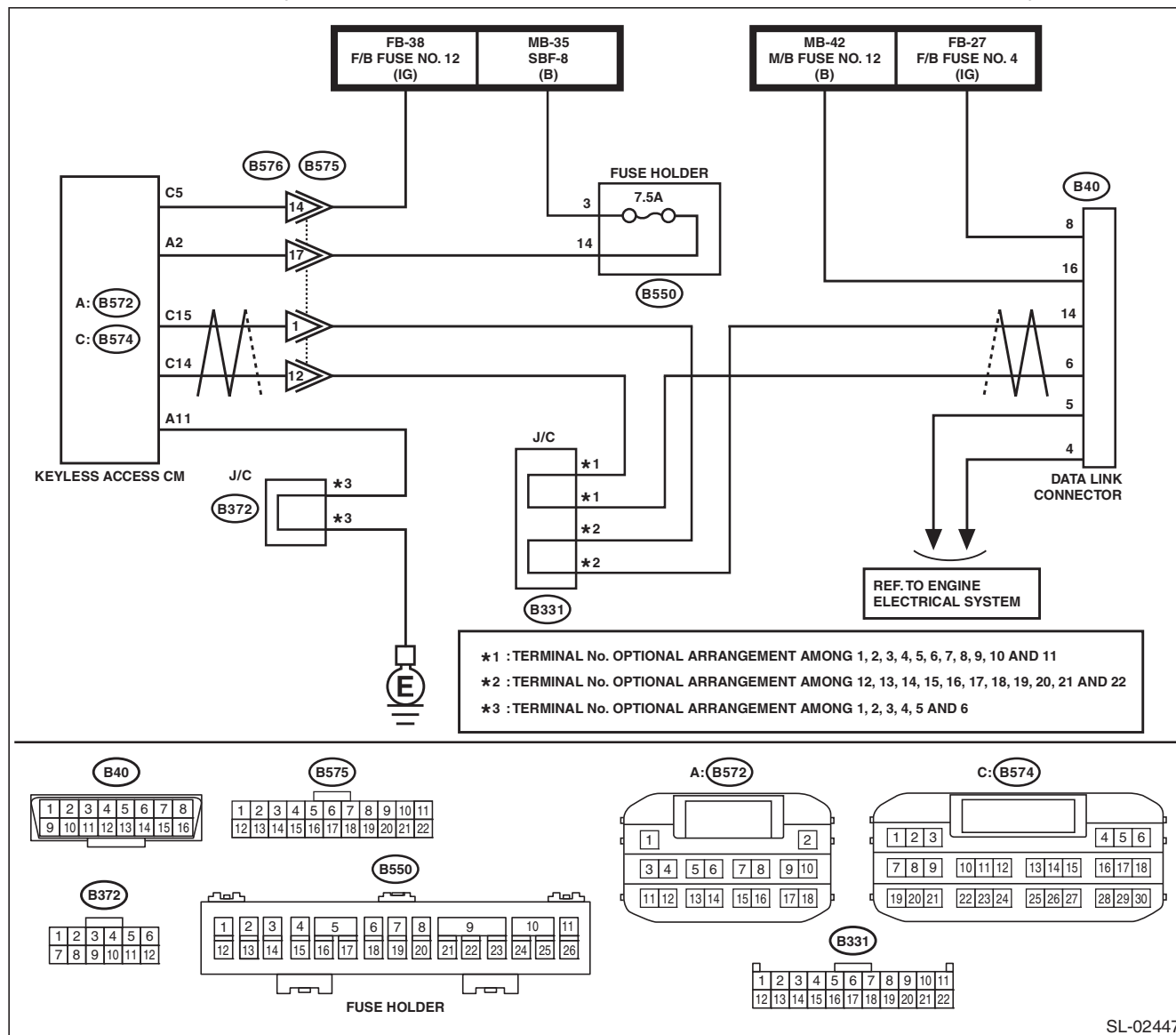


Subaru Select Monitor

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

WIRING DIAGRAM:

- Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>
- CAN communication system <Ref. to WI-96, WIRING DIAGRAM, CAN Communication System.>



SL-02447

Step	Check	Yes	No
1	CHECK OTHER COMMUNICATION. Communicate with the system other than the keyless access system using the Subaru Select Monitor.	Go to step 2.	Perform the "Communication for Initializing Impossible" of LAN system. <Ref. to LAN(diag)-11, COMMUNICATION FOR INITIALIZING IMPOSSIBLE, Subaru Select Monitor.>

Subaru Select Monitor

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
2 CHECK DTC. Read the DTC of the LAN system using the Subaru Select Monitor. <Ref. to LAN(diag)-37, OPERATION, Read Diagnostic Trouble Code (DTC).>	Is DTC detected?	Perform the diagnosis according to DTC.	Go to step 3.
3 CHECK KEYLESS ACCESS CM. 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector. 3) Connect the disconnected connectors. 4) Perform communication with the keyless access system using the Subaru Select Monitor.	Is communication possible?	It is possible that temporary poor communication occurs.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Read Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

7. Read Diagnostic Trouble Code (DTC)

A: OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

Read Current Data

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

8. Read Current Data

A: OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

B: LIST

1. Keyless access system

Items to be displayed	Unit of measure	Content	Note
Driver's unlock touch sensor switch	ON/OFF	Keyless access CM input value	ON when the touch sensor (unlock) built on the back surface of the driver's door outer handle is touched
Passenger's unlock touch sensor switch	ON/OFF	Keyless access CM input value	ON when the touch sensor (unlock) built on the back surface of the passenger's door outer handle is touched
Driver's lock touch sensor SW	ON/OFF	Keyless access CM input value	ON when the touch sensor (lock) built on the surface of the driver's door outer handle is touched
Passenger's lock touch sensor SW	ON/OFF	Keyless access CM input value	ON when the touch sensor (lock) built on the surface of the passenger's door outer handle is touched
Rear Gate Request SW	ON/OFF	Keyless access CM input value	ON when rear lock button is pressed
IGN SW	ON/OFF	Keyless access CM input value	ON when ignition is ON
B/up fuse	Connecting/ Not connected	Keyless access CM internal value	When backup fuse is connected/connecting
ACC SW	ON/OFF	Keyless access CM input value	ON when accessory or ignition is ON
Incorrect vehicle ID	Yes/No	Keyless access CM internal value	Yes when the access key is different when keyless access is performed
No response	Yes/No	Keyless access CM internal value	Yes when there is no response from the access key when keyless access is performed
Incorrect response code, format	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Exhausted battery	Yes/No	Keyless access CM internal value	Yes if the access key battery is depleted
Incorrect response code, ID code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect response code, collation result	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect ID code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Incorrect rolling code	Yes/No	Keyless access CM internal value	Yes if the response from the access key differs when keyless access is performed
Smart Cancel	Cancel/Normal	Keyless access CM internal value	Cancel in the keyless access function stopped condition
ID Code Box W/H Connection State	Connecting/ Not connected	Keyless access CM internal value	When ID code box is connected/connecting
ID Code Box Existence Judging	ON/OFF/Existence Judging	Keyless access CM internal value	
Immobilizer	Set/Unset	Keyless access CM internal value	
Remote engine starter communication ID confirmation	Collation NG/ Collation OK	Keyless access CM internal value	OK when ID collation with remote control engine starter succeeds
Remote engine starter code registration confirmation	Collation NG/ Collation OK	Keyless access CM internal value	OK when remote control engine starter is already registered
STLC sleep possible status	Possible/ Impossible	Steering lock CM internal value	
STLC wake-up transmission status	Transmission/No transmission	Steering lock CM internal value	



Read Current Data

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Items to be displayed	Unit of measure	Content	Note
Lock side sensor status	ON/OFF	Steering lock CM internal value	ON when steering lock is locked
Unlock side sensor status	ON/OFF	Steering lock CM internal value	ON when steering lock is unlocked
Lock confirmation	Confirmed/ Unconfirmed	Steering lock CM internal value	Confirmed when steering lock is locked
Unlock confirmation	Confirmed/ Unconfirmed	Steering lock CM internal value	Confirmed when steering lock is unlocked
Sensor initialization	Completed/ Not Completed	Steering lock CM internal value	
Motor protection control status	Rejected range/ Permitted range	Steering lock CM internal value	
Motor operation prohibition voltage evaluation	ON/OFF	Steering lock CM internal value	
Diagnosis response	Normal/ Response	Steering lock CM internal value	
Sensor abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor power supply short-circuit abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor driver short-circuit abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Lock bar engagement abnormal	Normal/Abnormal	Steering lock CM internal value	ON when the steering lock bar has experienced interference
Push start abnormal	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Lock side relay operation	Stopped/ Activating	Steering lock CM internal value	
Unlock side relay operation	Stopped/ Activating	Steering lock CM internal value	
Motor drive FET drive	Stopped/ Activating	Steering lock CM internal value	
Motor reversal protection control	Stopped/ Activating	Steering lock CM internal value	
Engine start	Engine start permission/Engine start prohibition	Steering lock CM internal value	Permission when ignition ON
Sensor abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor power supply short-circuit abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Motor driver short-circuit abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
Steering lock lock/unlock command reception history	ON/OFF	Steering lock CM internal value	ON when steering lock is locked → unlocked, unlocked → locked
Lock bar engagement abnormal (past)	ON/OFF	Steering lock CM internal value	ON when the steering lock bar has experienced interference in the past
Push start abnormal (past)	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
STLC Abnormal EEPROM access	Normal/Abnormal	Steering lock CM internal value	Abnormal when a trouble occurs in steering lock CM
ID code BOX sleep possible status	Impossible/ Possible	Keyless access CM internal value	
ID code BOX wake-up transmission status	No transmission/ Transmission	Keyless access CM internal value	
ID code BOX Abnormal EEPROM access (now)	Normal/Abnormal	Keyless access CM internal value	



Read Current Data

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Items to be displayed	Unit of measure	Content	Note
EGI code reception status	Reception/ Not yet received	Keyless access CM internal value	Reception at engine start operation
Engine start permission request reception status	Reception/ Not yet received	Keyless access CM internal value	Reception at ignition ON
Provisional injection request reception status	Reception/ Not yet received	Keyless access CM internal value	Reception at ignition ON
Code collation result between smart ECM and ID code box	Normal/Abnormal	Keyless access CM internal value	Normal when engine start is allowed
Code collation result between steering locked ECM and ID code box	Normal/Abnormal	Keyless access CM internal value	Normal when steering lock operation allowed
Steering lock unlock request reception status	Reception (keep 10 sec)/ Not yet received	Keyless access CM internal value	Reception when steering lock is performing unlock
Steering lock lock request reception status	Reception (keep 10 sec)/ Not yet received	Keyless access CM internal value	Reception when steering lock is performing lock
Driver's external transmitter output circuit abnormal	Normal/Abnormal	Keyless access CM internal value	Abnormal when a trouble occurs in transmitter output circuit
Passenger's external transmitter output circuit abnormal	Normal/Abnormal	Keyless access CM internal value	Abnormal when a trouble occurs in transmitter output circuit
Driver's external transmitter output circuit abnormal (past)	Normal/Abnormal	Keyless access CM internal value	Abnormal when a trouble occurs in transmitter output circuit in the past
Passenger's external transmitter output circuit abnormal (past)	Normal/Abnormal	Keyless access CM internal value	Abnormal when a trouble occurs in transmitter output circuit in the past
ID code registration mode status	Normal/Regist./ Deletion	—	For immobilizer registration
Smart related ECM code registration mode status	On mode/Normal		
ID code collation completion confirmation	Completed/ Normal		
ID code registration completion confirmation	Completed/ Normal		
Smart related ECM code registration completion confirmation	Completed/ Normal		
Registered smart key confirmation status	Confirming/ Normal		
Smart related ECM code confirmation status	Confirming/ Normal		
ID code registration status	Registering/ Normal		
ID code collation status	Normal/Collating the immobilizer/ Collating the smart		
All registered keys confirmation status	Confirming/ Normal		
Confirmed number of all registered keys	0 — 7		
Number of required registrations (smart)	0 — 7		
Number of collation completed (smart)	0 — 7		

Read Current Data

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Items to be displayed	Unit of measure	Content	Note
Number of registration completed (smart)	0 — 7	Keyless access CM internal value	Number of recognized keyless access CM
ID Code Box	Connecting/ Not connected	Keyless access CM internal value	Connecting with ID code box normal connection
Steering Lock ECM	Connecting/ Not connected	Keyless access CM internal value	Connecting with steering lock CM normal connection
Driver's lock request SW/ touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	The display is continued when the collation is once established by the combination indicated on the left. NOTE: When confirming the data on the left, confirm after performing Keyless access system check. <Ref. to KPS(diag)-28, Keyless Access System Check.>
Passenger's unlock request SW/touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Rear gate lock request SW ON edge history	ON/OFF	Keyless access CM internal value	
Driver's unlock touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Passenger's unlock touch sensor switch ON edge record	ON/OFF	Keyless access CM internal value	
Collation OK result history (driver's external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (passenger's external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (front interior transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear interior transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear gate internal transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (rear gate external transmitter + interior tuner)	ON/OFF	Keyless access CM internal value	
Collation OK result history (immobilizer amplifier + immobilizer amplifier)	ON/OFF	Keyless access CM internal value	
Push start SW 1	ON/OFF	Keyless access CM input value	ON when push button start is pressed
Push start SW 2	ON/OFF	Keyless access CM input value	ON when push button start is pressed
Stop Light Switch	ON/OFF	Keyless access CM input value	ON when brake pedal is depressed
Steering Unlock Switch	ON/OFF	Keyless access CM input value	OFF when steering locked
Shift P signal(AT only)	ON/OFF	Keyless access CM input value	ON when the shift position is "P"
Neutral SW/Clutch SW	ON/OFF	Keyless access CM output value	ON when the shift position is at "P" or "N"
Shift N signal(AT only)	ON/OFF	Keyless access CM input value	ON when the shift position is "N"
Delivery mode signal(AT only)	ON/OFF	Keyless access CM input value	
IGN2 relay monitor (drive output)	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
IGN1 relay monitor (drive output)	ON/OFF	Keyless access CM output value	ON during IG relay 1 (push button start) drive output
ACC relay monitor	ON/OFF	Keyless access CM output value	ON during accessory relay (push button start) drive output



Read Current Data

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Items to be displayed	Unit of measure	Content	Note
IGN2 relay monitor (coil voltage)	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
IGN1 relay monitor (coil voltage)	ON/OFF	ON during IG relay 1 (push button start) drive output	ON during IG relay 1 (push button start) drive output
IGN latch monitor	ON/OFF	Keyless access CM output value	ON during IG relay 2 (push button start) drive output
STSW signal monitor	ON/OFF	Keyless access CM output value	ON when brake pedal (except MT model) or clutch pedal (MT model) is depressed, and push button ignition switch is pressed
ACCR signal	ON/OFF	Keyless access CM input value	ON during starter relay drive output
Vehicle speed signal	Drive status/Stop status	Keyless access CM input value	Set as "Drive status" when vehicle speed is input
Engine Speed	Rotating/Stopped	Keyless access CM input value	Set as "Rotating" while the engine is running
Power supply status	All OFF status	Keyless access CM output value	Displayed when IG relay 1 (push button start), IG relay 2 (push button start), and accessory relay (push button start) are all OFF
	ACC relay ON status	Keyless access CM output value	Displayed when accessory ON
	IGN1 relay ON status	Keyless access CM output value	Displayed when ignition ON
	IGN2 relay ON status	Keyless access CM output value	Displayed when ignition ON
	STSW Condition	Keyless access CM output value	Displayed when brake pedal (except MT model) or clutch pedal (MT model) is depressed, and push button ignition switch is pressed
Vehicle identification	GAS MT/GAS AT/HEV AT/Auto Start Stop MT/Auto Start Stop AT	Keyless access CM output value	Equipped vehicle is displayed.
IGN1 external circuit abnormal	No/Yes	Keyless access CM output value	
IGN2 external circuit abnormal	No/Yes	Keyless access CM output value	
Start SW trouble	No/Yes	Keyless access CM output value	
P signal mismatch	No/Yes	Keyless access CM output value	Detected when P signals are inconsistent between CAN line and direct line.
Steering lock release delay time-out	No/Yes	Keyless access CM output value	
Key collation waiting time out	No/Yes	Keyless access CM output value	

2. Body integrated unit

Refer to the BODY CONTROL SYSTEM (DIAGNOSTICS) for the current data of the body integrated unit.
<Ref. to BC(diag)-11, LIST, Read Current Data.>

Clear Memory Mode

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

9. Clear Memory Mode

A: OPERATION

For operation procedures, refer to the "PC application help for Subaru Select Monitor".

NOTE:

Initial diagnosis of electronic throttle control is performed after memory clearance. Wait for 10 seconds or more after turning the ignition switch to ON, and then start the engine.

Keyless Access System Check

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

10. Keyless Access System Check

A: OPERATION

- 1) On «Main Menu» display, select {Each System Check}.
- 2) On «System Selection Menu» display, select {Keyless access system}.
- 3) On «Keyless access system» display, select {Work Support}.
- 4) Select {Function Check Sequence}.
- 5) Select {Keyless access system check}.
- 6) Select the transmitter to be checked and click [OK].
- 7) Select [Exit] to exit the system check. The screen will return to the «Keyless access system check» screen.

Data	Customize setting	Remarks
Keyless access system check	Driver side external transmitter — internal tuner	When the setting content on the left is selected, the access key is neared to the selected transmitter (access antenna) and collation matches, the buzzer will sound.
	Passenger side external transmitter — internal tuner	
	Fr internal transmitter — internal tuner	
	Rr internal transmitter — internal tuner	
	R gate internal transmitter — internal tuner	
	R gate external transmitter — internal tuner	
	Immobilizer amplifier transmission	
Collation result history	Execution	
Clear	—	

NOTE:

For detailed operation procedures, refer to “PC application help for Subaru Select Monitor”.



System Operation Check Mode

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

11. System Operation Check Mode

A: OPERATION

- 1) On «Main Menu» display, select {Each System Check}.
- 2) On «System Selection Menu» display, select {Keyless access system}.
- 3) On «Keyless access system» display, select {Work Support}.
- 4) Select {System Operation Check Mode}.
- 5) Select the check point and click [OK].
- 6) Select [Exit] to exit the drive item mode. The screen will return to the «Drive item» screen.

NOTE:

Each output check continues to run for five seconds before stopping automatically.

Data	Keyless access CM output check	Remarks
Tuner power supply ON (indoor tuner)	Output	Perform the power supply check for the receiver.
	Stop	
Driver seat sensor power supply	Output	Perform check of the power supply for the driver's seat sensor.
	Stop	
Passenger seat sensor power supply	Output	Perform check of the power supply for the passenger's seat sensor.
	Stop	
STSW	Output	Turn on the STSW. *2
	Stop	
IGN2	Output	Turn on the IGN2.
	Stop	
IGN1	Output	Turn on the IGN1.
	Stop	
ACC	Output	Turn on the ACC.
	Stop	
Start SW character illumination lighted	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Start SW indicator lighted (green)	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Start SW indicator lighted (orange)	Output	Perform ON output of the push button ignition switch back-up light. *1
	Stop	
Steering lock power supply	Output	Output power supply signal from power supply CM to steering lock CM.
	Stop	

*1: When lit by a condition other than for a system operation check mode, it will not become unlit even when set to OFF or no output.

*2: When performed with IGN ON, engine will start. Therefore, great care must be exercised.

NOTE:

For detailed operation procedures, refer to "PC application help for Subaru Select Monitor".

List of Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

12. List of Diagnostic Trouble Code (DTC)

A: LIST

1. Keyless access system

DTC	Item	Content of diagnosis	Note
U0073	Control Module Communication Bus "A" Off	Detected when CAN line abnormality is detected.	<Ref. to KPS(diag)-34, DTC U0073 CONTROL MODULE COMMUNICATION BUS "A" OFF, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0100	Lost Communication With ECM/PCM "A"	Detected when CAN data from the engine control module (ECM) does not arrive.	<Ref. to KPS(diag)-34, DTC U0100 LOST COMMUNICATION WITH ECM/PCM "A", Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0101	Lost Communication With TCM	Detected when CAN data from TCM does not arrive.	<Ref. to KPS(diag)-34, DTC U0101 LOST COMMUNICATION WITH TCM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0122	Lost Communication With Vehicle Dynamics Control Module	Detected when CAN data from VDC does not arrive.	<Ref. to KPS(diag)-34, DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0140	Lost Communication With Body Control Module	Detected when CAN data from BIU does not arrive.	<Ref. to KPS(diag)-34, DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	Detected when CAN data from meter does not arrive.	<Ref. to KPS(diag)-34, DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0401	Invalid Data Received From ECM/PCM "A"	Detected when there is malfunction in CAN data from the engine control module (ECM).	<Ref. to KPS(diag)-34, DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM "A", Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
U0422	Invalid Data Received From Body Control Module	Detected when CAN data from BIU is abnormal.	<Ref. to KPS(diag)-34, DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1242	Wireless Tuner Abnormal	When short circuit occurs in harness between keyless access CM and receiver.	<Ref. to KPS(diag)-35, DTC B1242 WIRELESS TUNER ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2271	IGN Fuse Blown or IGN Circuit Abnormal	- When malfunction is detected in IG1 and IG2 drive circuits in the keyless access CM. - When malfunction is detected in IG hold circuit in the keyless access CM.	<Ref. to KPS(diag)-37, DTC B2271 IGN FUSE BLOWN OR IGN CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2274	ACC Monitor	When malfunction is detected in ACC relay drive circuit in the keyless access CM or external circuit.	<Ref. to KPS(diag)-39, DTC B2274 ACC MONITOR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2275	STSW Circuit Abnormal	- When malfunction is detected in engine start permission signal output circuit in the keyless access CM. - When malfunction is detected in external engine start permission signal circuit.	<Ref. to KPS(diag)-41, DTC B2275 STSW CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>



List of Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

DTC	Item	Content of diagnosis	Note
B2276	ACCR Signal Abnormal	When input error occurs in accessory relay cut input signal of keyless access CM.	<Ref. to KPS(diag)-43, DTC B2276 ACCR SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2277	Submerging Circuit Abnormal	When the water-submersion detection circuit integrated into the keyless access CM detects the water submersion.	<Ref. to KPS(diag)-45, DTC B2277 SUBMERGING CIRCUIT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2282	Vehicle Speed Signal Abnormal	When the vehicle speed signal transmitted from the combination meter via solid line and the vehicle speed signal transmitted via CAN communication line do not match.)	<Ref. to KPS(diag)-46, DTC B2282 VEHICLE SPEED SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2283	Vehicle Speed Sensor Fault Detection	Either of the following malfunctions is detected. (Vehicle speed sensor failure is detected.) - Vehicle speed signal failure detection 1: Excessive deceleration detection - Vehicle speed signal failure detection 2: Engine speed interlock detection	<Ref. to KPS(diag)-48, DTC B2283 VEHICLE SPEED SENSOR FAULT DETECTION, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2284	Brake Signal (Cable-Information Does Not Match to Bean-Information)	When the brake signal transmitted via solid line and the brake signal transmitted via CAN communication line do not match. (only for AT models)	<Ref. to KPS(diag)-50, DTC B2284 BRAKE SIGNAL (CABLE-INFORMATION DOES NOT MATCH TO BEAN-INFORMATION), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2285	Steering Lock Position Signal Abnormal	When the steering lock position signal transmitted from the steering lock CM via solid line and the steering lock position signal transmitted via LIN communication system do not match.	<Ref. to KPS(diag)-52, DTC B2285 STEERING LOCK POSITION SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2286	Driving Possible Signal Abnormal	When the engine speed signal transmitted from the ECM via solid line and the engine speed signal transmitted via CAN communication line do not match. (Without Auto Start Stop)	<Ref. to KPS(diag)-55, DTC B2286 DRIVING POSSIBLE SIGNAL ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2779	Remote Control Engine Starter Communication Collation NG	When the keyless access CM does not respond to engine start even when the remote control engine starter is ON, or when there is a code mismatch.	<Ref. to KPS(diag)-58, DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2781	Steering Lock ECU Open/Short	- When malfunction is detected in lock/unlock position detection sensor. - When the open or short circuit in the steering lock motor drive circuit is detected.	<Ref. to KPS(diag)-58, DTC B2781 STEERING LOCK ECU OPEN/SHORT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2782	Steering Lock Power Supply Circuit Abnormal (Smart ECU-Side Abnormal)	When the open or short circuit in the steering lock motor power supply circuit is detected.	<Ref. to KPS(diag)-59, DTC B2782 STEERING LOCK POWER SUPPLY CIRCUIT ABNORMAL (SMART ECU-SIDE ABNORMAL), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>



List of Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

DTC	Item	Content of diagnosis	Note
B2784	Antenna Coil Fault	When open or short circuit occurs in the antenna coil.	<Ref. to KPS(diag)-61, DTC B2784 ANTENNA COIL FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2785	LIN Communication Error	When the keyless access CM detects the collation system LIN bus communication error three times in a row.	<Ref. to KPS(diag)-62, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2786	No Response From Steering Lock ECU	When communication between keyless access CM and steering lock CM is interrupted for a set amount of time.	<Ref. to KPS(diag)-64, DTC B2786 NO RESPONSE FROM STEERING LOCK ECU, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B2788	IGN1 Input Abnormal	When mismatch occurs in the IG1 input of the steering lock CM between LIN communication line input and solid line input.	<Ref. to KPS(diag)-66, DTC B2788 IGN1 INPUT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B278A	Abnormal Immobilizer Power Supply	When the power supply circuit of the push button ignition switch is shorted to ground.	<Ref. to KPS(diag)-68, DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B278D	ID Code Box Recognition Judgment Abnormal	- When ID code box ON input is detected while the ID code box setting is set to OFF. - When ID code box LIN signal is received while the ID code box setting is set to OFF.	<Ref. to KPS(diag)-70, DTC B278D ID CODE BOX RECOGNITION JUDGMENT ABNORMAL, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A1	Driver Side External Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and driver's side front door outer handle.	<Ref. to KPS(diag)-71, DTC B27A1 DRIVER SIDE EXTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A2	Passenger Side External Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and passenger's side front door outer handle.	<Ref. to KPS(diag)-73, DTC B27A2 PASSENGER SIDE EXTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A5	Front Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and front interior antenna.	<Ref. to KPS(diag)-75, DTC B27A5 FRONT INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A6	Rear Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear interior antenna.	<Ref. to KPS(diag)-77, DTC B27A6 REAR INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A7	Trunk/Rear Gate Internal Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear interior antenna.	<Ref. to KPS(diag)-79, DTC B27A7 TRUNK/ REAR GATE INTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B27A8	Trunk/Rear Gate External Antenna Output Stage Open	When open circuit occurs in the harness between keyless access CM and rear exterior antenna.	<Ref. to KPS(diag)-81, DTC B27A8 TRUNK/ REAR GATE EXTERNAL ANTENNA OUTPUT STAGE OPEN, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

List of Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

2. Immobilizer (ECM)

DTC	Item	Content of diagnosis	Note
B1571	Reference Code Incompatibility	Reference code incompatibility between keyless access CM and ECM	<Ref. to KPS(diag)-83, DTC B1571 REFERENCE CODE INCOMPATIBILITY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1572	IMM Circuit Failure (Except Antenna Circuit)	Communication error between keyless access CM and ECM	<Ref. to KPS(diag)-84, DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT), Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1576	EGI Control Module EEPROM	ECM malfunctioning	<Ref. to KPS(diag)-86, DTC B1576 EGI CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>
B1577	IMM Control Module EEPROM	Keyless access CM malfunctioning	<Ref. to KPS(diag)-87, DTC B1577 IMM CONTROL MODULE EEPROM, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

13. Diagnostic Procedure with Diagnostic Trouble Code (DTC)

A: DTC U0073 CONTROL MODULE COMMUNICATION BUS "A" OFF

Detected when CAN line abnormality is detected.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

B: DTC U0100 LOST COMMUNICATION WITH ECM/PCM "A"

Detected when CAN data from the engine control module (ECM) does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

C: DTC U0101 LOST COMMUNICATION WITH TCM

Detected when CAN data from TCM does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

D: DTC U0122 LOST COMMUNICATION WITH VEHICLE DYNAMICS CONTROL MODULE

Detected when CAN data from VDC does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

E: DTC U0140 LOST COMMUNICATION WITH BODY CONTROL MODULE

Detected when CAN data from BIU does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

F: DTC U0155 LOST COMMUNICATION WITH INSTRUMENT PANEL CLUSTER (IPC) CONTROL MODULE

Detected when CAN data from meter does not arrive.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

G: DTC U0401 INVALID DATA RECEIVED FROM ECM/PCM "A"

Detected when there is malfunction in CAN data from the engine control module (ECM).

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

H: DTC U0422 INVALID DATA RECEIVED FROM BODY CONTROL MODULE

Detected when CAN data from BIU is abnormal.

NOTE:

Perform the diagnosis for LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

I: DTC B1242 WIRELESS TUNER ABNORMAL

DTC DETECTING CONDITION:

When short circuit occurs in harness between keyless access CM and receiver.

TROUBLE SYMPTOM:

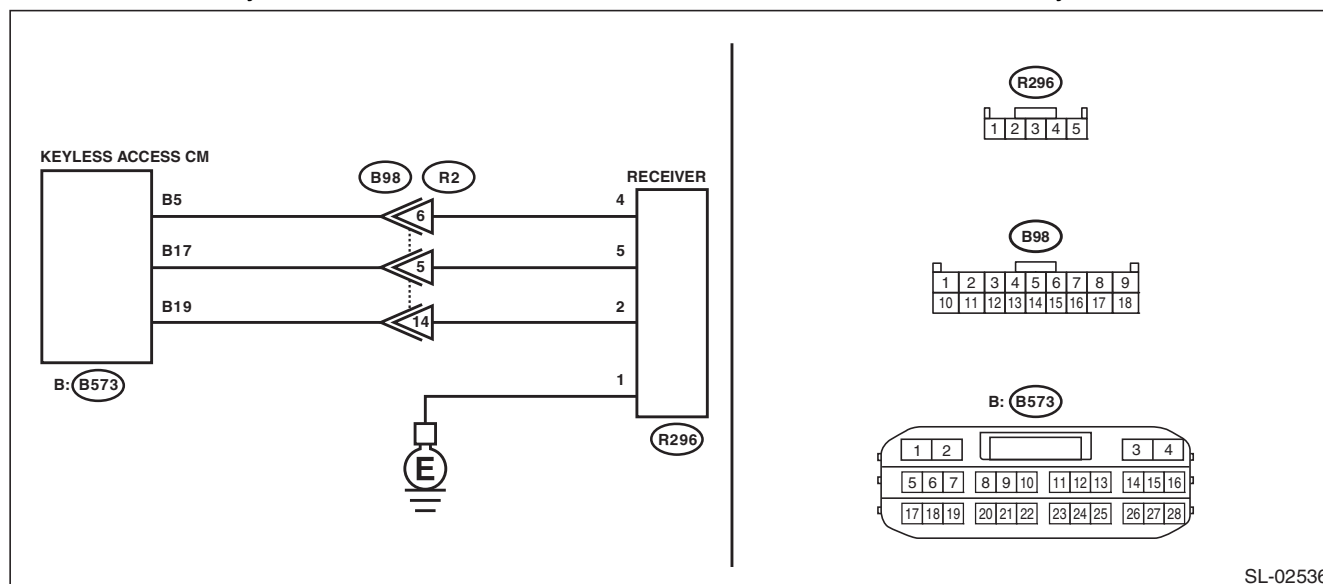
- The keyless access with push button start function (except for emergency function) does not operate properly.
- Operation by the access key button does not function.

CAUTION:

- For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IM-MOBILIZER”.
- When the harness comes close to the receiver, the performance of keyless access system operation and wireless operation may reduce. So, when replacing or inspecting the receiver and harness, do not change the route and length of the surrounding harnesses.

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the receiver connector. 3) Using the tester, measure the resistance between terminals of keyless access CM connector and receiver connector, and keyless access CM connector and chassis ground. Connector & terminal (B573) No. 19 — (R296) No. 2: (B573) No. 17 — (R296) No. 5: (B573) No. 5 — (R296) No. 4: (R296) No. 1 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 3.	Repair or replace the open circuit of harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B573) No. 19 — Chassis ground:</i> <i>(B573) No. 17 — Chassis ground:</i> <i>(B573) No. 5 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 4.	Repair or replace the short circuit of the harness.
4 CHECK RECEIVER. 1) Replace the receiver, and then connect it. 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B1242 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Receiver has a malfunction.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

J: DTC B2271 IGN FUSE BLOWN OR IGN CIRCUIT ABNORMAL

DTC DETECTING CONDITION:

- When malfunction is detected in IG1 and IG2 drive circuits in the keyless access CM.
- When malfunction is detected in IG hold circuit in the keyless access CM.

TROUBLE SYMPTOM:

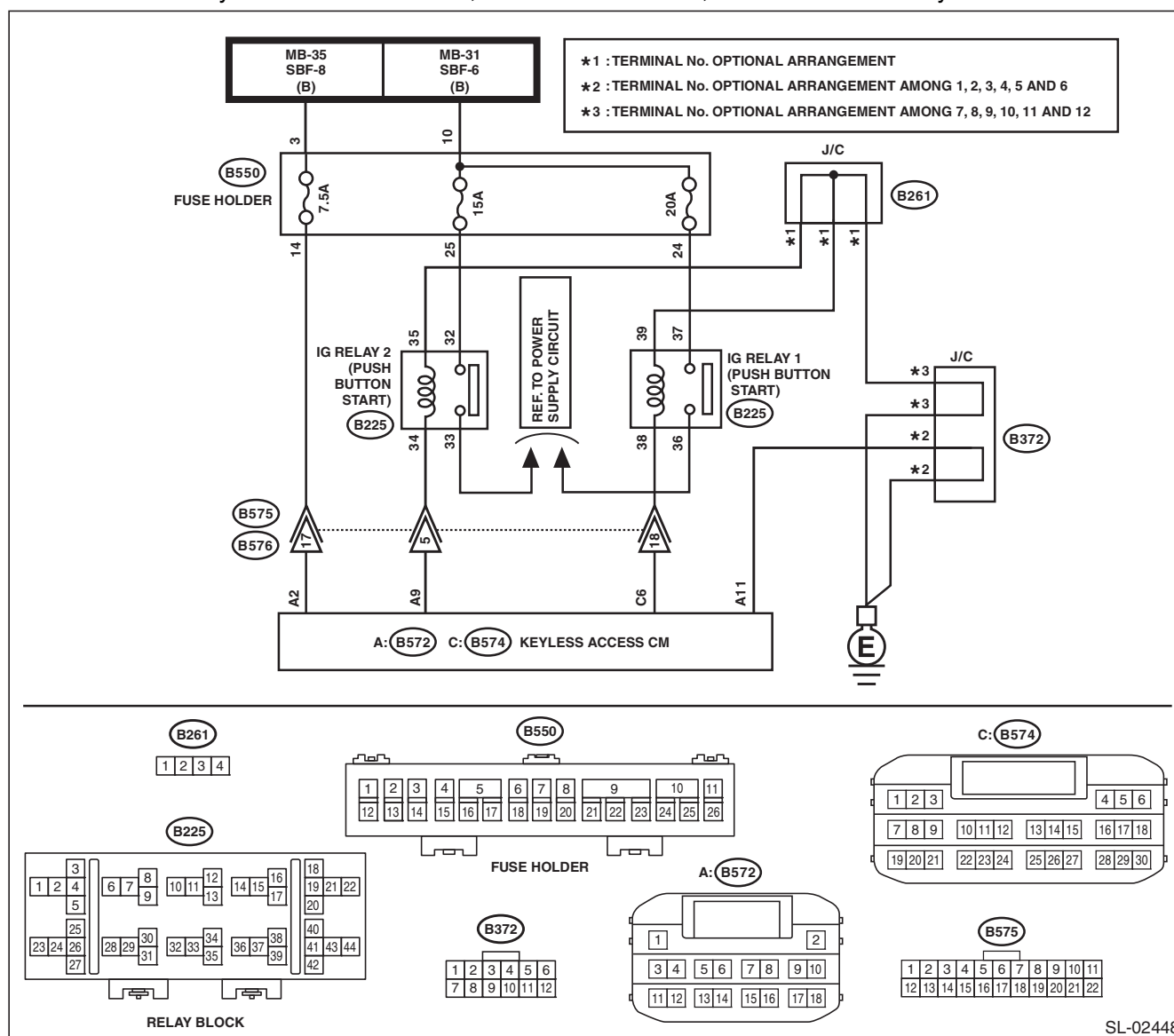
Not all functions operate at IGN ON.

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



SL-02448

Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal? Go to step 2.	Perform the inspection according to the diagnosis for LAN system.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
2 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 3.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
3 CHECK 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 9.5 — 16 V?	Go to step 4.	Check the power supply circuit.
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 9 — Chassis ground:	Is resistance 128 — 157 Ω? (20°C)	Go to step 6.	Check IG relay 2. Go to step 7.
6 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 6 — Chassis ground:	Is resistance 128 — 157 Ω? (20°C)	Go to step 8.	Check IG relay 1. Go to step 7.
7 CHECK RELAY. Perform unit inspection of IG relay 1 and IG relay 2. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>	Is the relay OK?	Go to step 8.	Replace the relay. <Ref. to SL-101, REMOVAL, IG Relay1 (Push Button Start).> <Ref. to SL-103, REMOVAL, IG Relay2 (Push Button Start).>
8 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between the terminals of keyless access CM connector. Connector & terminal (B574) No. 6 (+) — Chassis ground (-): (B572) No. 9 (+) — Chassis ground (-):	Is the voltage 1 V or less → 9.5 — 16 V when ACC → IGN ON?	System is normal. It is possible that temporary poor contact occurs.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

K: DTC B2274 ACC MONITOR

DTC DETECTING CONDITION:

When malfunction is detected in ACC relay drive circuit in the keyless access CM or external circuit.

TROUBLE SYMPTOM:

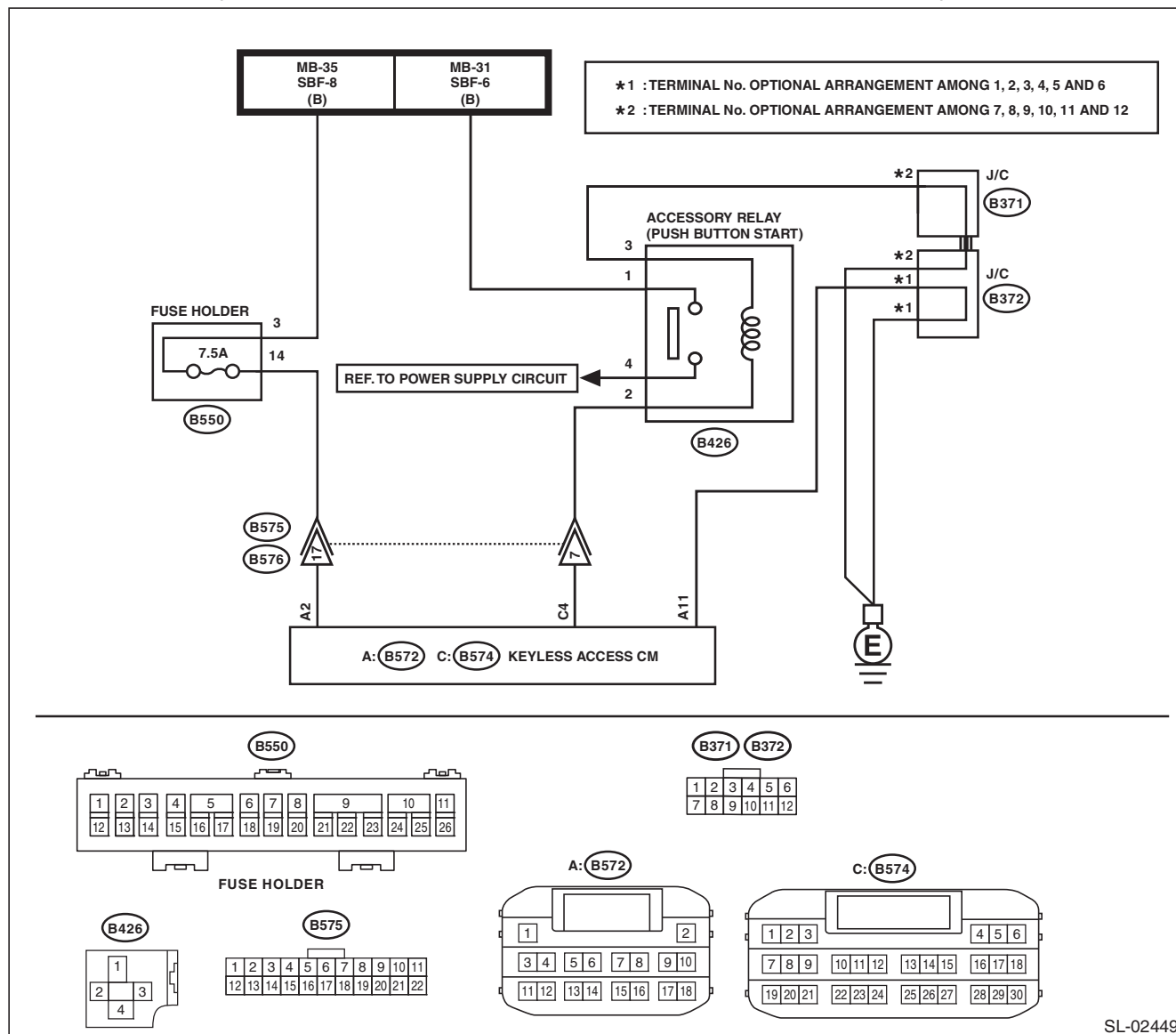
Each function does not operate at the ACC position.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



SL-02449

Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
2 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 3.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
3 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 2 (+) — Chassis ground (-):	Is the voltage 9.5 — 16 V?	Go to step 4.	Check the power supply circuit.
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω ?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 4 — Chassis ground:	Is resistance 128 — 157 Ω ? (20°C)	Go to step 7.	Go to step 6.
6 CHECK RELAY. Perform inspection of ACC relay unit. <Ref. to SL-10, CHECK RELAY, INSPECTION, Relay and Fuse.>	Is the relay OK?	Go to step 7.	Replace the relay. <Ref. to SL-105, REMOVAL, Accessory Relay (Push Button Start).>
7 CHECK HARNESS. Using a tester, measure the resistance between keyless access CM connectors. Connector & terminal (B574) No. 4 — (B426) No. 2: (B426) No. 3 — Chassis ground:	Is the resistance less than 1 Ω ?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B574) No. 4 (+) — Chassis ground (-):	Is the voltage 1 V or less → 9.5 — 16 V when OFF → ACC ON?	System is normal. It is possible that temporary poor contact occurs.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

L: DTC B2275 STSW CIRCUIT ABNORMAL

DTC DETECTING CONDITION:

- When malfunction is detected in engine start permission signal output circuit in the keyless access CM.
- When malfunction is detected in external engine start permission signal circuit.

TROUBLE SYMPTOM:

Engine will not start.

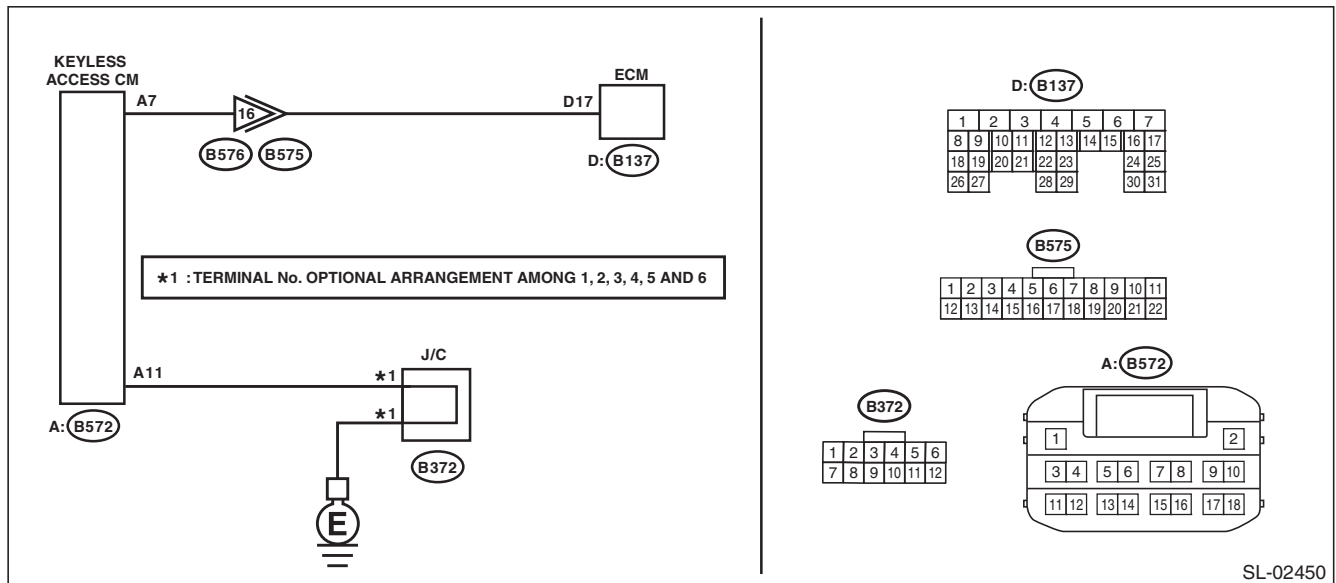
CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

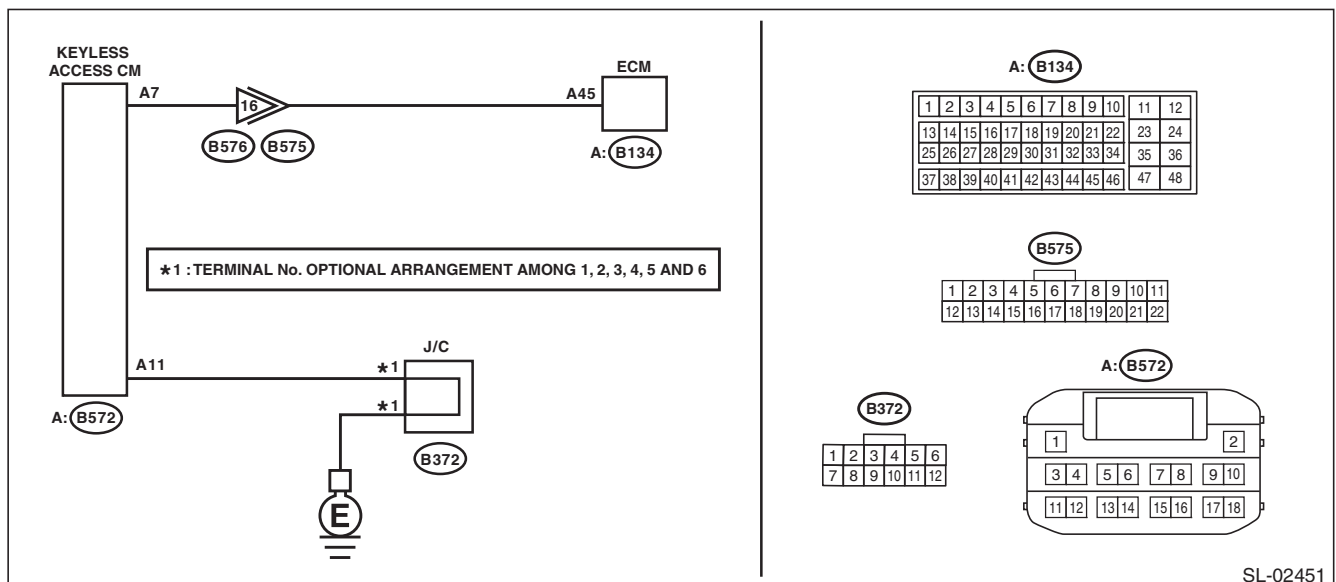
WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>

- Non-turbo model



- Turbo model



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 3.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
3	CHECK HARNESS. 1) Disconnect the keyless access CM connector and ECM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and ECM. Connector & terminal Non-turbo model (B572) No. 7 — (B137) No. 17: Turbo model (B572) No. 7 — (B134) No. 45:	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. Connector & terminal (B572) No. 11 — Chassis ground:	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. Connector & terminal (B572) No. 7 — Chassis ground:	Is the resistance 10 k Ω or more?	Go to step 6.	Repair or replace the short circuit of the harness.
6	CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector and ECM connector. 2) Using a tester, measure the voltage between the terminals of keyless access CM connector. Connector & terminal (B572) No. 7 (+) — (B572) No. 11 (-):	Is the voltage 2 V or less → 9 V or more, when the push button ignition switch is turned on while depressing the brake pedal (AT model) or clutch pedal (MT model) with the shift position in P or N and the key placed in the passenger room?	Perform inspection according to the diagnosis of engine.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

M: DTC B2276 ACCR SIGNAL ABNORMAL

DTC DETECTING CONDITION:

When input error occurs in accessory relay cut input signal of keyless access CM.

TROUBLE SYMPTOM:

- The accessory power supply is not cut during engine start.
- Starter rotation is slow.

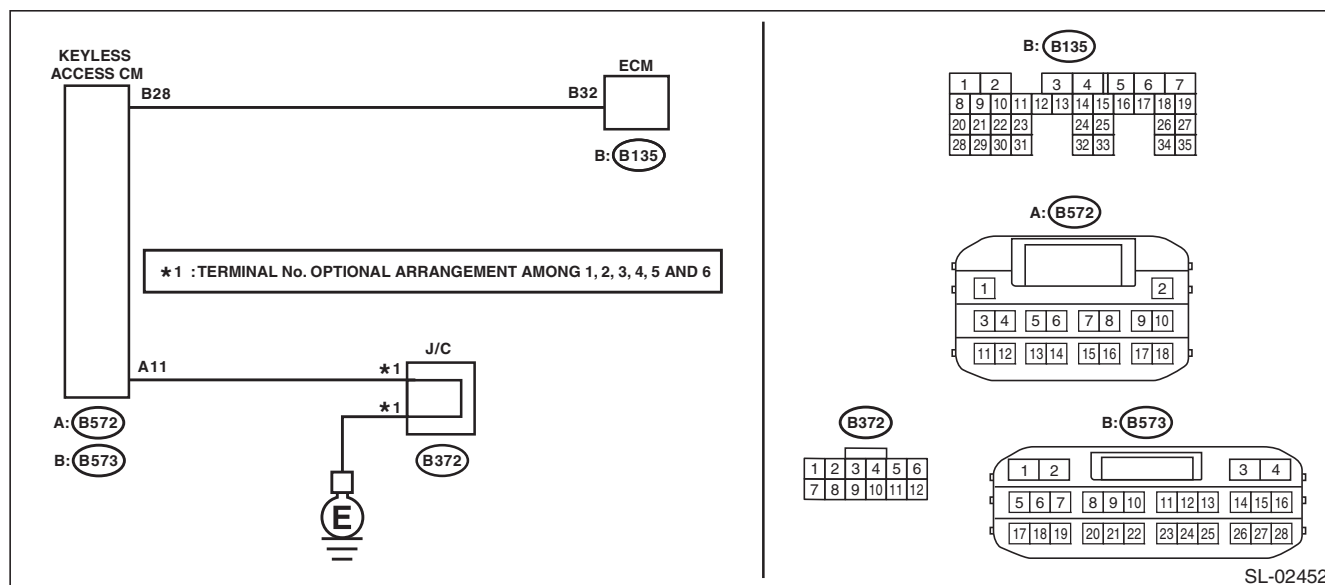
CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

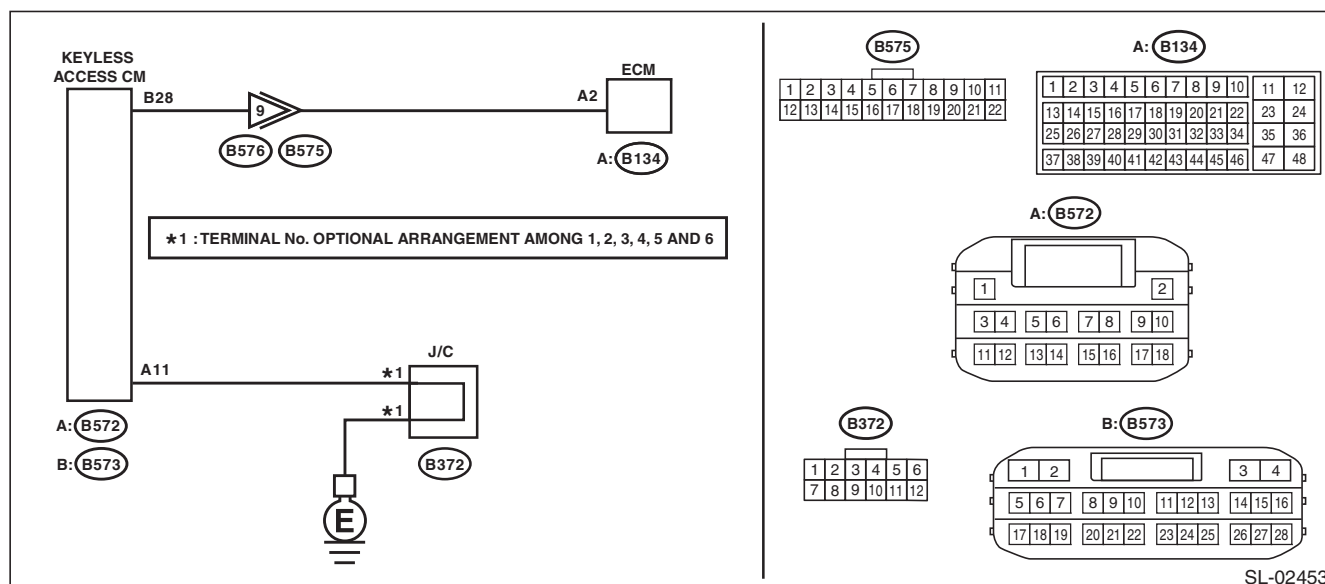
WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>

- Non-turbo model



- Turbo model



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK HARNESS. 1) Disconnect the keyless access CM connector and ECM connector. 2) Using a tester, measure the resistance between the keyless access CM connector and ECM. Connector & terminal Non-turbo model (B573) No. 28 — (B135) No. 32: Turbo model (B573) No. 28 — (B134) No. 2:	Is the resistance less than 1 Ω?	Go to step 3.	Repair or replace the open circuit of harness.
3	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B573) No. 28 — Chassis ground:	Is the resistance 10 kΩ or more?	Go to step 4.	Repair or replace the short circuit of the harness.
4	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5	CHECK KEYLESS ACCESS CM. 1) Connect the keyless access CM connector and ECM connector. 2) Using a tester, measure the voltage between terminals of the keyless access CM connector when the push button ignition switch is pressed while depressing the brake pedal, with the shift lever in the P range for model except for MT or while depressing the clutch pedal for MT model. Connector & terminal (B573) No. 28 (+) — (B572) No. 11 (-):	Is the voltage 9.5 — 16 V → 1 V or less?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Replace the ECM. <Ref. to FU(H4DO)-94, REMOVAL, Engine Control Module (ECM).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

N: DTC B2277 SUBMERGING CIRCUIT ABNORMAL

DTC DETECTING CONDITION:

When the water-submersion detection circuit integrated into the keyless access CM detects the water submersion.

TROUBLE SYMPTOM:

- The ignition can be turned ON, but cannot be turned OFF.
- Engine will not start.

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK SUBMERSION CONDITION. Check the keyless access CM and environment of equipment, and check the harness for any trace of water submersion.	Is there any trace of water submersion?	Take necessary measures against water submersion and replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

O: DTC B2282 VEHICLE SPEED SIGNAL ABNORMAL

DTC DETECTING CONDITION:

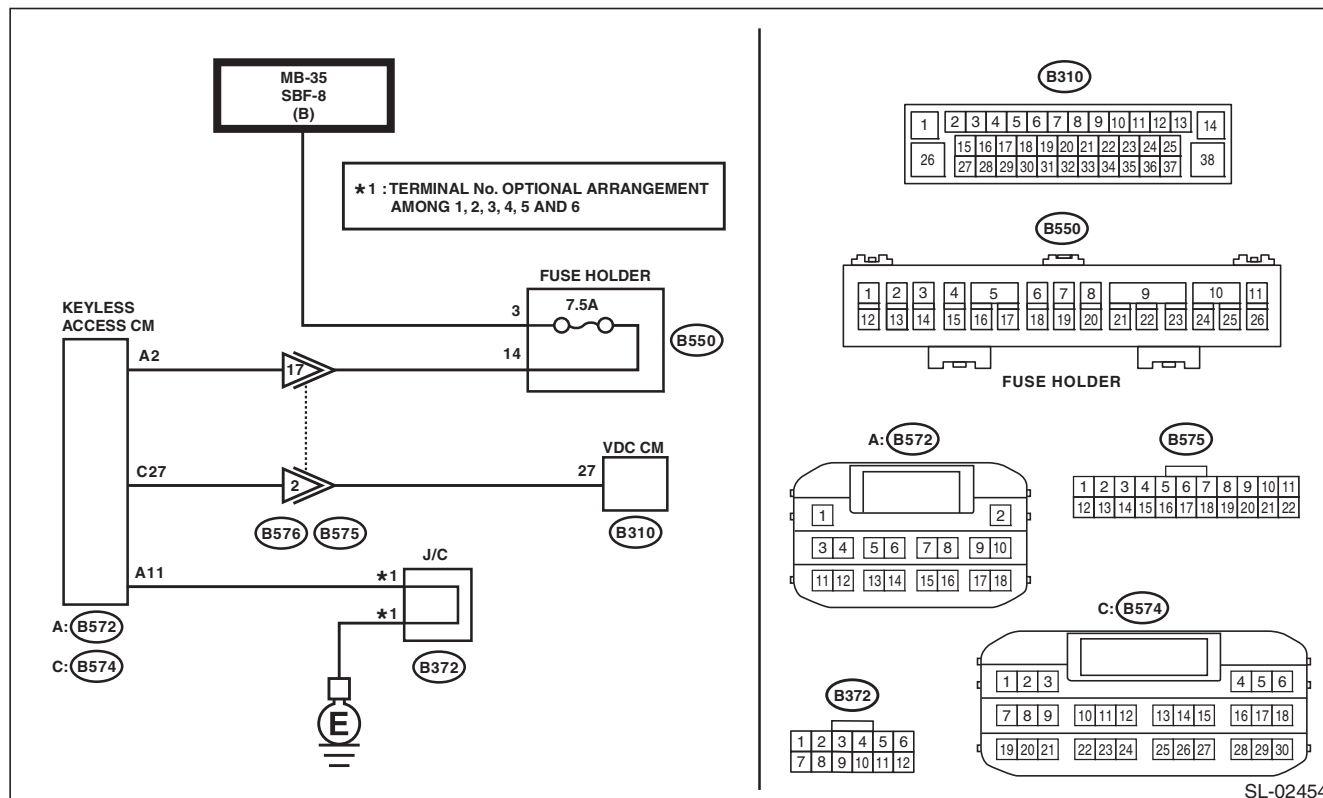
When the vehicle speed signal transmitted from VDC via solid line and the vehicle speed signal transmitted via CAN communication line do not match.

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK COMBINATION METER. Check that the speedometer is displayed normally.	Is the meter display normal?	Go to step 3.	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
3 CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. • Vehicle speed signal	Is the parked state or driving state displayed normally?	Go to step 4.	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 5.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B572) No. 2 (+) — Chassis ground (–):	Is the voltage 9.5 — 16 V?	Go to step 6.	Check the power supply circuit.
6 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the combination meter connector. 3) Using a tester, measure the resistance between the keyless access CM connector and VDC CM connector. Connector & terminal (B572) No. 27 — (B310) No. 27:	Is the resistance less than 1 Ω?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 27 — Chassis ground:	Is the resistance 10 kΩ or more?	Go to step 9.	Repair or replace the short circuit of the harness.
9 CHECK KEYLESS ACCESS CM. 1) Connect each connector. 2) Using the Subaru Select Monitor, measure the waveform between the terminals of keyless access CM. Connector & terminal (B572) No. 27 — Chassis ground:	Is 3.54 Hz displayed when the vehicle is driven approx. at 5 km/h?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

P: DTC B2283 VEHICLE SPEED SENSOR FAULT DETECTION

DTC DETECTING CONDITION:

Either of the following malfunctions is detected (Vehicle speed sensor failure is detected.).

- Vehicle speed signal failure detection 1: Excessive deceleration detection
- Vehicle speed signal failure detection 2: Engine speed interlock detection

TROUBLE SYMPTOM:

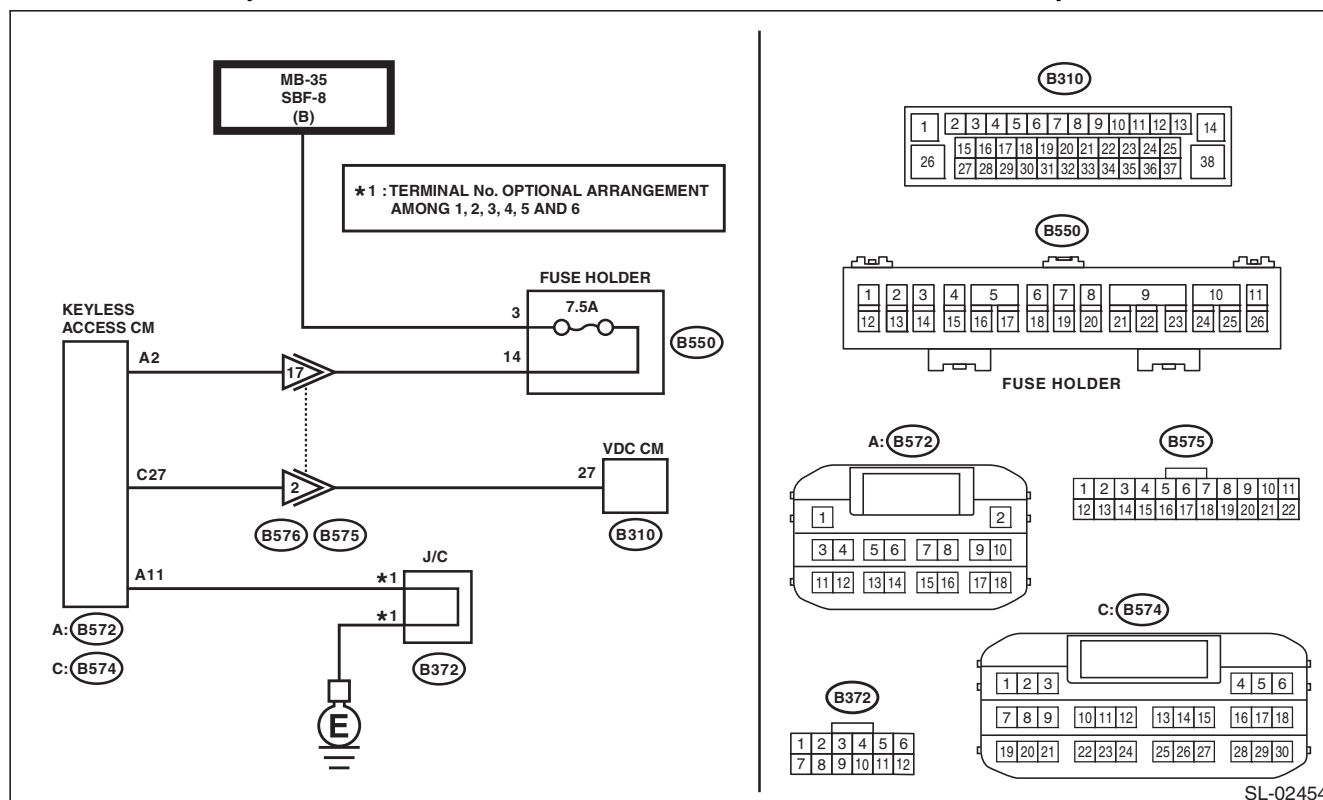
The steering lock does not operate.

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



	Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK COMBINATION METER. Check that the speedometer is displayed normally. • Vehicle speed signal	Is the meter display normal?	Go to step 3.	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>
3	CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. • Vehicle speed signal	Is the parked state or driving state displayed normally?	Go to step 4.	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

	Step	Check	Yes	No
4	CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 5.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5	CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B572) No. 2 (+) — Chassis ground (–):	Is the voltage 9.5 — 16 V?	Go to step 6.	Check the power supply circuit.
6	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 7.	Repair or replace the open circuit of harness.
7	CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the combination meter connector. 3) Using a tester, measure the resistance between the keyless access CM connector and VDC CM connector. Connector & terminal (B572) No. 27 — (B310) No. 27:	Is the resistance less than 1 Ω?	Go to step 8.	Repair or replace the open circuit of harness.
8	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 27 — Chassis ground:	Is the resistance 10 kΩ or more?	Go to step 9.	Repair or replace the short circuit of the harness.
9	CHECK KEYLESS ACCESS CM. 1) Connect each connector. 2) Using the Subaru Select Monitor, measure the waveform between the terminals of keyless access CM. Connector & terminal (B572) No. 27 — Chassis ground:	Is 3.54 Hz displayed when the vehicle is driven approx. at 5 km/h?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Check the VDC. <Ref. to VDC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Q: DTC B2284 BRAKE SIGNAL (CABLE-INFORMATION DOES NOT MATCH TO BEAN-INFORMATION)

DTC DETECTING CONDITION:

When the brake signal transmitted via solid line and the brake signal transmitted via CAN communication line do not match.

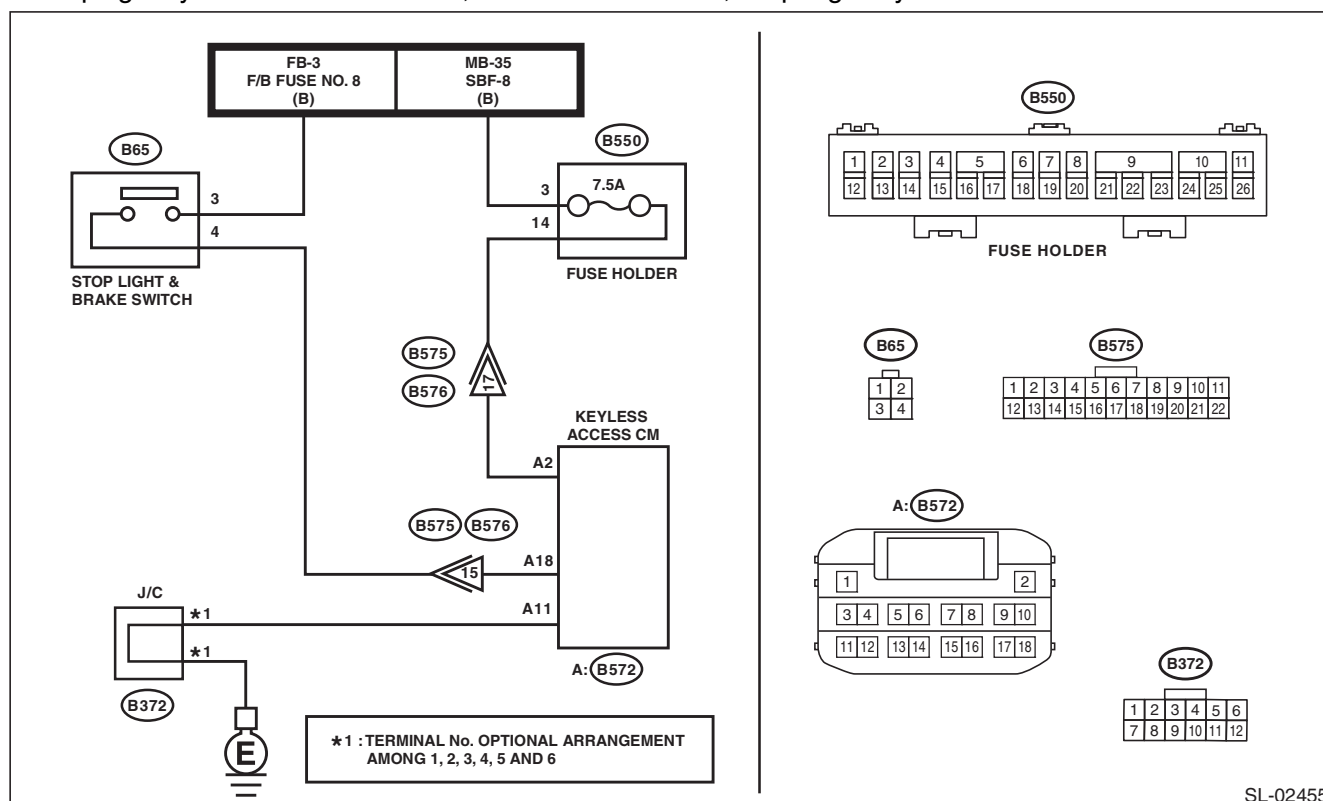
TROUBLE SYMPTOM:

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

- Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>
- Stop light system <Ref. to WI-401, WIRING DIAGRAM, Stop Light System.>



Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. • Stop light SW	Is DTC displayed normally according to the brake pedal operation?	Go to step 3.	Check the stop light system.
3 CHECK CURRENT DATA. Check the current data display of body integrated unit using Subaru Select Monitor. • Stop light SW	Is DTC displayed normally according to the brake pedal operation?	Go to step 4.	Check body integrated unit <Ref. to BC(diag)-2, PROCEDURE, Basic Diagnostic Procedure.> and the stop light switch circuit.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 5.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
5 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B572) No. 2 (+) — Chassis ground (-):	Is the voltage 9.5 — 16 V?	Go to step 6.	Check the power supply circuit.
6 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK HARNESS. 1) Disconnect the stop light switch connector. 2) Using a tester, measure the resistance between the keyless access CM connector and stop light switch connector. Connector & terminal (B572) No. 18 — (B65) No. 4:	Is the resistance less than 1 Ω?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 18 — Chassis ground:	Is the resistance 10 kΩ or more?	Go to step 9.	Repair or replace the short circuit of the harness.
9 CHECK HARNESS. Using a tester, measure the voltage between the keyless access CM connector and chassis ground when the brake pedal is depressed. Connector & terminal (B572) No. 18 (+) — Chassis ground (-):	Does the voltage change as follows? Brake pedal not depressed: 1 V or less → Brake pedal depressed: 11 — 14 V	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Check the power supply circuit of stop light switch.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

R: DTC B2285 STEERING LOCK POSITION SIGNAL ABNORMAL

DTC DETECTING CONDITION:

When the steering lock position signal transmitted from the steering lock CM via solid line and the steering lock position signal transmitted via LIN communication system do not match.

TROUBLE SYMPTOM:

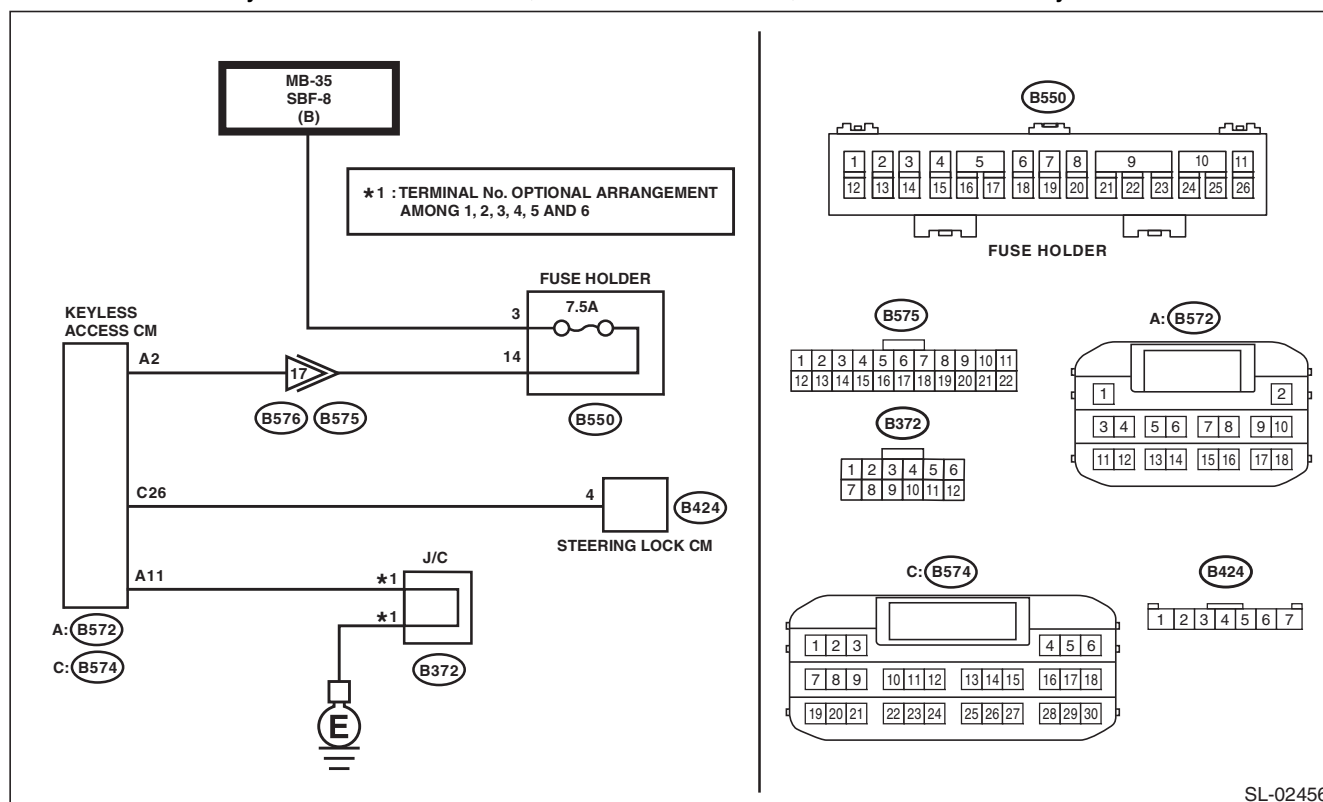
- There are conditions when the steering lock is not released.
- Engine will not start.

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



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Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK DTC. Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed? Perform the inspection according to B2785. <Ref. to KPS(diag)-62, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>	Go to step 3.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
3 CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. When locked: • Lock side sensor status: ON • Unlock side sensor status: OFF • Lock confirmation: Confirmed • Unlock confirmation: Not confirmed When unlocked: • Lock side sensor status: OFF • Unlock side sensor status: ON • Lock confirmation: Not confirmed • Unlock confirmation: Confirmed NOTE: To lock the steering lock, turn off the power, and open → close, or close → open the driver's door. To unlock the steering lock, turn the ignition switch to ACC ON or IGN ON.	Are the readings as shown on the left according to the steering lock status?	Go to step 4.	Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.>
4 CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. When locked: • Steering unlock switch: OFF When unlocked: • Steering unlock switch: ON NOTE: To lock the steering lock, turn off the power, and open → close, or close → open the driver's door. To unlock the steering lock, turn the ignition switch to ACC ON or IGN ON.	Are the readings as shown on the left according to the steering lock status?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Go to step 5.
5 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 6.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
6 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B572) No. 2 (+) — Chassis ground (—):	Is the voltage 9.5 — 16 V?	Go to step 7.	Check the power supply circuit.
7 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK HARNESS. Using a tester, measure the resistance between the steering lock CM connector and chassis ground. Connector & terminal (B424) No. 4 — Chassis ground:	Does the following occur? Steering lock: 10 kΩ or more → Steering unlock: less than 1 Ω	Go to step 9.	Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step		Check	Yes	No
9	CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and steering lock CM. Connector & terminal (B574) No. 26 — (B424) No. 4:	Is the resistance less than 1 Ω ?	Go to step 10.	Repair or replace the open circuit of harness.
	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 26 — Chassis ground:			
10		Is the resistance 10 k Ω or more?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the short circuit of the harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

S: DTC B2286 DRIVING POSSIBLE SIGNAL ABNORMAL

DTC DETECTING CONDITION:

When the engine speed signal transmitted from the ECM via solid line and the engine speed signal transmitted via CAN communication line do not match.

TROUBLE SYMPTOM:

Engine will not start.

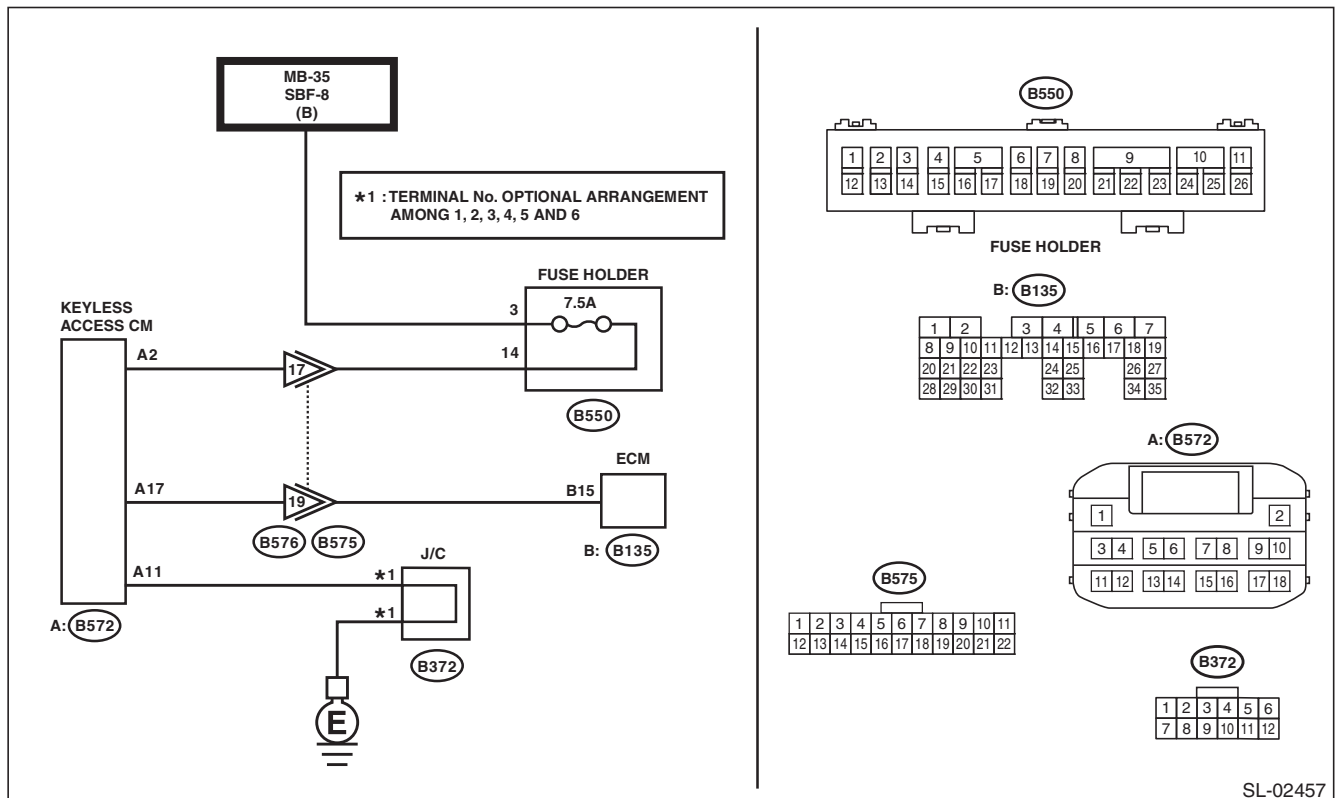
CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>

- Non-turbo model

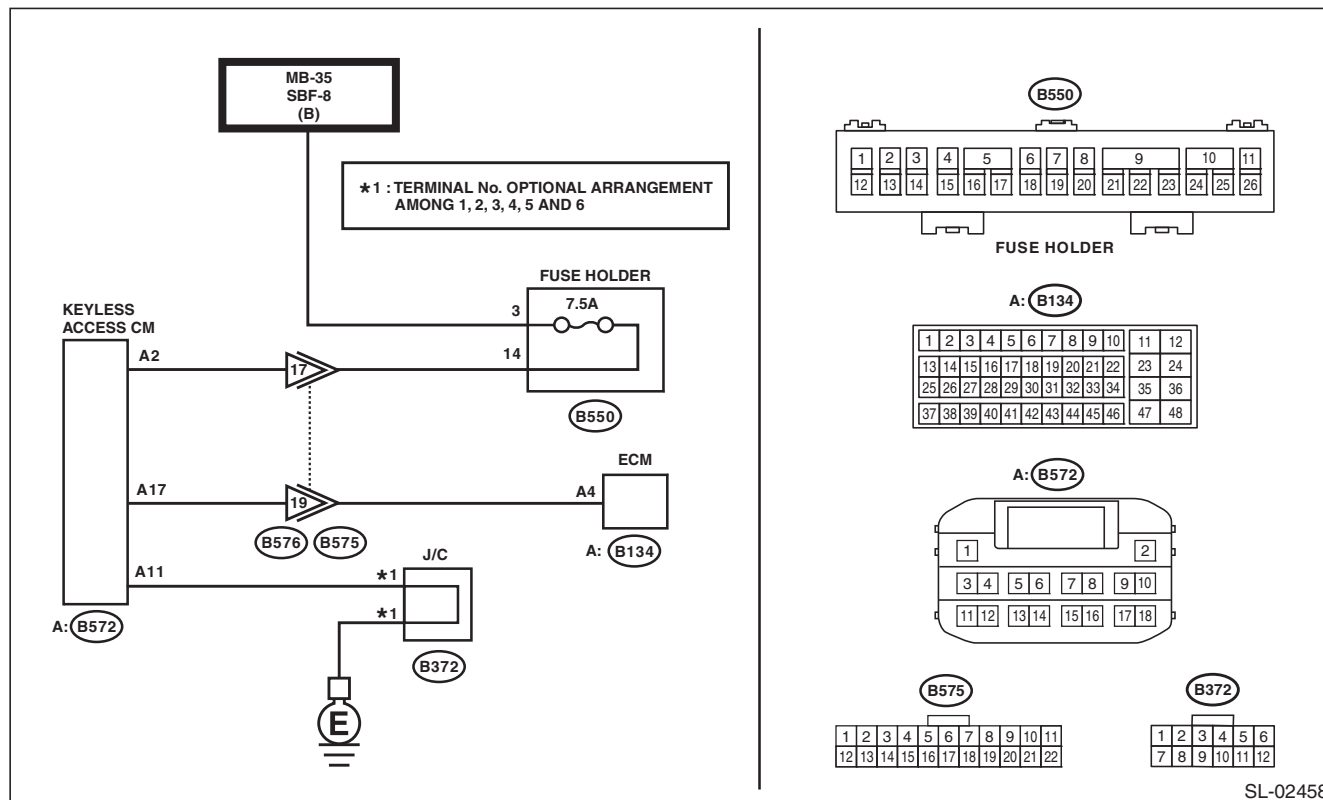


SL-02457

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

- Turbo model



Step	Check	Yes	No	
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK CURRENT DATA. Confirm the current data display of keyless access system using Subaru Select Monitor. • Engine speed	Can the data be read normally?	Perform the diagnosis for the engine. <Ref. to EN(H4DO)(diag)-2, ENGINE, PROCEDURE, Basic Diagnostic Procedure.>	Go to step 3.
3	CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 4.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
4	CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Using a tester, measure the voltage between keyless access CM connectors. Connector & terminal (B572) No. 2 (+) — Chassis ground (—):	Is the voltage 9.5 — 16 V?	Go to step 5.	Check the power supply circuit.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
5 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the ECM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and ECM connector. <i>Connector & terminal</i> <i>Non-turbo model</i> <i>(B572) No. 17 — (B135) No. 15:</i> <i>Turbo model</i> <i>(B572) No. 17 — (B134) No. 4:</i>	Is the resistance less than 1 Ω ?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 17 — Chassis ground:</i>	Is the resistance 10 k Ω or more?	Go to step 8.	Repair or replace the open circuit of harness.
8 CHECK HARNESS. 1) Connect the keyless access CM connector and ECM connector. 2) Using the Subaru Select Monitor, measure the waveform between the keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B572) No. 17 — Chassis ground:</i>	Does the pulse stop when the engine is stopped, and does the pulse generate when the engine is started?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Perform the diagnosis for the engine. <Ref. to EN(H4DO)(diag)-2, ENGINE, PROCEDURE, Basic Diagnostic Procedure.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

T: DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG

DTC DETECTING CONDITION:

When the keyless access CM does not respond to engine start even when the remote control engine starter is ON, or when there is a code mismatch.

TROUBLE SYMPTOM:

Remote engine starter does not function.

Step	Check	Yes	No
1 REGISTER THE REMOTE ENGINE STARTER. 1) Register the remote engine starter using the Subaru Select Monitor. (Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".) 2) Clear the DTC. 3) Start the engine using the remote engine starter. 4) Read the DTC again.	Is DTC B2779 detected?	Replace the remote engine starter.	System is normal. It is possible that temporary poor contact occurs.

U: DTC B2781 STEERING LOCK ECU OPEN/SHORT

DTC DETECTING CONDITION:

- When malfunction is detected in lock/unlock position detection sensor.
- When the open or short circuit in the steering lock motor drive circuit is detected.

TROUBLE SYMPTOM:

- The steering lock cannot be released.
- Engine will not start.

CAUTION:

For replacement procedure of steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

NOTE:

When all ECMs connected to collation system LIN bus cannot communicate with the keyless access CM, DTC B2785 is output.

Step	Check	Yes	No
1 CHECK DTC. Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Perform the diagnosis according to DTC.	Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

V: DTC B2782 STEERING LOCK POWER SUPPLY CIRCUIT ABNORMAL (SMART ECU-SIDE ABNORMAL)

DTC DETECTING CONDITION:

When the open or short circuit in the steering lock motor power supply circuit is detected.

TROUBLE SYMPTOM:

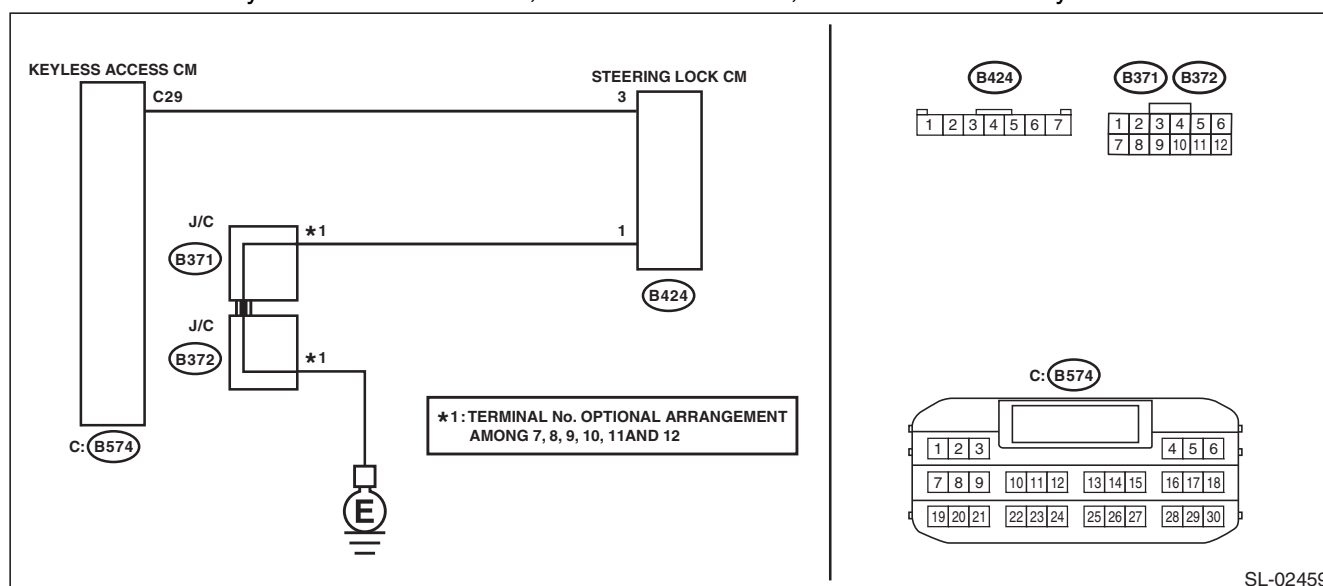
- The steering lock cannot be released.
- Engine will not start.

CAUTION:

For replacement procedure of keyless access CM and steering lock CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



Step	Check	Yes	No	
1	CHECK STEERING LOCK CM. 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the resistance between the steering lock CM connector and chassis ground. Connector & terminal (B424) No. 1 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 2.	Repair or replace the open circuit of harness.
2	CHECK CURRENT DATA. 1) Connect the steering lock CM connector. 2) ACC OFF, IGN OFF, shift position in P 3) Using a tester, open the door, and measure the voltage between terminals of steering CM connector when the steering lock motor is driven. Connector & terminal (B424) No. 3 (+) — (B424) No. 1 (-):	Does the voltage change as follows? Steering lock motor in operation: 1 V or less → Steering lock motor is stopped: 11 — 14 V	Go to step 3.	Go to step 4.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
3 CHECK DTC. 1) Turn the ignition switch to ON. 2) Using the Subaru Select Monitor, clear the memory. 3) Turn the ignition switch to OFF. 4) Disconnect the battery ground cable and reconnect it, and then clear the abnormal information displayed on the data monitor. 5) Turn the ignition switch to ON. 6) Use the Subaru Select Monitor and read DTCs.	Is B2782 displayed?	Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.>	System is normal. It is possible that temporary poor contact occurs.
4 CHECK CONNECTOR. 1) Disconnect the steering lock CM connector. 2) Disconnect the keyless access CM connector.	Are connectors normal?	Go to step 5.	Repair or replace the connector.
5 CHECK HARNESS. Using a tester, measure the resistance between steering lock CM connector and keyless access CM connector. <i>Connector & terminal</i> <i>(B574) No. 29 — (B424) No. 3:</i>	Is the resistance less than 1 Ω ?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK HARNESS. Using a tester, measure the resistance between steering lock CM connector and chassis ground, and between keyless access CM connector and chassis ground. <i>Connector & terminal</i> <i>(B424) No. 3 — Chassis ground:</i> <i>(B574) No. 29 — Chassis ground:</i>	Is the resistance 10 k Ω or more?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the short circuit of the harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

W: DTC B2784 ANTENNA COIL FAULT

DTC DETECTING CONDITION:

When open or short circuit occurs in the antenna coil.

TROUBLE SYMPTOM:

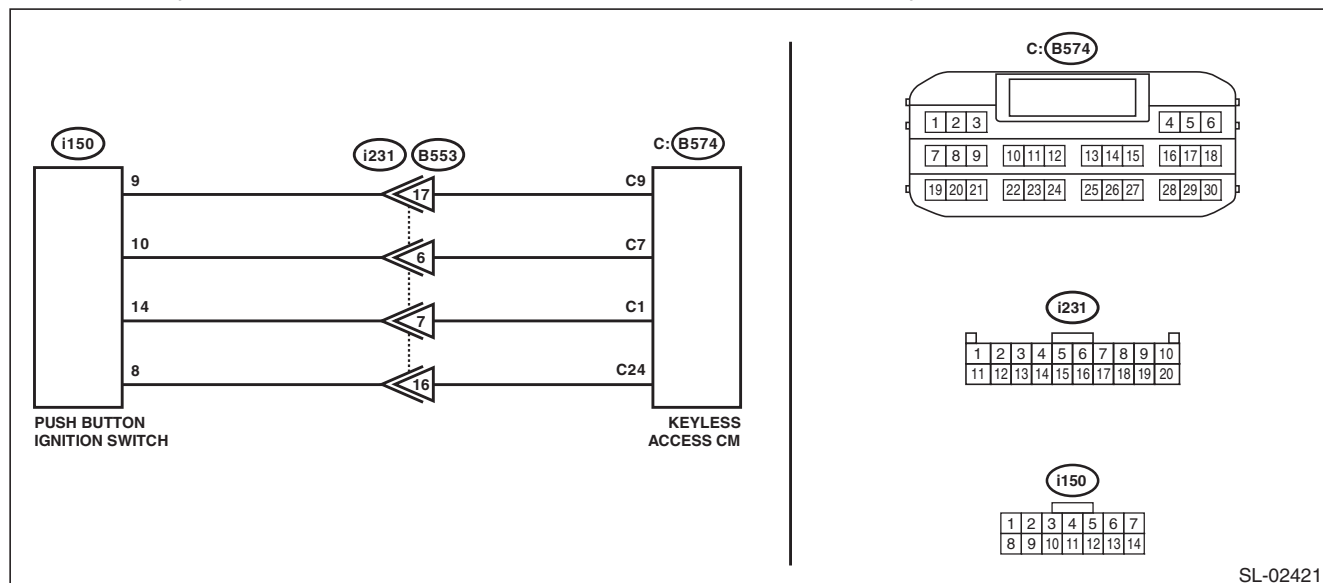
The keyless access function may not be operable.

CAUTION:

For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-269, WIRING DIAGRAM, Immobilizer System.>



SL-02421

Step	Check	Yes	No
1 CHECK HARNESS. 1) Disconnect the push button ignition switch connector. 2) Disconnect the keyless access CM connector. 3) Using the tester, measure the resistance between terminals. Connector & terminal <i>(i150) No. 14 — (B574) No. 1:</i> <i>(i150) No. 9 — (B574) No. 9:</i> <i>(i150) No. 10 — (B574) No. 7:</i> <i>(i150) No. 8 — (B574) No. 24:</i>	Is the resistance less than 1 Ω?	Go to step 2.	Repair or replace the open circuit of harness.
2 CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal <i>(i150) No. 14 — Chassis ground:</i> <i>(i150) No. 9 — Chassis ground:</i> <i>(i150) No. 10 — Chassis ground:</i>	Is the resistance 10 kΩ or more?	Go to step 3.	Repair or replace the short circuit of the harness.
3 CHECK PUSH BUTTON IGNITION SWITCH. 1) Replace the push button ignition switch. <Ref. to SL-96, REMOVAL, Push Button Ignition Switch.> 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B2784 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the push button ignition switch.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

X: DTC B2785 LIN COMMUNICATION ERROR

DTC DETECTING CONDITION:

When the keyless access CM detected the collation system LIN bus communication error three times in a row.

TROUBLE SYMPTOM:

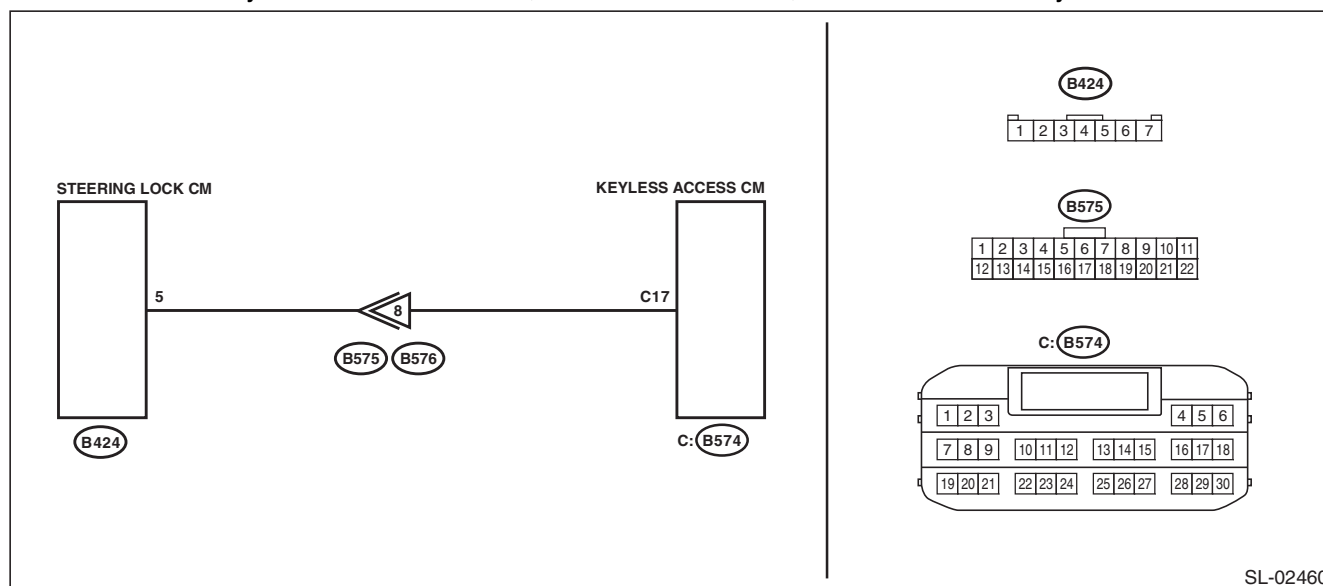
The keyless access function may not be operable.

CAUTION:

For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



SL-02460

Step	Check	Yes	No
1 CHECK DTC. Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Go to step 2.	Check the connector.
2 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using the tester, measure the resistance between terminals. Connector & terminal (B574) No. 17 — (B424) No. 5:	Is the resistance less than 1 Ω ?	Go to step 3.	Repair or replace the open circuit of harness.
3 CHECK HARNESS. Using the tester, measure the resistance between terminals. Connector & terminal (B424) No. 5 — Chassis ground: (B574) No. 17 — Chassis ground:	Is the resistance 10 k Ω or more?	Go to step 4.	Repair or replace the short circuit of the harness.
4 CHECK HARNESS. 1) Connect the keyless access CM connector only. 2) Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Go to step 5.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
5 CHECK STEERING LOCK CM. 1) Replace the steering lock CM, and then connect it. <Ref. to SL-95, REMOVAL, Steering Lock CM.> 2) Using the Subaru Select Monitor, clear the memory. 3) Use the Subaru Select Monitor and read DTCs.	Is B2785 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the steering lock CM.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Y: DTC B2786 NO RESPONSE FROM STEERING LOCK ECU

DTC DETECTING CONDITION:

When communication between keyless access CM and steering lock CM is interrupted for a set amount of time.

TROUBLE SYMPTOM:

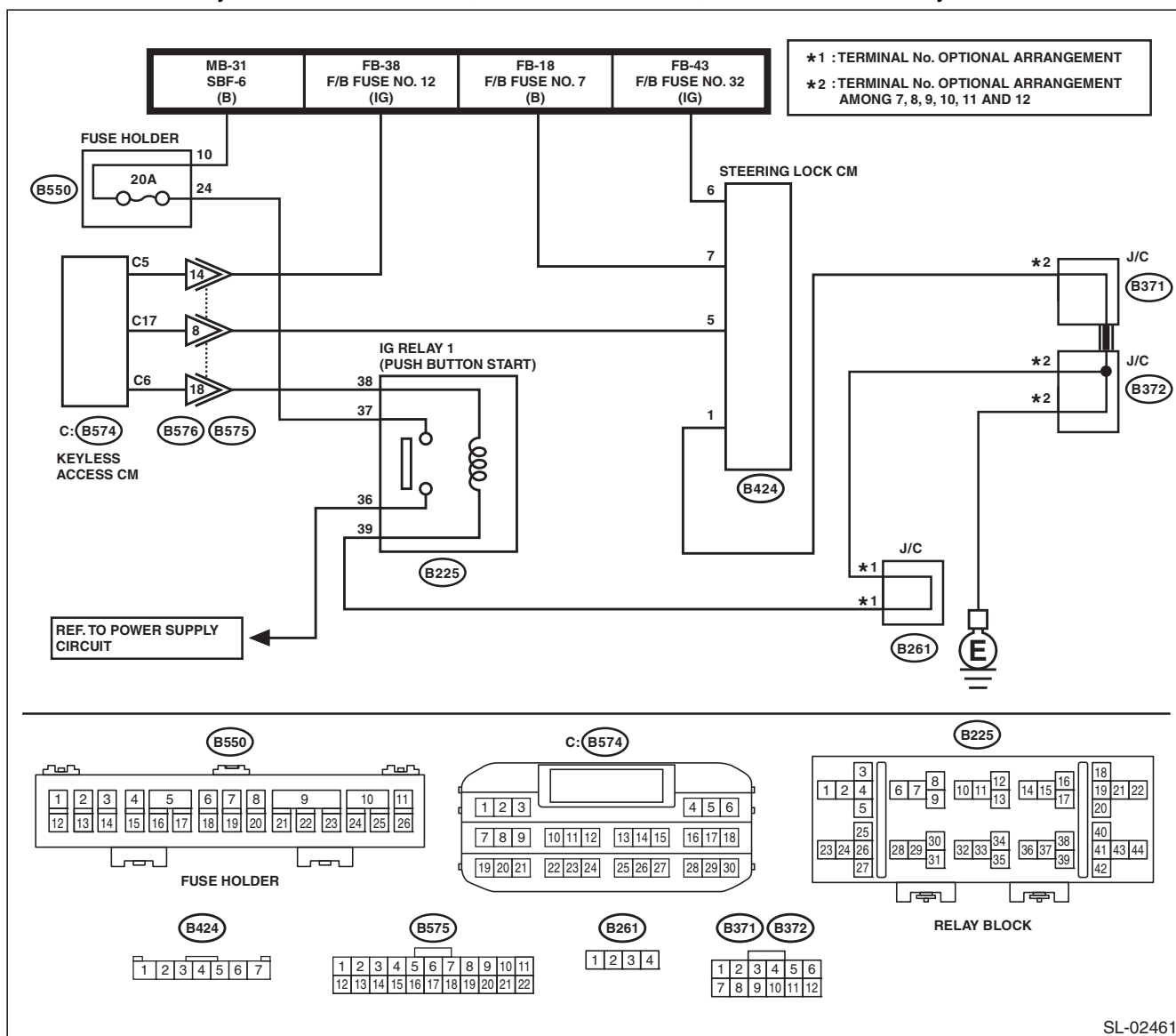
The steering lock cannot be released.

CAUTION:

For replacement procedure of keyless access CM and steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



SL-02461

Step	Check	Yes	No
1	CHECK DTC. Use the Subaru Select Monitor and read DTCs.	Is a DTC other than B2786 displayed?	Perform the diagnosis according to DTC.
		Go to step 2.	

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
2 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the steering lock CM connector. 3) Using the tester, measure the resistance between terminals. <i>Connector & terminal</i> <i>(B574) No. 17 — (B424) No. 5:</i>	Is the resistance less than 1 Ω ?	Go to step 3.	Repair or replace the open circuit of harness.
3 CHECK HARNESS. Using the tester, measure the resistance between terminals. <i>Connector & terminal</i> <i>(B424) No. 5 — Chassis ground:</i> <i>(B574) No. 17 — Chassis ground:</i>	Is the resistance 10 k Ω or more?	Go to step 4.	Repair or replace the short circuit of the harness.
4 CHECK HARNESS. Using a tester, measure the resistance between the steering lock CM connector and chassis ground. <i>Connector & terminal</i> <i>(B424) No. 1 — Chassis ground:</i>	Is the resistance less than 1 Ω ?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK HARNESS. 1) Turn the ignition switch to ON. 2) Using a tester, measure the voltage between the steering lock CM connector and chassis ground. <i>Connector & terminal</i> <i>(B424) No. 6 (+) — Chassis ground (-):</i> <i>(B424) No. 7 (+) — Chassis ground (-):</i>	Is the voltage 11 — 14 V?	Go to step 6.	Repair or replace the open circuit of harness.
6 CHECK STEERING LOCK CM. 1) Turn the ignition switch to ON. 2) Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.> 3) Using the Subaru Select Monitor, clear the memory. 4) Use the Subaru Select Monitor and read DTCs.	Is B2786 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the steering lock CM.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Z: DTC B2788 IGN1 INPUT ABNORMAL

DTC DETECTING CONDITION:

When mismatch occurs in the IG1 input of the steering lock CM for both LIN communication line input (IG1 input value of keyless access CM) and solid line input.

TROUBLE SYMPTOM:

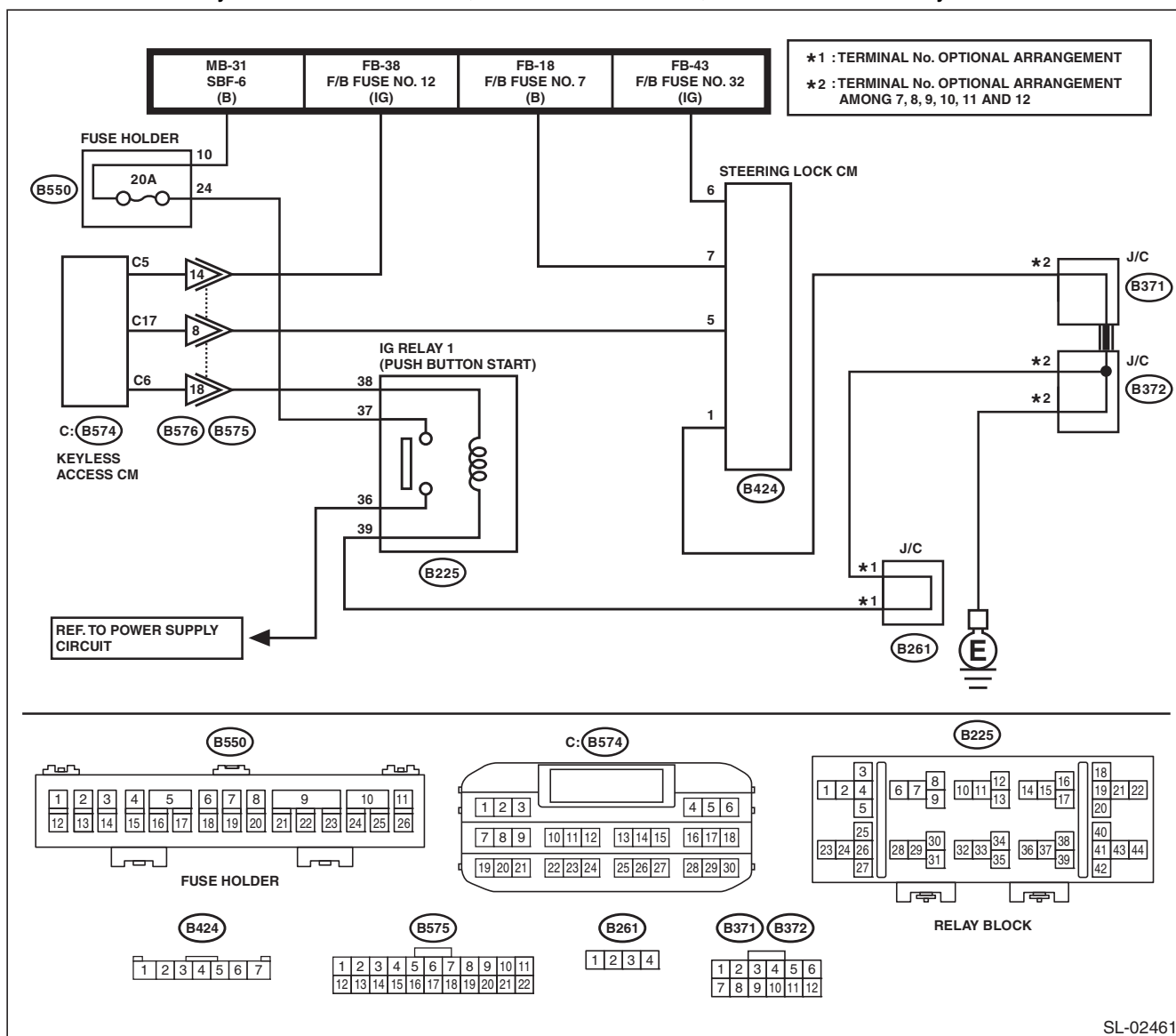
The steering lock cannot be released.

CAUTION:

For replacement procedure of steering lock CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>



SL-02461

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK FUSE. Check the fuse.	Is the fuse OK?	Go to step 2.	Replace the fuse. When the replaced fuse is blown immediately, check the power supply circuit for short-circuited.
2 CHECK CURRENT DATA. Check the current data display of keyless access CM using the Subaru Select Monitor. • IGN SW	Is the display normal according to the ignition switch operation?	Go to step 3.	Go to step 5.
3 CHECK HARNESS. 1) Disconnect the steering lock CM connector. 2) Using a tester, measure the resistance between the steering lock CM connector and chassis ground. Connector & terminal (B424) No. 1 — Chassis ground:	Is the resistance less than 1 Ω ?	Go to step 4.	Repair or replace the open circuit of harness.
4 CHECK HARNESS. 1) Connect the steering lock CM connector. 2) Using the tester, measure the voltage between terminals. Connector & terminal (B424) No. 6 (+) — (B424) No. 1 (-):	Is the voltage 11 — 14 V with IG ON? Is the voltage less than 1 V with IG OFF?	Replace the steering lock CM. <Ref. to SL-95, REMOVAL, Steering Lock CM.>	Check the DC power supply circuit.
5 CHECK HARNESS. Using a tester, measure the voltage between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 5 (+) — Chassis ground (-):	Is the voltage 11 — 14 V with IG ON? Is the voltage less than 1 V with IG OFF?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Check the DC power supply circuit.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AA:DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY

DTC DETECTING CONDITION:

When the power supply circuit of the push button ignition switch is shorted to ground.

TROUBLE SYMPTOM:

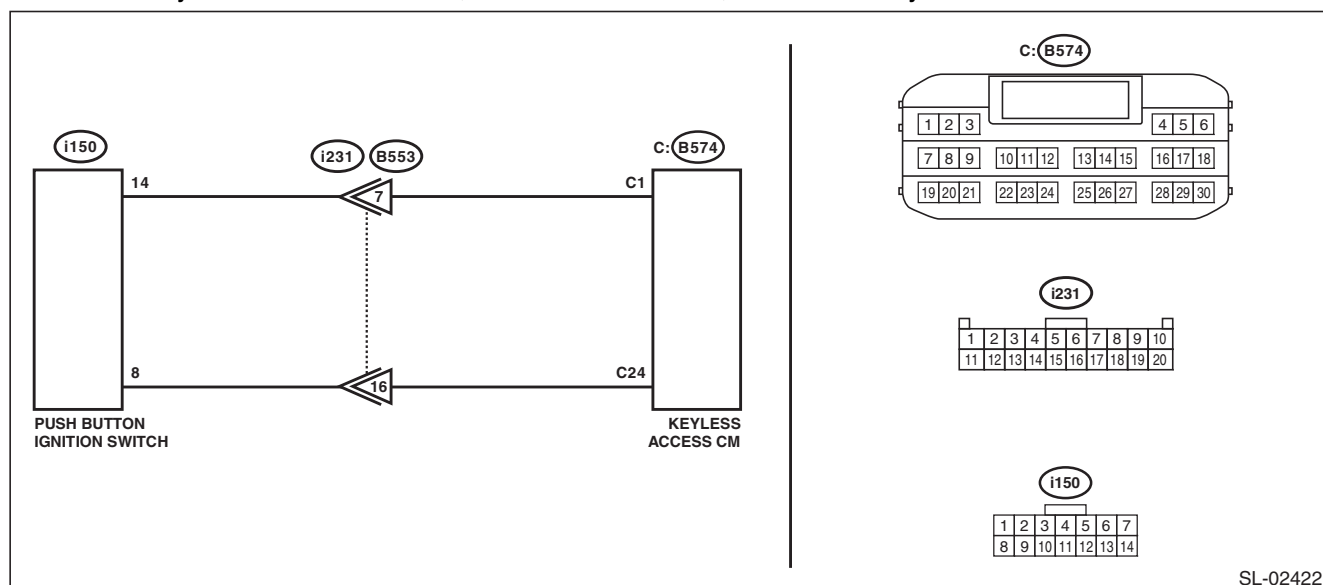
- Engine does not start even the key is held above it.
- The keyless access system function does not operate. (The key cannot be registered even the key is held above it.)

CAUTION:

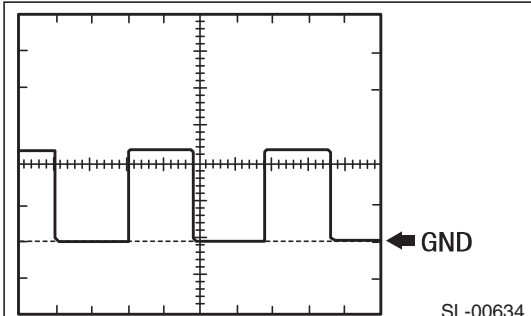
For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

WIRING DIAGRAM:

Immobilizer system <Ref. to WI-269, WIRING DIAGRAM, Immobilizer System.>



SL-02422

Step	Check	Yes	No
1 CHECK KEYLESS ACCESS CM. 1) Turn the ignition switch to OFF. 2) Take the access key out of the passenger room. 3) Push the push button ignition switch. Within 30 seconds, use oscilloscope to measure the waveform between connectors. Connector & terminal (i150) No. 14 — (i150) No. 8:	Is the waveform shown in the left column displayed?	Go to step 2.	Replace the push button ignition switch. <Ref. to SL-96, REMOVAL, Push Button Ignition Switch.>
			

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
2 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the push button ignition switch connector. 3) Using the tester, measure the resistance between terminals. Connector & terminal (i150) No. 14 — (B574) No. 1: (i150) No. 8 — (B574) No. 24:	Is the resistance less than 1 Ω ?	Go to step 3.	Repair or replace the open circuit of harness.
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 1 — Chassis ground:	Is the resistance 10 k Ω or more?	Go to step 4.	Repair or replace the short circuit of the harness.
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B574) No. 24 — Chassis ground:	Is the resistance less than 1 Ω ?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the harness.



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AB:DTC B278D ID CODE BOX RECOGNITION JUDGMENT ABNORMAL

DTC DETECTING CONDITION:

- When ID code box setting is set to OFF, ID code box ON input is detected.
- When ID code box setting is set to OFF, ID code box LIN signal is received.

TROUBLE SYMPTOM:

Engine will not start.

CAUTION:

For replacement procedure of keyless access CM, refer to the “REGISTRATION MANUAL FOR IMMOBILIZER”.

Step	Check	Yes	No
1 CHECK DTC. 1) Turn the ignition switch to OFF. 2) Using the Subaru Select Monitor, clear the keyless access system memory. 3) Turn the ignition switch to OFF → ON. 4) Use the Subaru Select Monitor and read DTCs.	Is B278D displayed?	Go to step 2.	System is normal. It is possible that temporary poor contact occurs.
2 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Measure the resistance between keyless access CM connector and chassis ground. Connector & terminal (B573) No. 15 — Chassis ground:	Is the resistance 10 kΩ or more? Or is the terminal (B573) No. 15 disconnected?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the short circuit of the harness.



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AC:DTC B27A1 DRIVER SIDE EXTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and driver's side front door outer handle.

TROUBLE SYMPTOM:

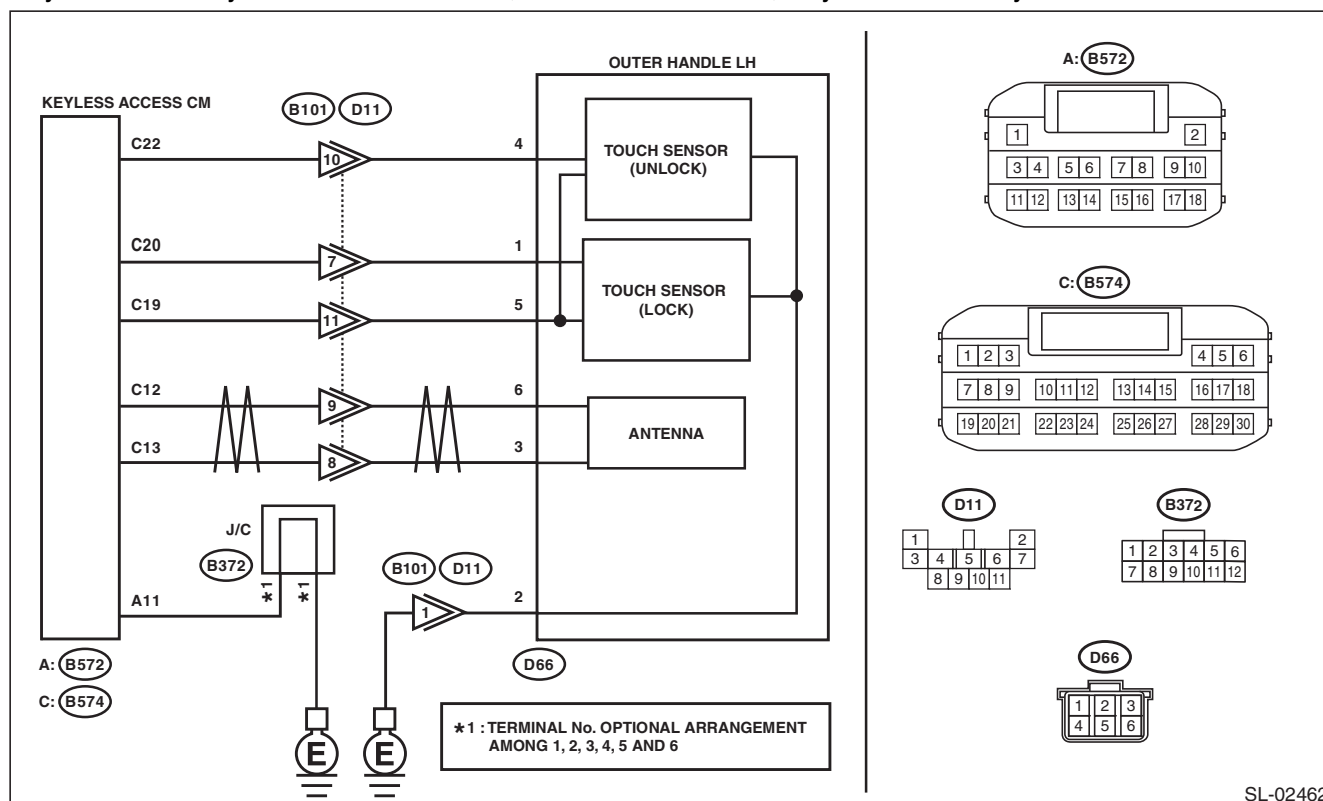
Keyless access system does not function. (When the driver's front door is operated)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



SL-02462

Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the front door outer handle connector.	Is the connector OK?	Go to step 3.	Repair or replace the connector.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and front door outer handle connector, and between front door outer handle connector and chassis ground. Connector & terminal <i>(B574) No. 12 — (D66) No. 6:</i> <i>(B574) No. 13 — (D66) No. 3:</i> <i>(D66) No. 2 — Chassis ground:</i> <i>(B572) No. 11 — 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 front door outer handle connector and chassis ground. Connector & terminal <i>(B574) No. 12 — Chassis ground:</i> <i>(B574) No. 13 — Chassis ground:</i> <i>(D66) No. 6 — Chassis ground:</i> <i>(D66) No. 3 — Chassis ground:</i>	Is the resistance 10 k Ω 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) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. Connector & terminal <i>(B574) No. 12 — (B572) No. 11:</i> <i>(B574) No. 13 — (B572) No. 11:</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-93, REMOVAL, Keyless Access CM.>
6 CHECK FRONT DOOR OUTER HANDLE. 1) Replace the driver's front door outer handle with the passenger's front door outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.> 2) Read DTC using the Subaru Select Monitor.	Is B27A1 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Replace the driver's front door outer handle.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AD:DTC B27A2 PASSENGER SIDE EXTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and passenger's side front door outer handle.

TROUBLE SYMPTOM:

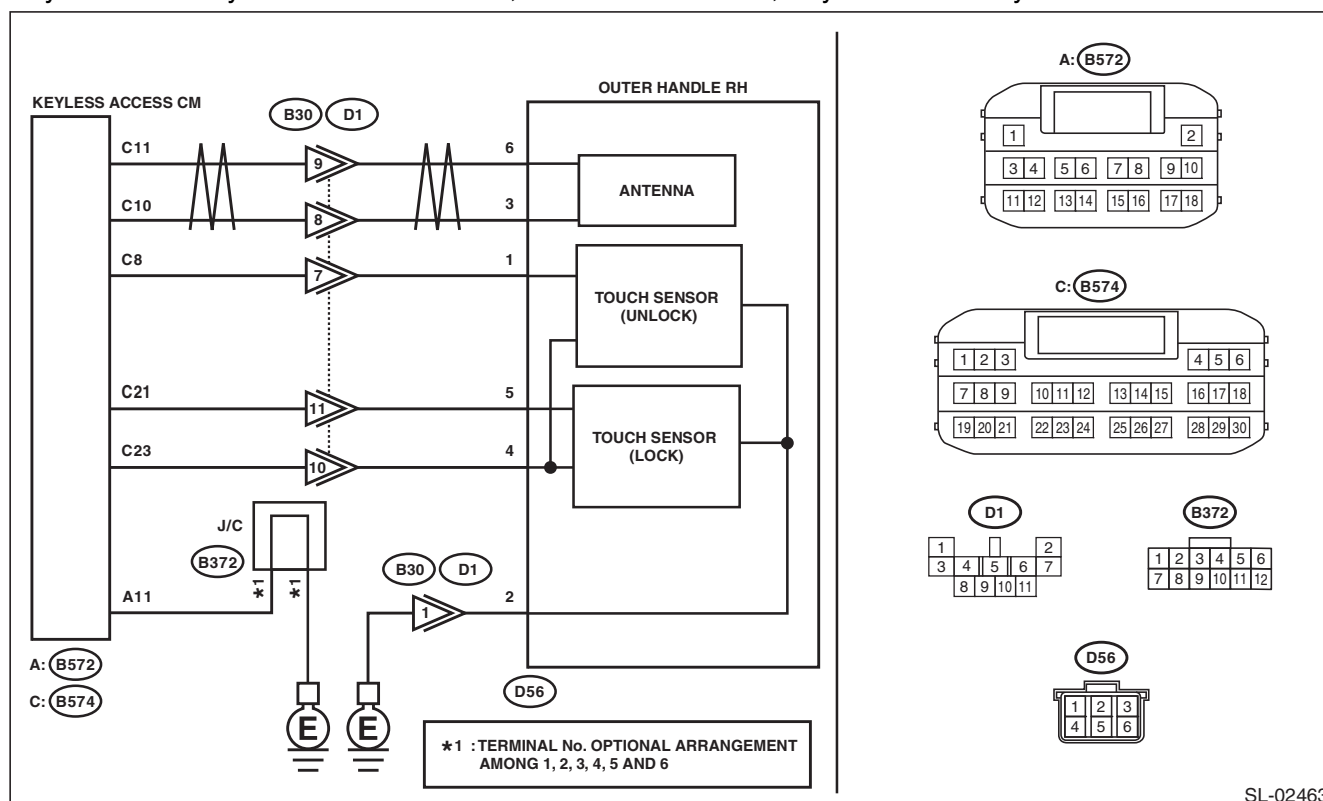
Keyless access system does not function. (When the passenger's front door is operated)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



Step	Check	Yes	No
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the front door outer handle connector.	Go to step 3.	Repair or replace the connector.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and front door outer handle connector, and between front door outer handle connector and chassis ground. <i>Connector & terminal</i> <i>(B574) No. 11 — (D56) No. 6:</i> <i>(B574) No. 10 — (D56) No. 3:</i> <i>(D56) No. 2 — Chassis ground:</i> <i>(B572) No. 11 — 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 front door outer handle connector and chassis ground. <i>Connector & terminal</i> <i>(B574) No. 11 — Chassis ground:</i> <i>(B574) No. 10 — Chassis ground:</i> <i>(D56) No. 6 — Chassis ground:</i> <i>(D56) No. 3 — Chassis ground:</i>	Is the resistance 10 k Ω 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) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. <i>Connector & terminal</i> <i>(B574) No. 12 — (B572) No. 11:</i> <i>(B574) No. 13 — (B572) No. 11:</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-93, REMOVAL, Keyless Access CM.>
6 CHECK FRONT DOOR OUTER HANDLE. 1) Replace the passenger's front door outer handle with the driver's front door outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.> 2) Read DTC using the Subaru Select Monitor.	Is B27A2 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Replace the passenger's front door outer handle.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AE:DTC B27A5 FRONT INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and front interior antenna.

TROUBLE SYMPTOM:

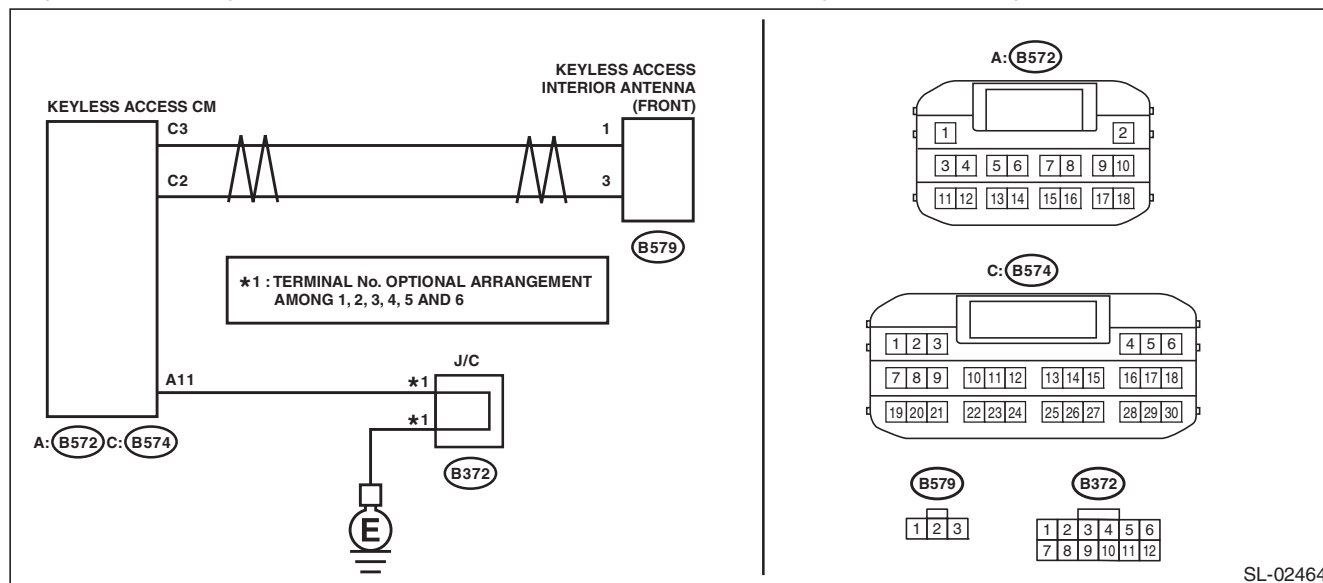
Keyless access system does not function. (When the access key is in the front area of the passenger room)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



SL-02464

Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the front interior antenna connector.	Is the connector OK?	Go to step 3.	Repair or replace the connector.
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and front interior antenna connector, and between front interior antenna connector and chassis ground. Connector & terminal (B574) No. 3 — (B579) No. 1: (B574) No. 2 — (B579) No. 3: (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between front interior antenna connector and chassis ground. Connector & terminal (B574) No. 3 — Chassis ground: (B579) No. 1 — Chassis ground: (B574) No. 2 — Chassis ground: (B579) No. 3 — Chassis ground:	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) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. Connector & terminal (B574) No. 3 — (B572) No. 11: (B574) No. 2 — (B572) No. 11:	Does pulse output change from pulse output OFF → pulse output ON by operating the touch sensor (lock)?	Go to step 6.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>
6 CHECK FRONT INTERIOR ANTENNA. 1) Replace the front interior antenna. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A5 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the front interior antenna.



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AF:DTC B27A6 REAR INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and center interior antenna.

TROUBLE SYMPTOM:

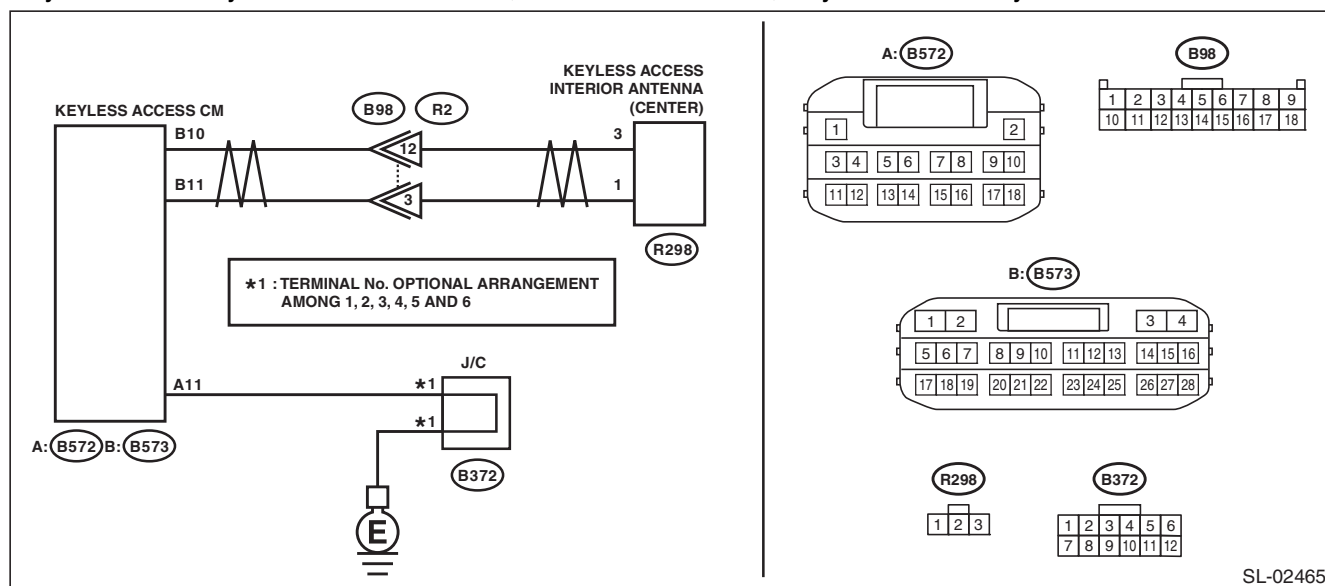
Keyless access system does not function. (When the access key is in the vicinity of rear seat area of the passenger room)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



SL-02465

Step	Check	Yes	No
1 CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2 CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the center interior antenna connector.	Is the connector OK?	Go to step 3.	Repair or replace the connector.
3 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and center interior antenna connector, and between center interior antenna connector and chassis ground. Connector & terminal (B573) No. 11 — (R298) No. 1: (B573) No. 10 — (R298) No. 3: (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between center interior antenna connector and chassis ground. Connector & terminal <i>(B573) No. 11 — Chassis ground:</i> <i>(B573) No. 10 — Chassis ground:</i> <i>(R298) No. 1 — Chassis ground:</i> <i>(R298) No. 3 — 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) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. Connector & terminal <i>(B573) No. 10 — (B572) No. 11:</i> <i>(B573) No. 11 — (B572) No. 11:</i>	Does pulse output change from pulse output OFF → pulse output ON by operating the touch sensor (lock)?	Go to step 6.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>
6 CHECK CENTER INTERIOR ANTENNA. 1) Replace the center interior antenna. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A6 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the center interior antenna.



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AG:DTC B27A7 TRUNK/REAR GATE INTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and rear interior antenna.

TROUBLE SYMPTOM:

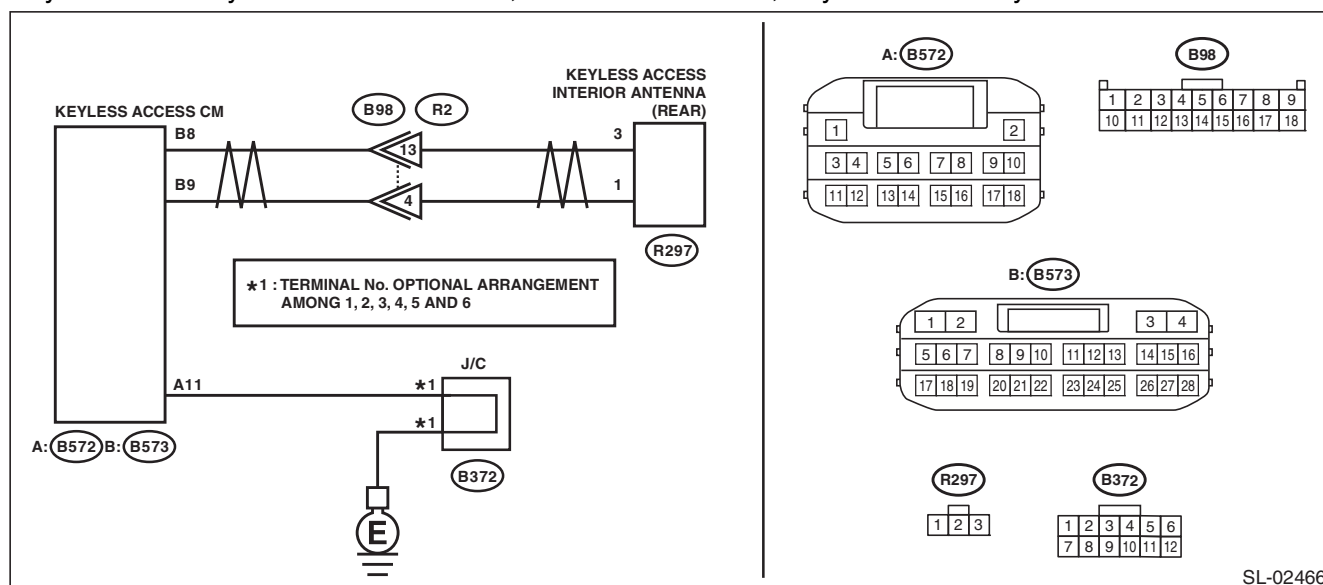
Keyless access system does not function. (When the access key is in the luggage room)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



Step	Check	Yes	No	
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the rear interior antenna connector.	Is the connector OK?	Go to step 3.	Repair or replace the connector.
3	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and rear interior antenna connector, and between rear interior antenna connector and chassis ground. Connector & terminal (B573) No. 8 — (R297) No. 3: (B573) No. 9 — (R297) No. 1: (B572) No. 11 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between rear interior antenna connector and chassis ground. <i>Connector & terminal</i> <i>(B573) No. 8 — Chassis ground:</i> <i>(B573) No. 9 — Chassis ground:</i> <i>(R297) No. 1 — Chassis ground:</i> <i>(R297) No. 3 — 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) Use an oscilloscope, measure the waveform between terminals with ignition switch OFF, all doors closed and access key not in passenger room. <i>Connector & terminal</i> <i>(B573) No. 8 — (B572) No. 11:</i> <i>(B573) No. 9 — (B572) No. 11:</i>	Does pulse output change from pulse output OFF → pulse output ON by operating the touch sensor (lock)?	Go to step 6.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>
6 CHECK REAR INTERIOR ANTENNA. 1) Replace the rear interior antenna. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.> 2) Read DTC using the Subaru Select Monitor.	Is B27A7 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Malfunction occurred in the rear interior antenna.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AH:DTC B27A8 TRUNK/REAR GATE EXTERNAL ANTENNA OUTPUT STAGE OPEN

DTC DETECTING CONDITION:

When open circuit occurs in the harness between keyless access CM and rear exterior antenna.

TROUBLE SYMPTOM:

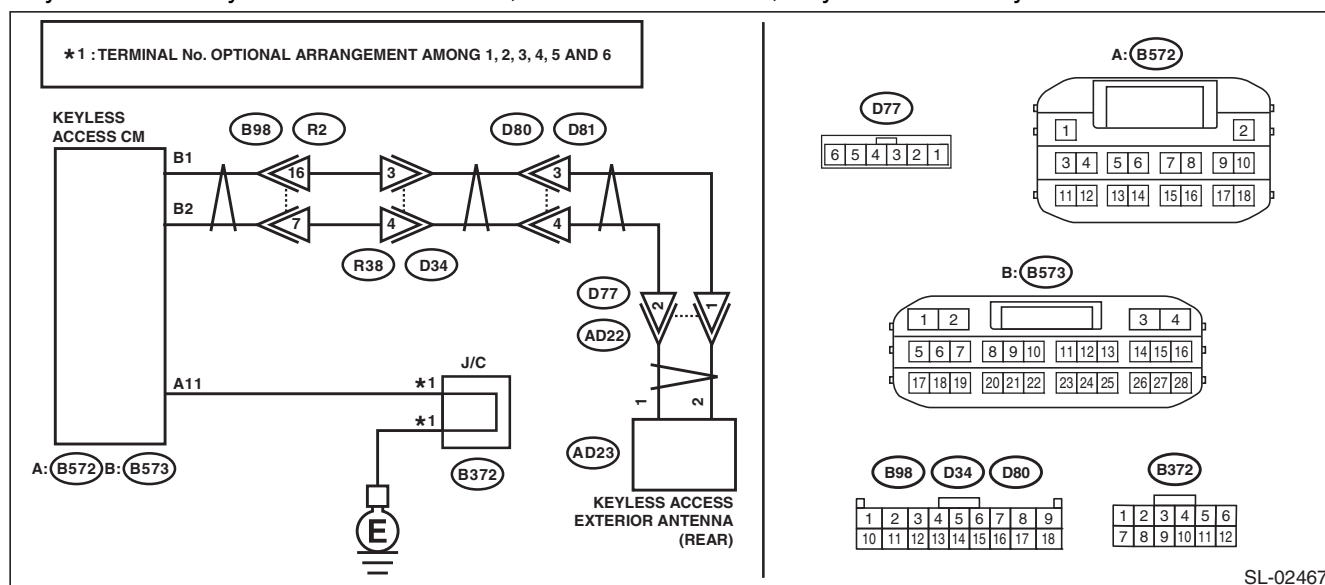
Keyless access system does not function. (When the rear gate is operated)

CAUTION:

For replacement procedure of keyless access CM, refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".

WIRING DIAGRAM:

Keyless access system <Ref. to WI-279, WIRING DIAGRAM, Keyless Access System.>



Step	Check	Yes	No	
1	CHECK LAN SYSTEM. Inspect LAN system. <Ref. to LAN(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is LAN system normal?	Go to step 2.	Perform the inspection according to the diagnosis for LAN system.
2	CHECK CONNECTOR. 1) Disconnect the keyless access CM connector. 2) Disconnect the rear exterior antenna connector.	Is the connector OK?	Go to step 3.	Repair or replace the connector.
3	CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and rear exterior antenna connector, and between rear exterior antenna connector and chassis ground. Connector & terminal (B573) No. 2 — (AD23) No. 1: (B573) No. 1 — (AD23) No. 2:	Is the resistance less than 1 Ω?	Go to step 4.	Repair or replace the open circuit of harness.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
4 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground, and between rear exterior antenna connector and chassis ground. <i>Connector & terminal</i> <i>(B573) No. 2 — Chassis ground:</i> <i>(B573) No. 1 — Chassis ground:</i> <i>(AD23) No. 2 — Chassis ground:</i> <i>(AD23) No. 1 — 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 REAR EXTERIOR ANTENNA. 1) Remove the rear exterior antenna. <Ref. to SL-88, REMOVAL, Keyless Access Outdoor Antenna.> 2) Using a tester, measure the resistance between rear exterior antenna connectors. <i>Connector & terminal</i> <i>(AD23) No. 1 — (AD23) No. 2:</i>	Is the resistance less than 1 Ω?	Go to step 6.	Replace the rear exterior antenna. <Ref. to SL-88, REMOVAL, Keyless Access Outdoor Antenna.>
6 CHECK KEYLESS ACCESS CM. 1) Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.> 2) Read DTC using the Subaru Select Monitor.	Is B27A8 displayed?	Replace the rear exterior antenna. <Ref. to SL-88, REMOVAL, Keyless Access Outdoor Antenna.>	Malfunction occurred in the keyless access CM.

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AI: DTC B1571 REFERENCE CODE INCOMPATIBILITY

DTC DETECTING CONDITION:

Reference code incompatibility between keyless access CM and ECM

TROUBLE SYMPTOM:

Engine will not start.

	Step	Check	Yes	No
1	CHECK ECM. Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration finished? And does the engine start?	System is normal.	Go to step 2.
2	REPLACE ECM. 1) Install the ECM from other normal operating vehicle (with push button start) which use same ECM to the vehicle to be diagnosed. 2) Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration finished? And does the engine start?	Replace the ECM. <Ref. to FU(H4DO)-94, REMOVAL, Engine Control Module (ECM).> Install the ECM from other vehicle to the original vehicle.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AJ:DTC B1572 IMM CIRCUIT FAILURE (EXCEPT ANTENNA CIRCUIT)

DTC DETECTING CONDITION:

Communication error between keyless access CM and ECM

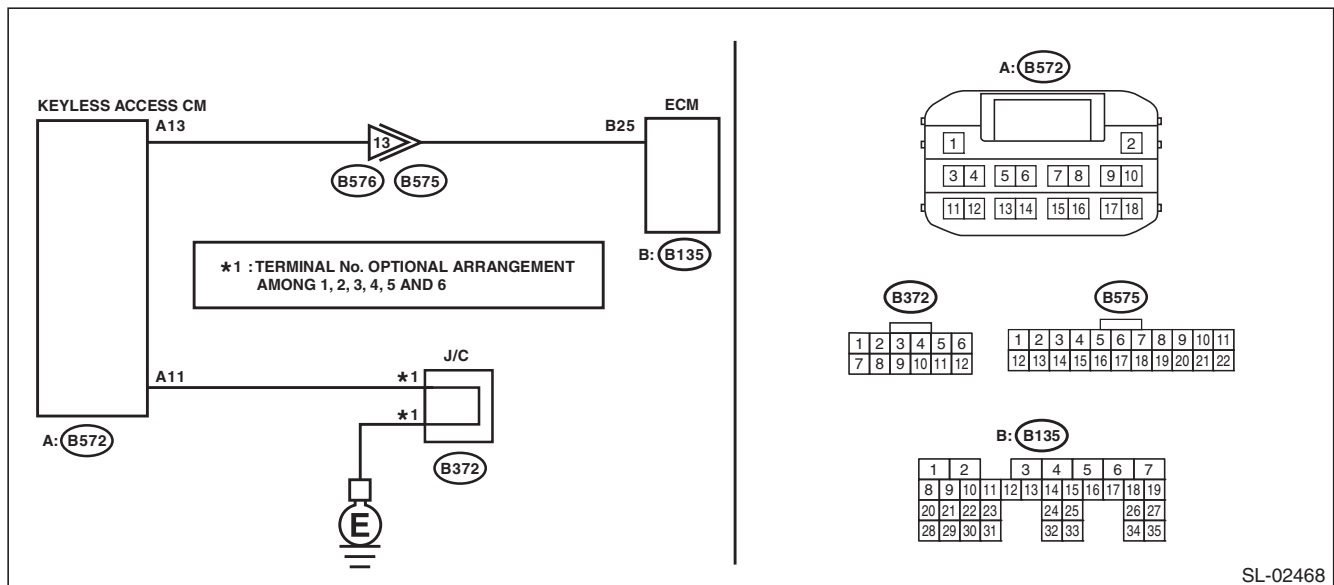
TROUBLE SYMPTOM:

Engine will not start.

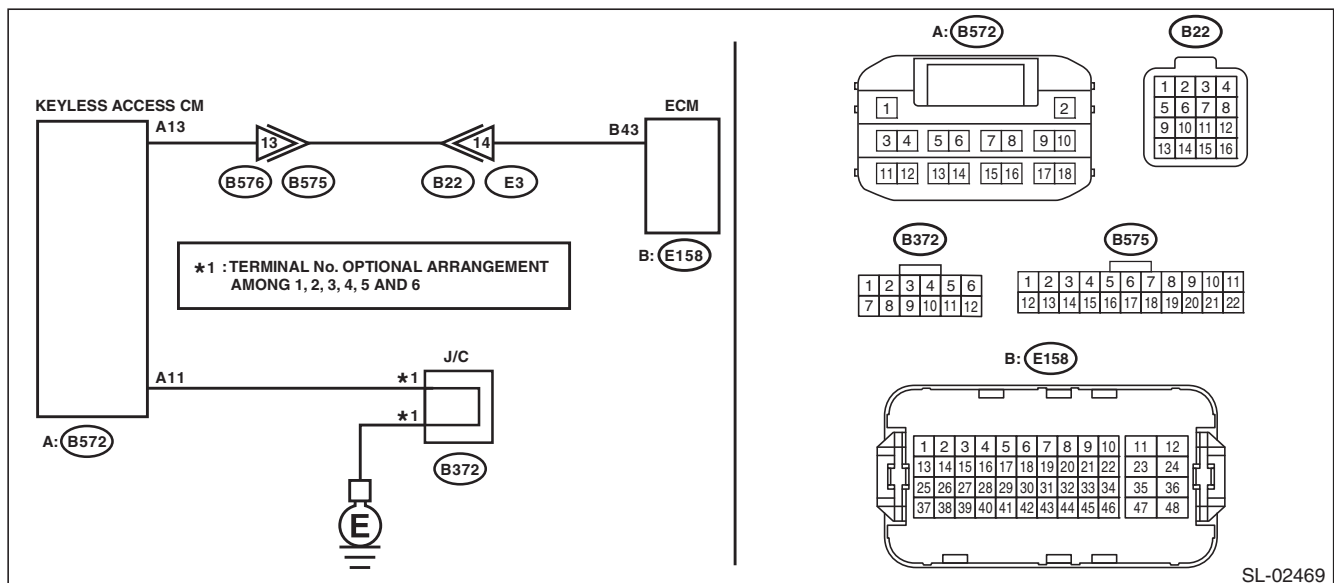
WIRING DIAGRAM:

Push button start system <Ref. to WI-331, WIRING DIAGRAM, Push Button Start System.>

- Non-turbo model



- Turbo model



Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
1 CHECK CURRENT DATA. 1) Turn the ignition switch to ON. 2) Check the keyless access CM data using the Subaru Select Monitor. 3) Display the next data. "Immobilizer" "Engine start" "Unlock confirmation" Data Immobilizer = Unset: Engine start = Engine start permission: Unlock confirmation = Confirmed:	Is the data displayed as described above?	Go to step 2.	Perform diagnostics with phenomenon. <Ref. to KPS(diag)-116, ENGINE DOES NOT START, INSPECTION, Diagnostics with Phenomenon.>
2 CHECK CURRENT DATA. Use the Subaru Select Monitor to check the keyless access CM data when holding down the push button ignition switch while depressing on the brake pedal (AT model) or clutch pedal (MT model). Data EGI code reception status = Reception: NOTE: If "Reception" is displayed, the status changes to "Not yet received" in 10 seconds. When performing the check again, perform the check after turning the ignition to OFF.	Is the data displayed as described above?	Go to step 3.	Repair or replace the harness between keyless access CM and ECM.
3 CHECK WIRING HARNESS. 1) Turn the ignition switch to OFF. 2) Disconnect the keyless access CM connector and ECM connector. 3) Using a tester, measure the resistance between the keyless access CM connector and ECM. Connector & terminal Non-turbo model (B572) No. 13 — (B135) No. 25: Turbo model (B572) No. 13 — (E158) No. 43:	Is the resistance less than 10 Ω?	Go to step 4.	Repair or replace the open circuit of harness.
4 CHECK WIRING HARNESS. Using a tester, measure the resistance between the keyless access CM connector and chassis ground. Connector & terminal (B572) No. 11 — Chassis ground:	Is the resistance less than 10 Ω?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK ECM. 1) Install the ECM from other normal operating vehicle (with push button start) which use same ECM to the vehicle to be diagnosed. 2) Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration finished? And does the engine start?	Replace the ECM. <Ref. to FU(H4DO)-94, REMOVAL, Engine Control Module (ECM).> Install the ECM from other vehicle to the original vehicle.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AK:DTC B1576 EGI CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- ECM malfunctioning
- When inaccessible to ROM in ECM during registration.

	Step	Check	Yes	No
1	PERFORM ECM REGISTRATION. Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Go to step 2.
2	PERFORM ECM REGISTRATION. Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Go to step 3.
3	PERFORM ECM REGISTRATION. Perform ECM registration. Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".	Is ECM registration complete?	Make sure that the engine can start. This completes the work.	Replace the ECM. <Ref. to FU(H4DO)-94, REMOVAL, Engine Control Module (ECM).>

Diagnostic Procedure with Diagnostic Trouble Code (DTC)

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

AL:DTC B1577 IMM CONTROL MODULE EEPROM

DTC DETECTING CONDITION:

- Defective keyless access CM
- When inaccessible to ROM in keyless access CM.

Step		Check	Yes	No
1	CHECK DTC. 1) Turn the ignition switch to ON. 2) Perform the clear memory operation of ECM. 3) Turn the ignition switch to OFF. 4) Remove and install the battery. 5) Turn the ignition switch to ON. 6) After 5 seconds or more, read DTC.	Is B1577 displayed?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	System is normal.

General Diagnostic Table

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

14. General Diagnostic Table

A: INSPECTION

1. IMMOBILIZER SYSTEM

Symptoms	Note
Engine does not start	<Ref. to KPS(diag)-116, ENGINE DOES NOT START, INSPECTION, Diagnostics with Phenomenon.> <Ref. to KPS(diag)-61, DTC B2784 ANTENNA COIL FAULT, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to KPS(diag)-68, DTC B278A ABNORMAL IMMOBILIZER POWER SUPPLY, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> <Ref. to KPS(diag)-62, DTC B2785 LIN COMMUNICATION ERROR, Diagnostic Procedure with Diagnostic Trouble Code (DTC).> Check the brake switch. <Ref. to BR-78, INSPECTION, Stop Light Switch.> Check the parking switch signal. <Ref. to CS-56, INSPECTION, AT Shift Lock Solenoid and "P" Range Switch.> Check the DTC of the ECM.
Cannot register the immobilizer.	Refer to the "REGISTRATION MANUAL FOR IMMOBILIZER".
Engine does not start with the remote engine starter.	<Ref. to KPS(diag)-58, DTC B2779 REMOTE CONTROL ENGINE STARTER COMMUNICATION COLLATION NG, Diagnostic Procedure with Diagnostic Trouble Code (DTC).>

2. KEYLESS ACCESS SYSTEM

Symptoms	Reference
All doors cannot be locked/unlocked with keyless access.	<Ref. to KPS(diag)-90, KEYLESS ACCESS LOCK/UNLOCK CANNOT BE PERFORMED FROM ANY OF THE DOORS, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock with keyless access from the driver's door.	<Ref. to KPS(diag)-91, CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock/unlock from the driver's door with keyless access.	<Ref. to KPS(diag)-92, CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot unlock from the driver's door with keyless access.	<Ref. to KPS(diag)-94, CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot unlock from the passenger's door with keyless access.	<Ref. to KPS(diag)-97, CANNOT UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock/unlock from the passenger's door with keyless access.	<Ref. to KPS(diag)-96, CANNOT LOCK/UNLOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Cannot lock from the passenger's door with keyless access.	<Ref. to KPS(diag)-95, CANNOT LOCK WITH KEYLESS ACCESS FROM THE PASSENGER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
Keyless access passenger room buzzer does not sound.	<Ref. to KPS(diag)-98, THE KEYLESS ACCESS PASSENGER ROOM BUZZER DOES NOT SOUND, INSPECTION, Diagnostics with Phenomenon.>
Keyless access external buzzer does not beep.	<Ref. to KPS(diag)-98, KEYLESS ACCESS EXTERNAL BUZZER DOES NOT BEEP, INSPECTION, Diagnostics with Phenomenon.>
Interior collation does not function.	<Ref. to KPS(diag)-100, INTERNAL COLLATION DOES NOT FUNCTION, INSPECTION, Diagnostics with Phenomenon.>
Rear gate cannot be unlocked with the rear gate opener button.	<Ref. to KPS(diag)-103, REAR GATE CANNOT BE UNLOCKED WITH THE REAR GATE OPENER BUTTON, INSPECTION, Diagnostics with Phenomenon.>
Rear gate can not be locked when using the rear lock button.	<Ref. to KPS(diag)-105, CAN NOT LOCK WHEN USING THE REAR LOCK BUTTON, INSPECTION, Diagnostics with Phenomenon.>

General Diagnostic Table

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

3. STEERING LOCK SYSTEM

Symptoms	Index
The steering lock cannot be released (Cannot start the engine).	<Ref. to KPS(diag)-106, THE STEERING LOCK IS NOT RELEASED, INSPECTION, Diagnostics with Phenomenon.>
The steering lock does not operate.	<Ref. to KPS(diag)-108, THE STEERING LOCK DOES NOT OPERATE, INSPECTION, Diagnostics with Phenomenon.>

4. POWER SUPPLY SWITCHING SYSTEM

Symptoms	Reference
Power will not turn ON (both accessory and ignition).	<Ref. to KPS(diag)-109, POWER WILL NOT TURN ON (BOTH ACCESSORY AND IGNITION), INSPECTION, Diagnostics with Phenomenon.>
Power will not turn ON (Accessory only).	<Ref. to KPS(diag)-112, POWER WILL NOT TURN ON (ACCESSORY DOES NOT TURN ON, BUT IGNITION TURNS ON), INSPECTION, Diagnostics with Phenomenon.>
Power will not turn ON (Ignition only).	<Ref. to KPS(diag)-114, POWER WILL NOT TURN ON (ACCESSORY TURNS ON, BUT IGNITION DOES NOT TURN ON), INSPECTION, Diagnostics with Phenomenon.>



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.	Go to step 4.
3 CHECK ACCESS KEY. Measure the battery voltage of the access key that does not operate.	Is the voltage 2.5 — 3.2 V?	Replace the access key.	Replace the battery.
4 CHECK DOOR LOCK. Operate the driver's center door lock switch.	Does the door lock operate?	Go to step 5.	Check the door lock control system. <Ref. to SL-11, INSPECTION, Door Lock Control System.>
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 — (B573) No. 5: (R296) No. 5 — (B573) No. 17: (R296) No. 2 — (B573) No. 19:	Is the resistance less than 10 Ω?	Go to step 7.	Repair or replace the open circuit of harness.
7 CHECK RECEIVER. Replace with a receiver that is operating normally. <Ref. to SL-92, REMOVAL, Receiver.>	When the front unlock sensor and the rear gate opener button are operated, does it lock/unlock?	Malfunction occurred in receiver.	Go to step 8.
8 CHECK HARNESS. 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 10 V or more when the ignition switch is turned to ON?	Go to step 9.	Check the keyless access CM power supply circuit.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
9 CHECK HARNESS. Using a tester, measure the resistance between the keyless access CM connector 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-93, REMOVAL, Keyless Access CM.>	Repair or replace the open circuit of harness.

2. 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 touch sensor (lock) 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-93, REMOVAL, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector. Connector & terminal (B574) No. 20 — (D66) No. 1:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 20 — Chassis ground: (D66) No. 1 — Chassis ground:	Is the resistance 10 k Ω or more?	Go to step 6.	Repair or replace the short circuit of the harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
6 REPLACE FRONT DOOR OUTER HANDLE. Replace the driver's side front outer handle with the passenger's side front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

3. 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 front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector, and between front outer handle connector and chassis ground. Connector & terminal (B574) No. 12 — (D66) No. 6: (B574) No. 13 — (D66) No. 3: (B574) No. 19 — (D66) No. 5: (D66) No. 2 — Chassis ground:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 12 — Chassis ground: (D66) No. 6 — Chassis ground: (B574) No. 13 — Chassis ground: (D66) No. 3 — Chassis ground:	Is the resistance 10 kΩ or more?	Go to step 5.	Repair or replace the short circuit of the harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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) Use the Subaru Select Monitor, measure the waveform between the keyless access CM connectors. Connector & terminal (D66) No. 6 — (D66) No. 3:	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-93, REMOVAL, 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. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>



Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

4. 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 (unlock) 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-93, REMOVAL, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector. Connector & terminal (B574) No. 22 — (D66) No. 4:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 22 — Chassis ground: (D66) No. 4 — Chassis ground:	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. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the driver's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

5. 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 touch sensor (lock) 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-93, REMOVAL, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector. Connector & terminal (B574) No. 8 — (D56) No. 1:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 8 — Chassis ground: (D56) No. 1 — Chassis ground:	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. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

6. 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 front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector, and between front outer handle connector and chassis ground. Connector & terminal (B574) No. 11 — (D56) No. 6: (B574) No. 10 — (D56) No. 3: (B574) No. 23 — (D56) No. 4: (D56) No. 2 — Chassis ground:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 11 — Chassis ground: (D56) No. 6 — Chassis ground: (B574) No. 10 — Chassis ground: (D56) No. 3 — Chassis ground:	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) Use the Subaru Select Monitor, measure the waveform between the keyless access CM connectors. Connector & terminal (D56) No. 6 — (D56) No. 3:	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-93, REMOVAL, 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. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

7. 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 (unlock) 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-93, REMOVAL, Keyless Access CM.>	Go to step 4.
4 CHECK HARNESS. 1) Disconnect the keyless access CM connector. 2) Disconnect the front outer handle connector. 3) Using a tester, measure the resistance between the keyless access CM connector and front outer handle connector. Connector & terminal (B574) No. 23 — (D56) No. 4:	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 front outer handle connector and chassis ground. Connector & terminal (B574) No. 23 — Chassis ground: (D56) No. 4 — Chassis ground:	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. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Does it operate properly?	Replace the passenger's front outer handle. <Ref. to SL-34, REMOVAL, Front Outer Handle.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

8. 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. <Ref. to IDI(diag)-2, PROCEDURE, Basic Diagnostic Procedure.>	Is combination meter OK?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Replace the combination meter. <Ref. to IDI-18, REMOVAL, Combination Meter.>

9. 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)-21, OPERATION, Function Check.>	Does the buzzer sound?	Go to step 3.	Go to step 5.
3 CHECK KEYLESS ACCESS SYSTEM. 1) Turn to IGN ON. 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)-91, CANNOT LOCK WITH KEYLESS ACCESS FROM THE DRIVER'S DOOR, INSPECTION, Diagnostics with Phenomenon.>
4 CHECK KEYLESS ACCESS SYSTEM. 1) 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-93, 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 — (B164) 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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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
6 CHECK HARNESS. Measure the resistance between keyless buzzer connector and chassis ground. <i>Connector & terminal</i> <i>(B164) 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>(B164) 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)-21, 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-108, REMOVAL, Access Buzzer.>	Replace the body integrated unit. <Ref. to SL-74, Body Integrated Unit.>

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

10.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-81, 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)-28, 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 (B574) No. 2 — No. 3:	Is a pulse output?	Go to step 3.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, 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)-28, 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 (B573) No. 10 — No. 11:	Is a pulse output?	Go to step 4.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, 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)-28, 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 (B573) No. 8 — No. 9:	Is a pulse output?	Go to step 5.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, 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 (B579) No. 1 — (B574) No. 3: (B579) No. 3 — (B574) No. 2:	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 (R298) No. 1 — (B573) No. 11: (R298) No. 3 — (B573) No. 10:	Is there continuity?	Go to step 7.	Repair or replace the open circuit of harness.

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

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 — (B573) No. 9: (R297) No. 3 — (B573) 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. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.>	Does it operate properly?	Replace the front interior antenna. <Ref. to SL-86, 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. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.>	Does it operate properly?	Replace the center passenger room antenna. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.>	Go to step 10.
10 CHECK ANTENNA. Replace the rear interior antenna with a new or properly functioning part. <Ref. to SL-86, REMOVAL, Keyless Access Indoor Antenna.>	Does it operate properly?	Replace the rear interior antenna. <Ref. to SL-86, 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 — (B573) No. 5: (R296) No. 5 — (B573) No. 17: (R296) No. 2 — (B573) 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. <Ref. to SL-92, REMOVAL, Receiver.>	Does it operate properly?	Replace the receiver. <Ref. to SL-92, 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)-28, 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-93, REMOVAL, Keyless Access CM.>

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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)-28, 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-93, REMOVAL, 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)-28, 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-93, REMOVAL, Keyless Access CM.>



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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

11. 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.	For vehicles with-out power rear gate Go to step 2. For vehicles with power rear gate <Ref. to PRG(diag)-66, PRG OPENER BUTTON DOES NOT FUNCTION, INSPECTION, Diagnostics with Phenomenon.>
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. Connector & terminal (i171) No. 7 — (D46) No. 1:	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. Connector & terminal (D46) No. 2 — Chassis ground:	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK REAR GATE LOCK ACTUATOR. 1) Check the rear gate lock actuator. <Ref. to SL-51, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-74, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-50, 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-81, 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.

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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. 5 — (D77) No. 6:	Is there continuity when pressing the switch?	Go to step 11.	Replace the rear gate opener button. <Ref. to SL-48, REMOVAL, 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 (AD23) No. 1 — (B573) No. 2: (AD23) No. 2 — (B573) 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. <Ref. to SL-88, REMOVAL, Keyless Access Outdoor Antenna.>	Does it operate properly?	The outside rear antenna has a failure.	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-74, REMOVAL, Body Integrated Unit.>
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)-28, 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-93, REMOVAL, Keyless Access CM.>

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

12.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 touch sensor (lock) and touch sensor (unlock).	When the switch is operated, does the rear gate lock/unlock?	Go to step 2.	Go to step 10.
2 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 8.	Go to step 3.
3 CHECK HARNESS. 1) Disconnect the rear lock button connector and the keyless access CM connector. 2) Using a tester, measure the resistance between harness. Connector & terminal (D77) No. 3 — (B573) No. 27:	Is the resistance less than 10 Ω?	Go to step 4.	Repair or replace the open circuit of the harness.
4 CHECK HARNESS. Using a tester, measure the resistance between harness and chassis ground. Connector & terminal (D77) No. 3 — Chassis ground:	Is the resistance 10 MΩ or more?	Go to step 5.	Repair or replace the short of harness.
5 CHECK HARNESS. Using a tester, measure the resistance between harness and chassis ground. Connector & terminal (D77) No. 4 — Chassis ground:	Is the resistance less than 10 Ω?	Go to step 6.	Repair or replace the open circuit of the harness.
6 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 7.	Replace the rear lock button. <Ref. to SL-90, REMOVAL, Rear Lock Button.>
7 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 8.	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>
8 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 (AD23) No. 1 — (B573) No. 2: (AD23) No. 2 — (B573) No. 1:	Is there continuity?	Go to step 9.	Repair or replace the open circuit of harness.
9 CHECK OUTSIDE REAR ANTENNA. Replace the outside rear antenna with new or properly working parts. <Ref. to SL-88, REMOVAL, Keyless Access Outdoor Antenna.>	Does it operate properly?	The outside rear antenna has a failure.	Go to step 10.

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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 — (D46) 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 (D46) 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-51, INSPECTION, Rear Gate Latch and Actuator Assembly.>	Is the rear gate lock actuator normal?	Replace the body integrated unit. <Ref. to SL-74, Body Integrated Unit.>	Replace the rear gate latch and actuator assembly. <Ref. to SL-50, Rear Gate Latch and Actuator Assembly.>

13.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 (except for MT model) or clutch pedal (MT model). 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)-62, 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.



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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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</i> <i>(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</i> <i>(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</i> <i>(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-95, 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-95, 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-95, REMOVAL, Steering Lock CM.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>

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KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

14.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-93, 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-95, 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-93, 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-95, 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. Connector & terminal (B572) No. 11 — Chassis ground:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the open circuit of harness.

15. 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. Connector & terminal (B572) No. 2 (+) — Chassis ground (–):	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. Connector & terminal (B572) No. 11 — Chassis ground:	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) Carrying the access key, depress the brake pedal (except for MT model) or clutch pedal (MT model), 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-102, 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 (B574) No. 6 — (B225) No. 38: (B572) No. 9 — (B225) No. 34: (B574) No. 4 — (B426) No. 2:	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 (B572) No. 9 — Chassis ground: (B574) No. 4 — Chassis ground: (B574) No. 6 — Chassis ground:	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 1 (push button start) connector and chassis ground. Connector & terminal (B225) No. 39 — Chassis ground:	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 2 connector and chassis ground. Connector & terminal (B225) No. 35 — Chassis ground:	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 (B426) No. 3 — Chassis ground:	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 (B572) No. 9 (+) — Chassis ground (–): (B574) No. 4 (+) — Chassis ground (–): (B574) No. 6 (+) — Chassis ground (–):	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-93, REMOVAL, 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 (i150) No. 7 — No. 5: (i150) No. 2 — No. 5:	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-96, 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. <i>Connector & terminal</i> <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. <i>Connector & terminal</i> <i>(i150) No. 7 — (B574) No. 28:</i> <i>(i150) No. 2 — (B574) 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)

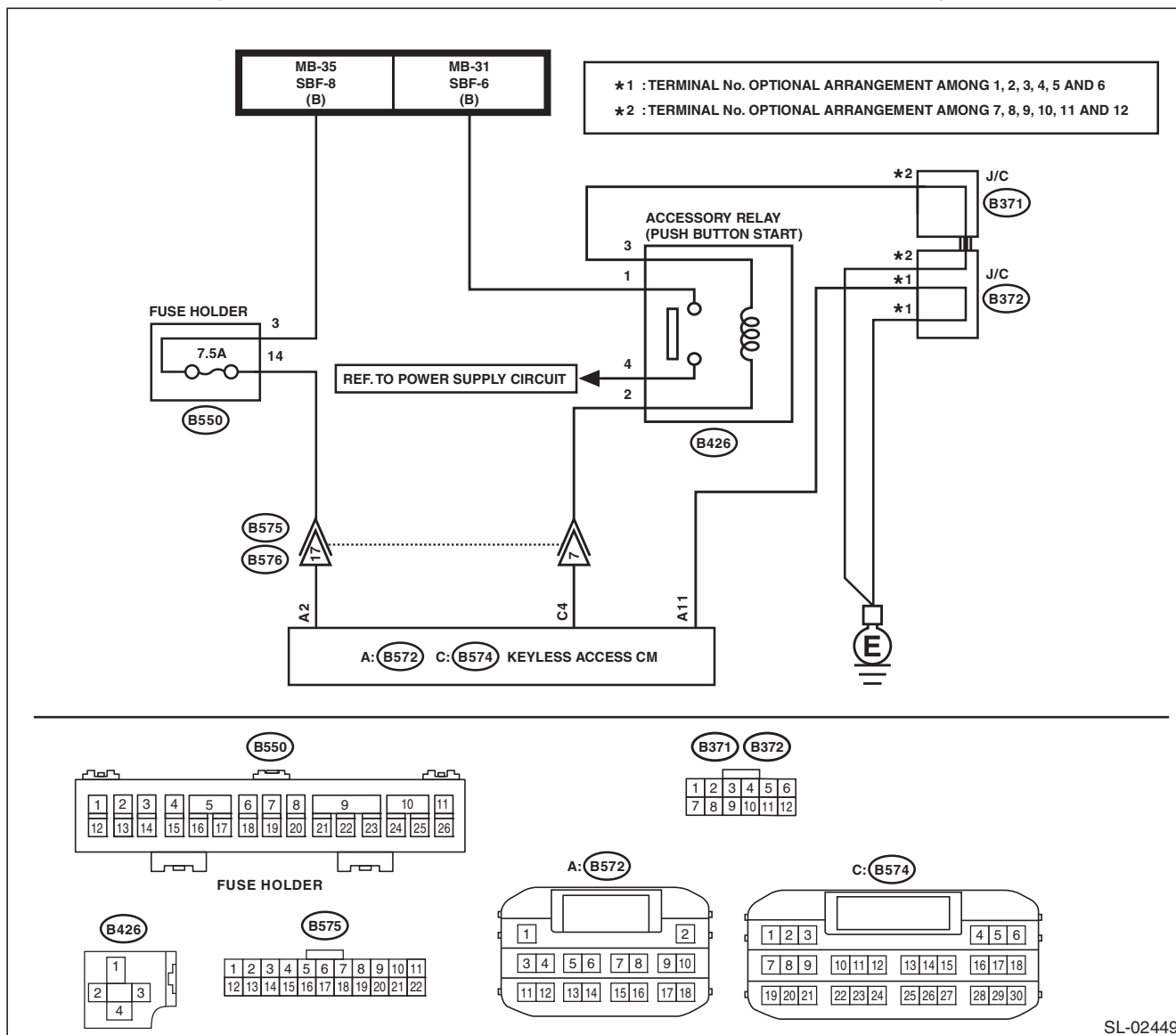
16. POWER WILL NOT TURN ON (ACCESSORY DOES NOT TURN ON, BUT IGNITION TURNS ON)

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-331, WIRING DIAGRAM, Push Button Start System.>



Step	Check	Yes	No
1	CHECK FUSE. Check the fuse.	Go to step 2.	Replace the fuse.
2	CHECK CONNECTOR. Check the engagement of each connector and for any deformation or looseness.	Go to step 3.	Repair the connector, or replace harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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. <i>Connector & terminal</i> <i>(B572) No. 2 (+) — Chassis ground (-):</i>	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. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.
5 CHECK ACCESSORY RELAY (PUSH BUTTON START). Check the accessory relay (push button start). <Ref. to SL-105, 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). <i>Connector & terminal</i> <i>(B574) No. 4 — (B426) No. 2:</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>(B574) No. 4 — 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>(B574) No. 4 (+) — 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-93, REMOVAL, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

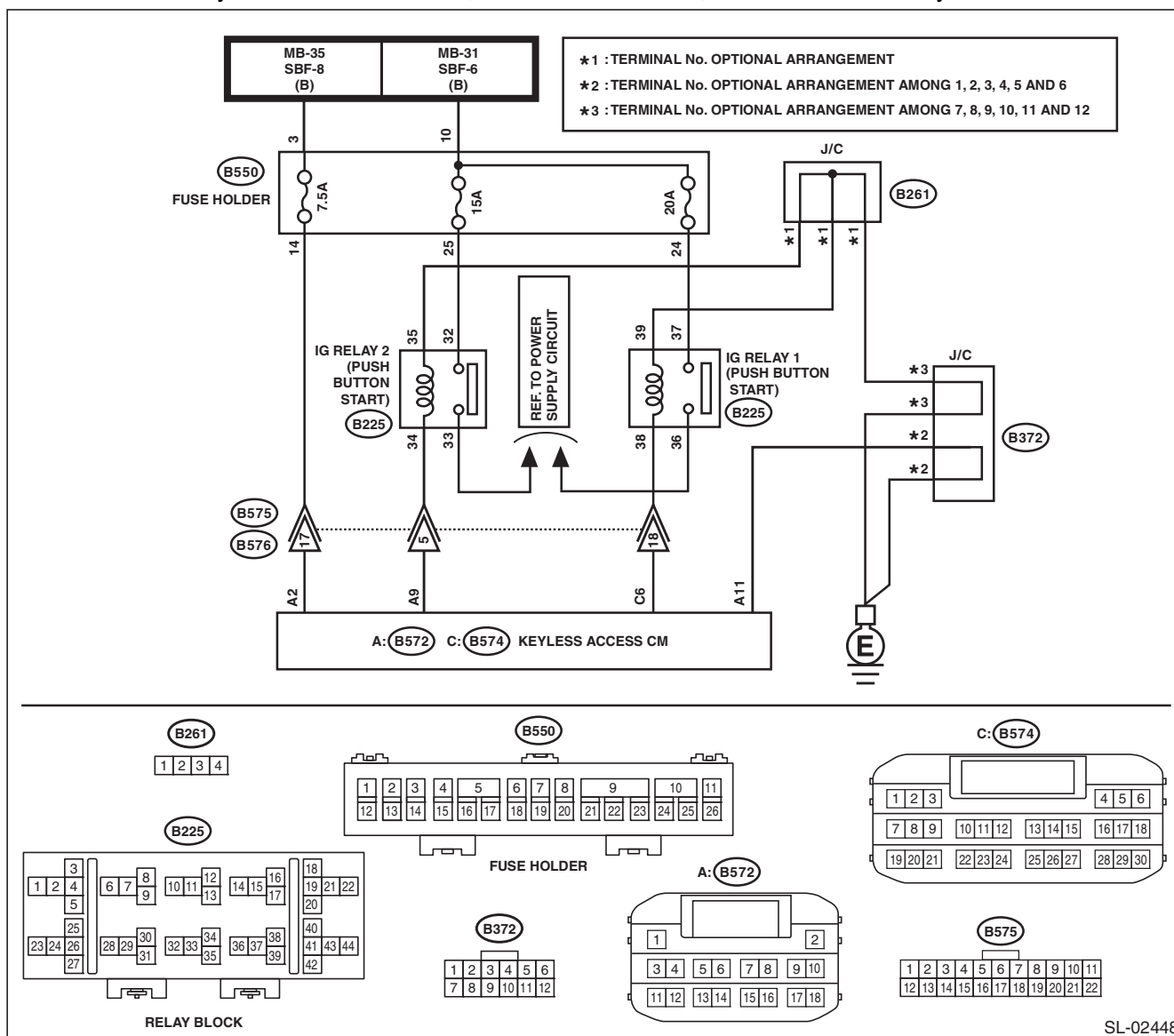
17. POWER WILL NOT TURN ON (ACCESSORY TURNS ON, BUT IGNITION DOES NOT TURN ON)

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-331, WIRING DIAGRAM, Push Button Start System.>



SL-02448

Step	Check	Yes	No
1	CHECK FUSE. Check the fuse.	Go to step 2.	Replace the fuse.
2	CHECK CONNECTOR. Check the engagement of each connector and for any deformation or looseness.	Go to step 3.	Repair the connector, or replace harness.

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

Step	Check	Yes	No
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. <i>Connector & terminal</i> <i>(B572) No. 2 (+) — Chassis ground (-):</i>	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. <i>Connector & terminal</i> <i>(B572) No. 11 — Chassis ground:</i>	Is there continuity?	Go to step 5.	Repair or replace the open circuit of harness.
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-102, 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. 34:</i> <i>(B574) No. 6 — (B225) No. 38:</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>(B574) 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>(B574) 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-93, REMOVAL, Keyless Access CM.>

Diagnostics with Phenomenon

KEYLESS ACCESS WITH PUSH BUTTON START SYSTEM (DIAGNOSTICS)

18.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 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) Shift the shift lever to parking (except for MT model), or neutral for MT model. 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) Depress the brake pedal (except for MT model) or clutch pedal (MT model), and push the push button ignition switch.	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)-30, 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) Without depressing the brake pedal (except for MT model) or clutch pedal (MT model), push the push button ignition switch.	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)-89, POWER SUPPLY SWITCHING SYSTEM, INSPECTION, General Diagnostic Table.>
4 CHECK CURRENT DATA. 1) Place the access key on the driver's seat. 2) Depress the brake pedal (except for MT model) or clutch pedal (MT model), and push the push button ignition switch. 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.	Except for MT model: is ON displayed in parking and neutral position and OFF displayed in other positions? MT model: is ON displayed when clutch pedal depressed and OFF displayed when clutch pedal 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)-89, 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 (MT model: clutch 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)-62, Diagnostics for Engine Starting Failure.>	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, 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-93, REMOVAL, 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-54, 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 — (B574) No. 25: (B116) No. 2 — Chassis ground:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the harness.

Diagnostics with Phenomenon

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-74, 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 (B572) No. 18 — (B65) No. 4: (B65) No. 3 — F/B fuse No. 8:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the harness.
15 CHECK INHIBITOR SWITCH. Check the inhibitor switch. <Ref. to CVT(TR580)-91, INSPECTION, Inhibitor Switch.>	Is the inhibitor switch working normal?	Go to step 16.	Replace the 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 (B572) No. 5 — (B12) No. 16: (B12) No. 15 — Starter motor:	Is there continuity?	Replace the keyless access CM. <Ref. to SL-93, REMOVAL, Keyless Access CM.>	Repair or replace the harness.

