

ACCESSORIES & EQUIPMENT

Rear Power Seat Control System (Diagnostics & Circuit Tests) - Sienna

REAR POWER SEAT CONTROL SYSTEM

PRECAUTION

PRECAUTION

1. **Before operating the rear No. 2 power seat with stowing function, make sure that there is nothing in the path of the seat.**

WARNING: If someone or something is caught between the seat and other parts, injury or damage may result.

- a. If the system detects that the folding motor is locked due to an object that is caught between the seat cushion and floor, a warning buzzer will sound for 10 seconds and the indicator on the fold seat switch will blink.
2. **Before operating the rear No. 2 power seat with stowing function, make sure that there is nothing on the seat.**

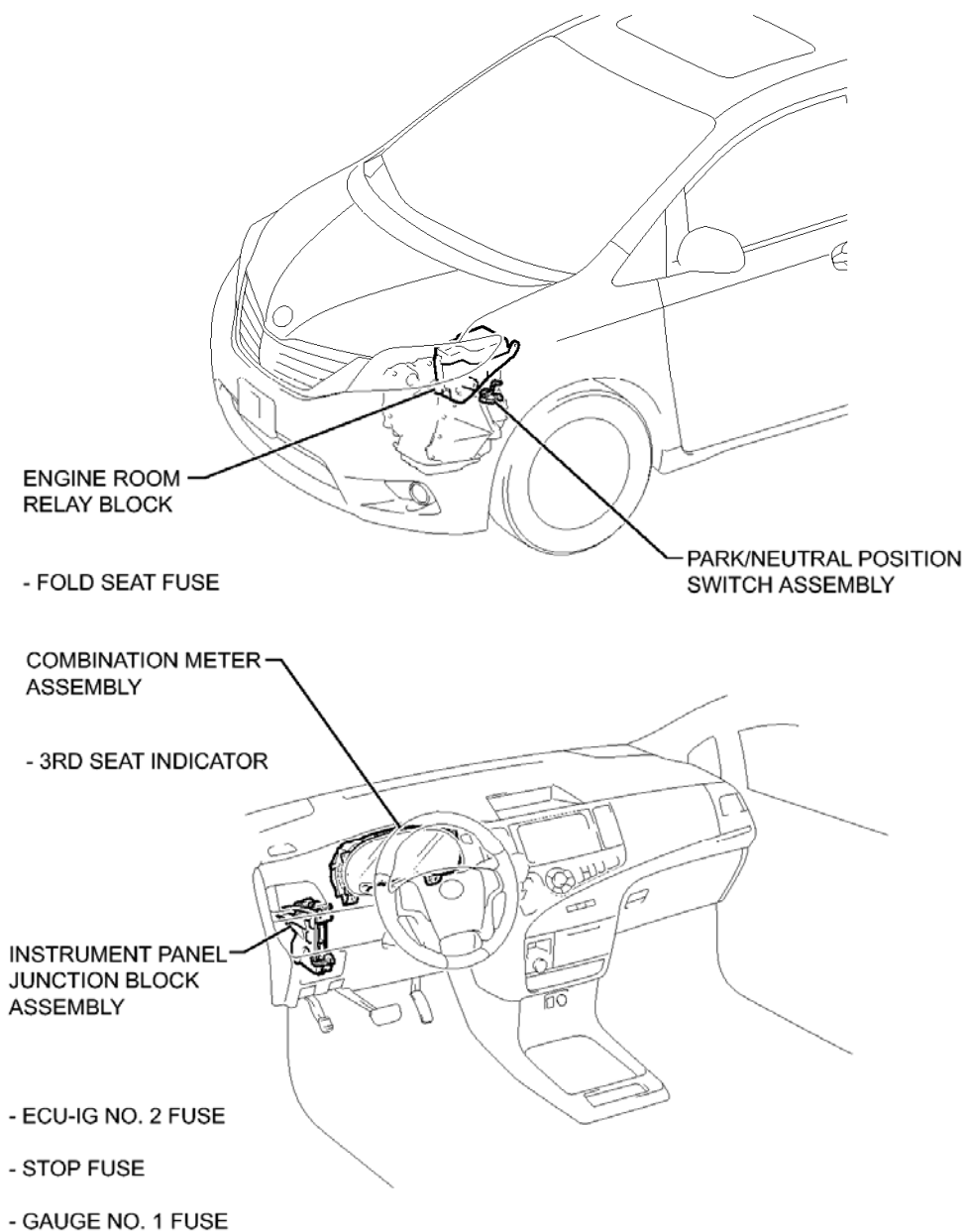
HINT:

If the system detects that an object is caught in the seat when the folding switch is operated, operating the stowing switch right after the detection will not cause the seatback to move.

- a. If the system detects that an object is caught between the seat cushion and seatback, a warning buzzer will sound for 10 seconds and the indicator on the fold seat switch will blink.

PARTS LOCATION

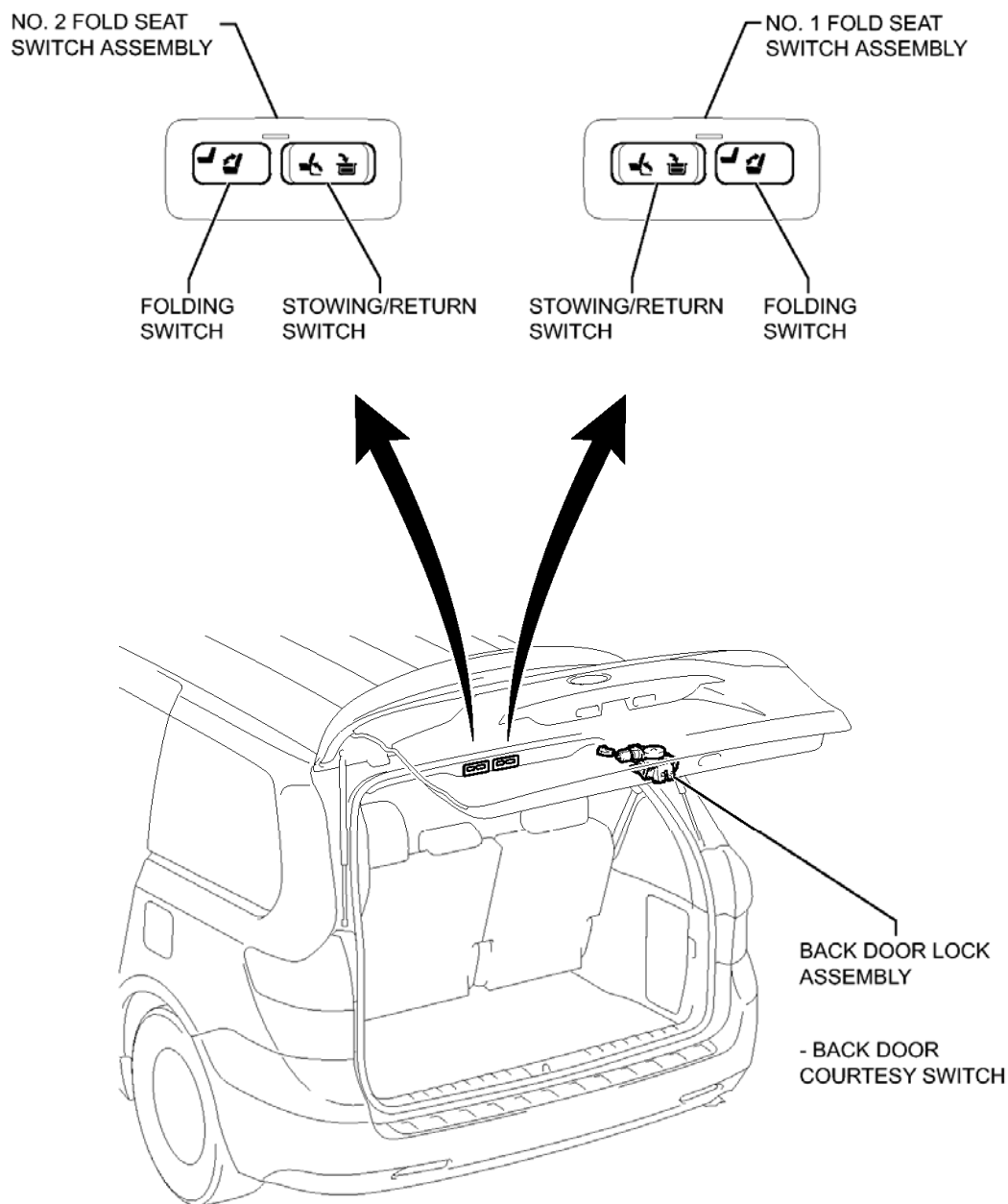
ILLUSTRATION



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Fig. 1: Rear Power Seat Control System Components Location (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

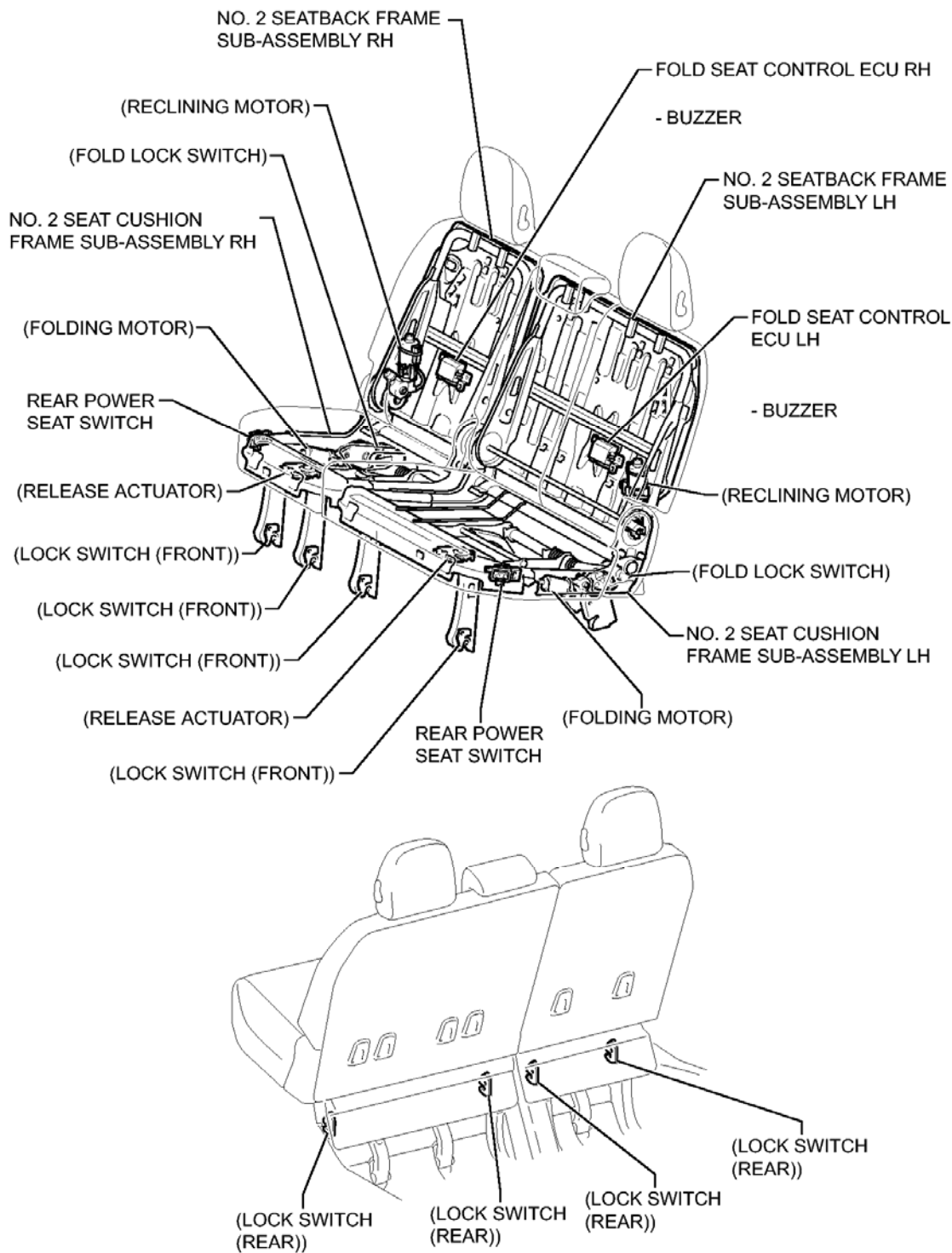
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Fig. 2: Rear Power Seat Control System Components Location (2 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ILLUSTRATION



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Fig. 3: Rear Power Seat Control System Components Location (3 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DIAGRAM

SYSTEM DIAGRAM

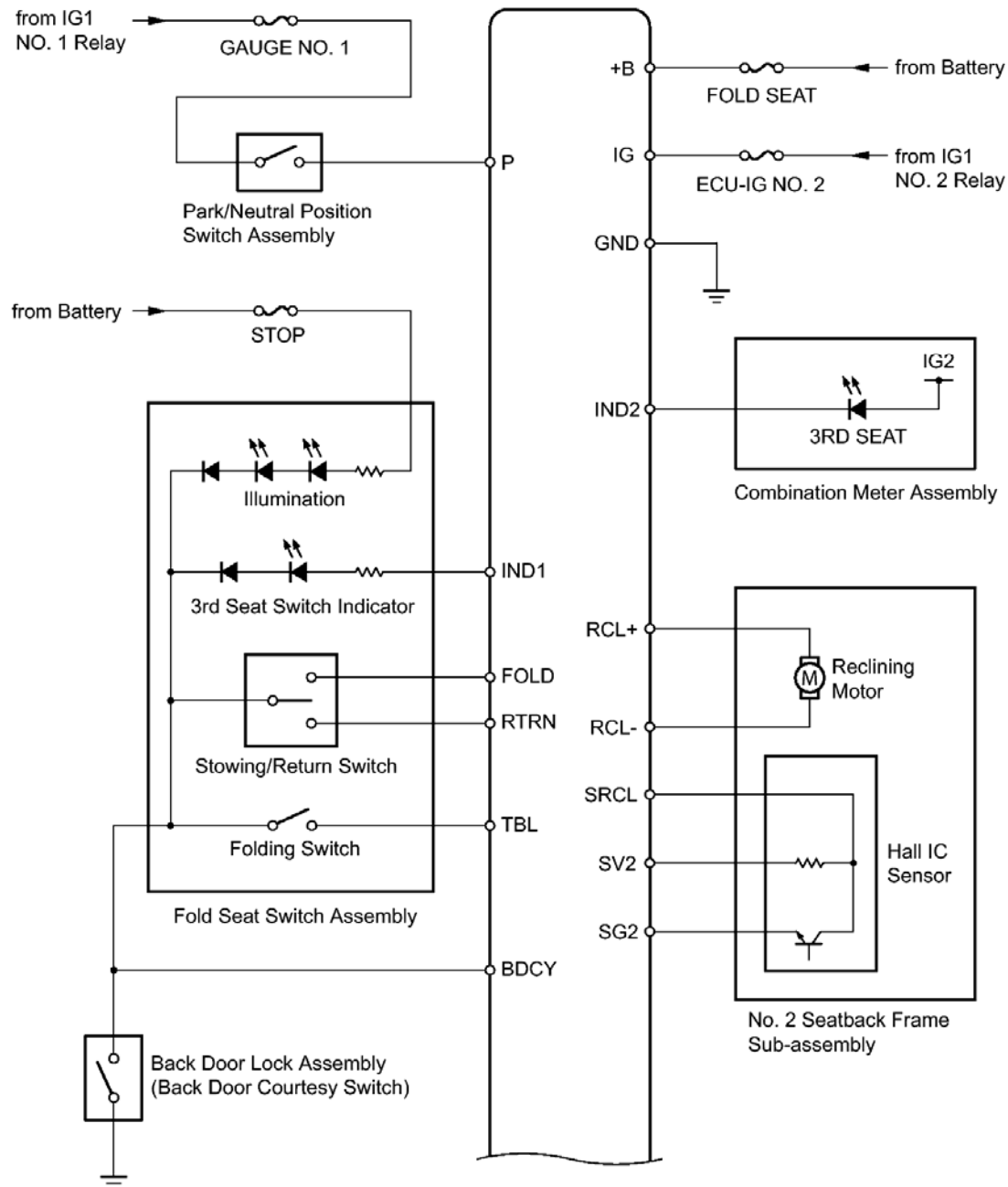


Fig. 4: Rear Power Seat Control System Circuit Diagram (1 Of 2)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

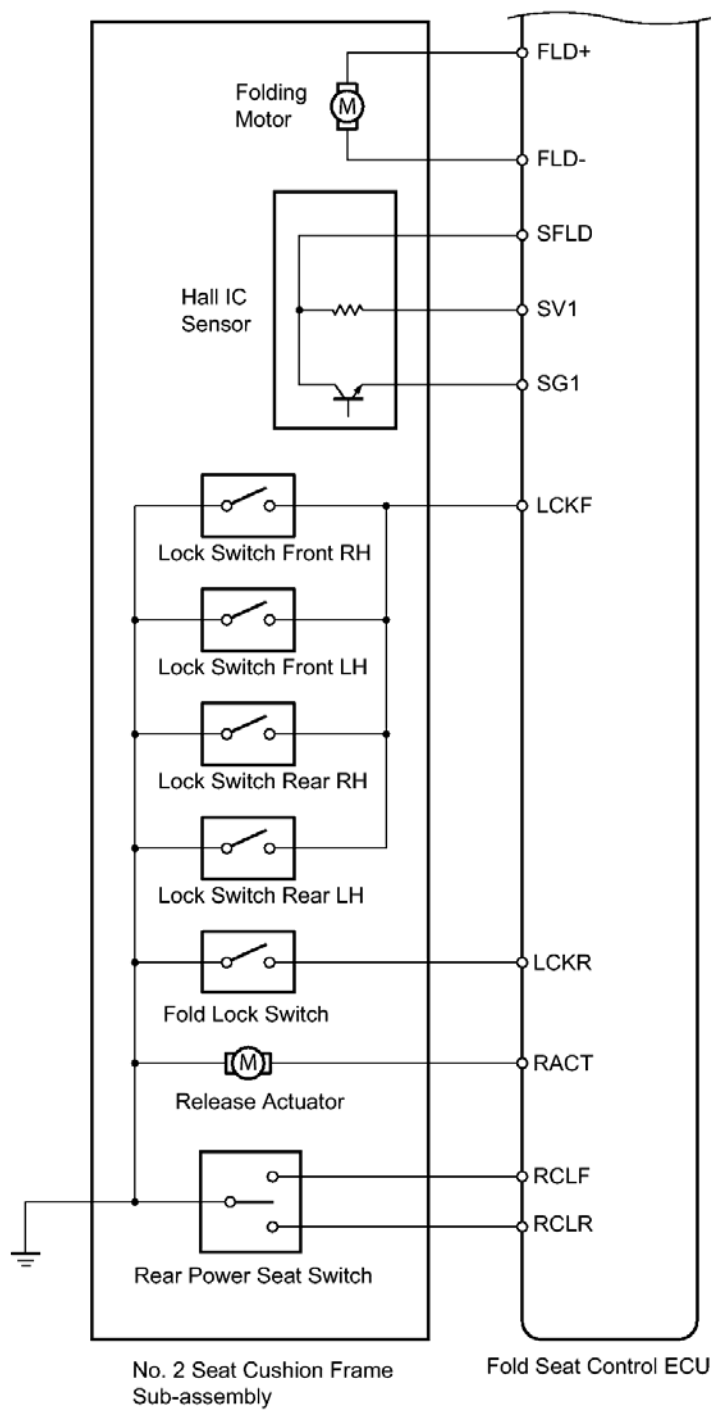


Fig. 5: Rear Power Seat Control System Circuit Diagram (2 Of 2)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DESCRIPTION

SYSTEM DESCRIPTION

1. DESCRIPTION OF POWER REAR NO. 2 SEAT WITH STOWING FUNCTION

- A rear No. 2 power seat with stowing function has been adopted for the third-row seats.
- The rear No. 2 power seat with stowing function electrically stows and returns the seat when the power folding seat switch is operated.
- This system is adopted for both the left and right seats. Each system operates independently.

2. FUNCTIONS OF MAIN COMPONENTS

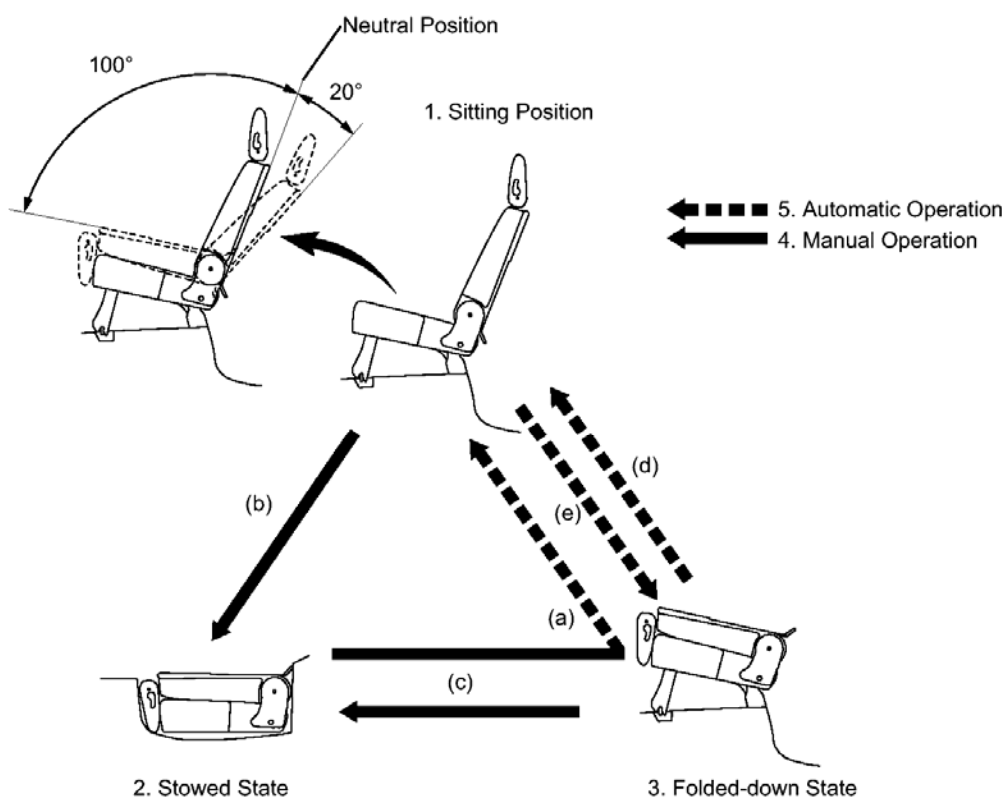
Components	Function
Folding Motor (Cushion Position Sensor)	The fold seat control ECU provides the voltage that is used to operate the folding motor. The folding motor stows and returns the third-row seat. (A Hall type position sensor is installed in the folding motor to detect the seat cushion position.)
	The fold seat control ECU provides the

Reclining Motor (Seatback Position Sensor)	voltage that is used to operate the reclining motor. The reclining motor reclines the seatback of the third-row seat back and forth. (A Hall type position sensor is installed in the reclining motor to detect the seatback position.)
Release Actuator	The fold seat control ECU provides the voltage that releases the actuator that locks the seat leg.
	Turns off when the third-row seat leg is secured to the floor

Lock Switch	and sends a signal to the fold seat control ECU.
Fold Lock Switch	Turns off when the third-row seat cushion is stowed and sends a signal to the fold seat control ECU.
Rear Power Seat Switch	Sends a seatback angle adjustment signal to the fold seat control ECU when this switch is operated. The seatback angle is adjusted based on this signal.
	Sends a third-row seat folding-down, stowing, or return operation signal to the fold seat

Fold Seat Switch	control ECU when this switch is operated. The third-row seat is folded down, stowed, or returned to the original position based on this signal.
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3. SYSTEM OPERATION



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Fig. 6: Stow Function & Operation

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- a. Sitting Position
- b. Stowed State
- c. Folded-down State
- d. Manual Operation (Press and hold the switch)
- e. Automatic Operation (Press and release the switch)
- a. Return operation (from the stowed state to the sitting position)

- 1. Switch operation

- Push the stowing/return switch to the left and hold it to return the seat.

- 2. Conditions

- The back door is open.
 - The engine switch off or the shift lever is in the P position.

HINT:

- If the above conditions are not met, the indicator on the switch will blink while the switch is pressed.
 - The buzzer will sound twice when the seat cushion return operation begins.
 - After the seat cushion return operation is complete, the buzzer will sound twice to indicate that the seatback auto return operation has begun.
 - If the switch is released, any other switch is pressed, or required conditions are no longer met midway through a return operation, the return operation will stop. The buzzer will sound for 10 seconds and the indicator on the switch will come on.
 - If the system detects that an object is caught or detects that the motor is locked, the system will stop the seat operation, the indicator will blink, and the buzzer will sound for 10 seconds.
 - The indicator will go off when normal operation resumes.

- b. Stowing operation (from the sitting position to the stowed state)

- 1. Switch operation

- Push the stowing/return switch to the right and hold it to stow the seat.

- 2. Conditions

- The back door is open.
 - The engine switch off or the shift lever is in the P position.

HINT:

- The buzzer will sound twice when the seatback folding-down operation begins.
 - If the switch is released, any other switch is pressed, or required conditions are no longer met midway through a stowing operation, the stowing operation will stop. The buzzer will sound for 10 seconds and the indicator on the switch will come on.
 - If the system detects that an object is caught or detects that the motor is locked, the system will stop the seat operation, the indicator will blink, and the buzzer will sound

for 10 seconds.

- The indicator will go off when normal operation resumes.
- The buzzer will sound twice when the operation is complete.

c. Stowing operation (from the folded-down state to the stowed state)

1. Switch operation

Push the stowing/return switch to the right and hold it to stow the seat.

2. Conditions

- The back door is open.
- The engine switch off or the shift lever is in the P position.

HINT:

- The buzzer will sound twice when the seat cushion stowing operation begins.
- If the switch is released, any other switch is pressed, or required conditions are no longer met midway through a stowing operation, the stowing operation will stop. The buzzer will sound for 10 seconds and the indicator on the switch will come on.
- If the system detects that an object is caught, the system will stop the seat operation, the indicator will blink, and the buzzer will sound for 10 seconds.
- The indicator will go off when normal operation resumes.
- The buzzer will sound twice when the operation is complete.

d. Return operation (from the folded-down state to the sitting position)

1. Switch operation

- Press and release the folding switch.
- Push the stowing/return switch to the left and release it.
- Press the rear power seat switch to recline the seat back and release it.

2. Conditions

- The back door is open.
- The engine switch off or the shift lever is in the P position.
- The seat cushion is secured.

HINT:

- The rear power seat switch can be operated in the cabin to perform the return operation even while the vehicle is being driven.
- If any other switch is pressed midway through a return operation, the return operation will stop. The buzzer will sound for 10 seconds and the indicator on the switch will come on.
- If the system detects that an object is caught, the system will stop the return operation. The buzzer will sound for 10 seconds and the indicator on the switch will blink.
- The indicator will go off when normal operation resumes.

e. Folding-down operation (from the sitting position to the folded-down state)

1. Switch operation

Press and release the folding switch.

2. Conditions

- The back door is open.
- The engine switch off or the shift lever is in the P position.
- The seat cushion is secured.

HINT:

- If any switch other than the folding switch is pressed midway through a folding-down operation, the folding operation will stop. The buzzer will sound for 10 seconds and the indicator on the switch will come on.
- If the system detects that an object is caught, the system will stop the folding operation. The buzzer will sound for 10 seconds and the indicator on the switch will blink.
- The indicator will go off when normal operation resumes.

- f. Reclining operation

1. Switch operation

Press the rear power seat switch.

2. Conditions

- The seat cushion is secured.
- The seatback is within the reclining operation range.

HINT:

The operation will stop when the rear power seat switch is released or when the seatback position reaches either end of the reclining operation range.

HOW TO PROCEED WITH TROUBLESHOOTING

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the rear power seat system.
- *: Use the Techstream.

1. **VEHICLE BROUGHT TO WORKSHOP**

NEXT: Go to next step

2. **INSPECT BATTERY VOLTAGE**

Standard voltage

11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT: Go to next step

3. PROBLEM SYMPTOMS TABLE

- a. Refer to PROBLEM SYMPTOMS TABLE.

RESULT

Result	Proceed to
Fault is not listed in Problem Symptoms Table	A
Fault is listed in Problem Symptoms Table	B

B --> Go to step 5

A: Go to next step

4. OVERALL ANALYSIS AND TROUBLESHOOTING*

- a. Terminals of ECU. Refer to TERMINALS OF ECU
- b. On-vehicle Inspection. Refer to ON-VEHICLE INSPECTION

NEXT: Go to next step

5. ADJUST, REPAIR OR REPLACE

NEXT: Go to next step

6. CONFIRMATION TEST

NEXT --> END

INITIALIZATION

INITIALIZATION

HINT:

- The seatback position is initialized at the factory before shipment, so initialization is not normally required.

There is an initialization function for cases when reinitialization is required.

- Before performing initialization procedure and initialization release steps, make sure that the rear No. 2 seat assembly is correctly installed on the vehicle.

1. INITIALIZATION RELEASE PROCEDURE**HINT:**

Before starting the following procedure, make sure that the seatback position is stored in the fold seat control ECU and reclining motor (the seatback position is initialized).

- a. Press and hold the stowing/return switch.
- b. Within 10 seconds of pressing and holding the stowing/return switch, press the folding switch 5 times with the stowing/return switch held down.

HINT:

If any of the following is performed during the initialization release steps, the release steps will be canceled.

- Press any switch other than the stowing/return switch and folding switch while pressing the stowing/return switch for 10 seconds.
 - Release the stowing/return switch within 10 seconds.
 - Press the folding switch 6 times while pressing the stowing/return switch for 10 seconds.
- c. If the folding switch is pressed 5 times within 10 seconds of pressing and holding the stowing/return switch, the initialization release operation is complete.

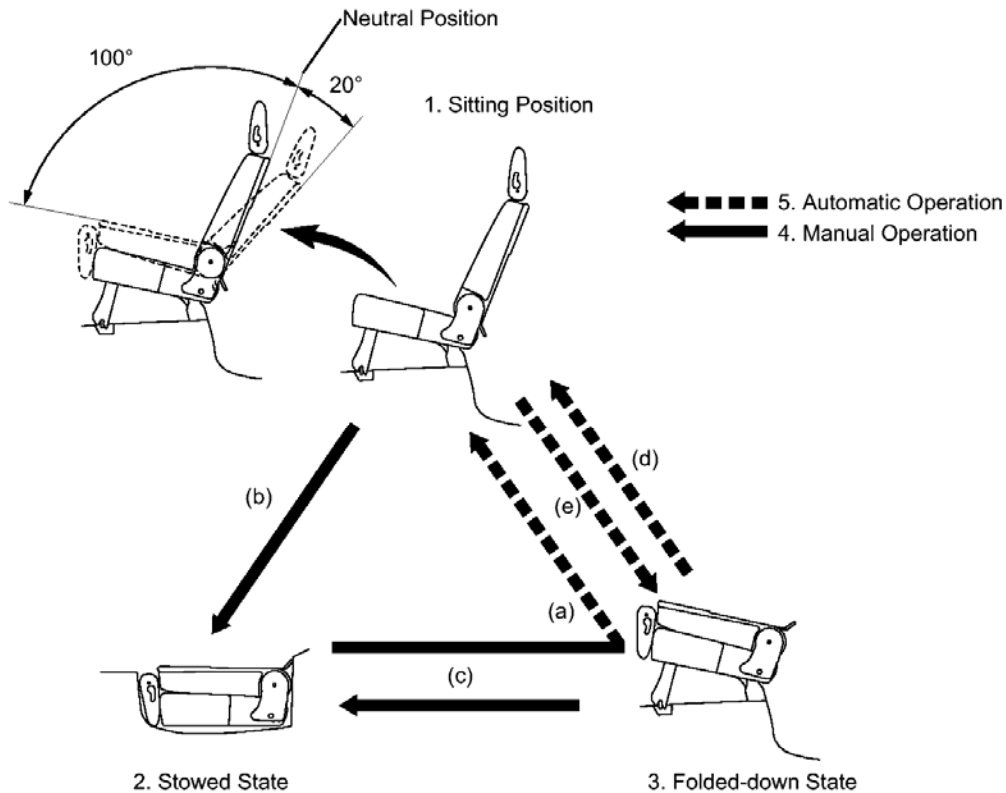
HINT:

After the initialization release steps are completed, turn the engine switch on (IG) and check that the 3RD SEAT indicator on the combination meter is on. If the 3RD SEAT indicator remains off even after the initialization release steps are completed, perform the initialization release steps again.

2. INITIALIZATION PROCEDURE**HINT:**

- Before starting the following procedure, make sure that the seatback position is not stored in the fold seat control ECU or reclining motor.

- If initialization has been completed, reinitialization cannot be performed. If reinitialization is required, release the initialization before starting reinitialization.



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Fig. 7: Stow Function & Operation

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Press the stowing/return switch to set the seat to the sitting position.
- Press and hold the rear power seat switch until the seatback is completely folded down.
- Continue pressing the rear power seat switch for another 1 second with the seatback folded down. Initialization is complete and the buzzer sounds.

HINT:

- If initialization has not been completed, the 3RD SEAT indicator in the meter will come on regardless of the positions of the seatback and the seat leg.
- If the buzzer does not sound, initialization has not been completed properly. Perform the initialization procedure again.
- After initialization is completed, turn the engine switch on (IG) and check that the 3RD SEAT indicator on the combination meter goes off. If the 3RD SEAT indicator remains on even after initialization is completed, perform the initialization procedure again.

PROBLEM SYMPTOMS TABLE

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

REAR POWER SEAT CONTROL SYSTEM

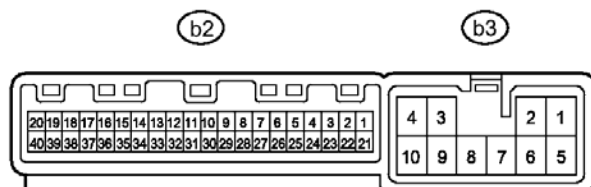
Symptom	Suspected Area	See
No functions operate.	Power source circuit	Refer to <u>Power Source Circuit</u>
	Fold seat control ECU	-
The folding-down function does not operate.	Park/Neutral position switch circuit	Refer to <u>Park / Neutral Position Switch Circuit</u>
	Back door courtesy switch circuit	Refer to <u>Back Door Courtesy Switch Circuit</u>
	Lock switch circuit	Refer to <u>Lock Switch Circuit</u>
	Reclining motor circuit	Refer to <u>Reclining Motor Circuit</u>
	Fold seat switch circuit	Refer to <u>Fold Seat Switch Circuit</u>
	Folding motor circuit	Refer to <u>Folding Motor Circuit</u>
	No. 2 seat cushion frame sub-assembly (folding motor)	-
	Fold seat control ECU	-
The return function does not operate.	Park/Neutral position switch circuit	Refer to <u>Park / Neutral Position Switch Circuit</u>
	Back door courtesy switch circuit	Refer to <u>Back Door Courtesy Switch Circuit</u>
	Reclining motor circuit	Refer to <u>Reclining Motor Circuit</u>
	Folding motor circuit	Refer to <u>Folding Motor Circuit</u>
	Fold seat switch circuit	Refer to <u>Fold Seat Switch Circuit</u>
	Release actuator circuit	Refer to <u>Release Actuator Circuit</u>
	No. 2 seat cushion frame sub-assembly (folding motor)	-
	No. 2 seat cushion frame sub-assembly	

	(release actuator)	-
	Fold seat control ECU	-
The stowing function does not operate.	Park/Neutral position switch circuit	Refer to <u>Park / Neutral Position Switch Circuit</u>
	Back door courtesy switch circuit	Refer to <u>Back Door Courtesy Switch Circuit</u>
	Reclining motor circuit	Refer to <u>Reclining Motor Circuit</u>
	Folding motor circuit	Refer to <u>Folding Motor Circuit</u>
	Fold seat switch circuit	Refer to <u>Fold Seat Switch Circuit</u>
	Fold lock switch circuit	Refer to <u>Fold Lock Switch Circuit</u>
	No. 2 seat cushion frame sub-assembly (folding motor)	-
	Fold seat control ECU	-
The reclining function does not operate.	Lock switch circuit	Refer to <u>Lock Switch Circuit</u>
	Reclining motor circuit	Refer to <u>Reclining Motor Circuit</u>
	Rear power seat switch circuit	Refer to <u>Rear Power Seat Switch Circuit</u>
	Fold seat control ECU	-
The indicator does not come on or blink.	Indicator circuit	Refer to <u>Indicator Circuit</u>
	Fold seat control ECU	-

TERMINALS OF ECU

TERMINALS OF ECU

1. CHECK FOLD SEAT CONTROL ECU LH



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Fig. 8: ECU Connector Terminal Identification - Fold Seat Control ECU (LH)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Disconnect the b2 and b3 fold seat control ECU connectors.
- Measure the voltage and resistance of the wire harness side connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
b2-3 (IG) - b3-8 (GND)	B - W-B	Power source (IG)	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V
b3-4 (+B) - b3-8 (GND)	R - W-B	Power source (Battery)	Always	11 to 14 V
b3-8 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms

If the result is not as specified, there may be a malfunction on the wire harness side.

- c. Reconnect the fold seat control ECU connectors.
- d. Measure the voltage and resistance of the connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
b2-5 (BDCY) - b3-8 (GND)	B - W-B	Back door courtesy switch signal	Back door closed	11 to 14 V
			Back door open	Below 1 V
b2-12 (RCLF) - b3-8 (GND)	P - W-B	Reclining seat switch signal	Always	11 to 14 V
			Rear power seat switch on (Forward)	Below 1 V
b2-13 (RCLR) - b3-8 (GND)	LG - W-B	Reclining seat switch signal	Always	11 to 14 V
			Rear power seat switch on (Backward)	Below 1 V
b2-14 (TBL) - b3-8 (GND)	GR - W-B	Fold seat switch signal (Folding)	Folding switch off	11 to 14 V
			Back door open Folding switch on (Folding)	Below 1 V
b2-15 (RTRN) - b3-8	BR - W-B	Fold seat switch signal	Stowing/Return switch off	11 to 14 V
			Back door open Stowing/Return	Below 1

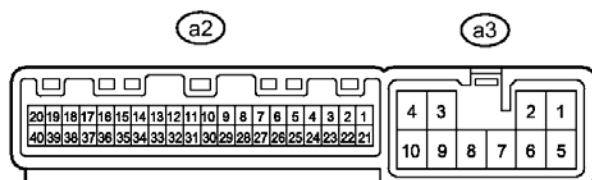
(GND)		(Return)	switch on (Return)	V
b2-16 (FOLD) - b3-8 (GND)	L - W- B	Fold seat switch signal (Stowing)	Stowing/Return switch off	11 to 14 V
			Back door open Stowing/Return switch on (Stowing)	Below 1 V
b2-22 (SRCL) - b2-36 (SG2)	Y - GR	Seatback position sensor signal	Motor is operating	Pulse generation
b2-23 (SFLD) - b3-8 (GND)	BR - W-B	Seat cushion position sensor signal	Motor is operating	Pulse generation
b2-24 (SV1) - b3-8 (GND)	G - W- B	Power supply for seat cushion position sensor	Back door open	9 to 14 V
b2-25 (SV2) - b3-8 (GND)	R - W- B	Power supply for seatback position sensor	Back door open	9 to 14 V
b2-30 (SG1) - Body ground	B - Body ground	Ground for seat cushion position sensor	Always	Below 1 ohms
b2-32 (P) - b3-8 (GND)	G - W- B	Park/Neutral position switch signal	Engine switch on (ACC) or on (IG) Shift lever in P	11 to 14 V
			Engine switch on (ACC) or on (IG) Shift lever not in P	Below 1 V
			Engine switch on (ACC) or on (IG)	11 to 14 V
			Engine switch on (ACC) or on (IG)	

b2-34 (IND2) - b3-8 (GND)	V - W- B	3rd SEAT indicator signal	• When the reclining motor or fold seat control ECU is not initialized. • When any seat legs are released. • When the seatback is outside the reclining operation range.	1 to 3 V
b2-35 (IND1) - b3-8 (GND)	Y - W- B	Fold seat switch indicator signal	Back door open Fold seat switch on • When the system detects that an object is caught. • When the seat operation conditions are not met.	Below 1.5 V
			• When the system detects that an object is caught. • When the seat operation conditions are not	9 to 13 V

			met.	
b2-36 (SG2) - Body ground	GR - Body ground	Ground for seatback position sensor	Always	Below 1 ohms
b2-37 (LCKR) - b3-8 (GND)	R - W- B	Fold lock switch signal	Fold lock switch lock	11 to 14 V
			Fold lock switch unlock	Below 1 V
b2-38 (LCKF) - b3-8 (GND)	Y - W- B	Lock switch signal	All lock switches lock	11 to 14 V
			Any of the lock switches unlock	Below 1 V
b3-1 (FLD+) - b3-8 (GND)	W - W- B	Folding motor operation signal	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Stowing)	11 to 14 V
b3-2 (RCL+) - b3-8 (GND)	B - W- B	Reclining motor operation signal	Back door open Lock switch unlock Rear power seat switch on (Forward)	11 to 14 V
b3-3 (RACT) - b3-8 (GND)	L - W- B	Release actuator operation signal	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V
b3-5 (FLD-) - b3-8 (GND)	V - W- B	Folding motor operation signal	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V
b3-6 (RCL-) - b3-8 (GND)	R - W- B	Reclining motor operation signal	Back door open Lock switch unlock Rear power seat switch on (Backward)	11 to 14 V

If the result is not as specified, the fold seat control ECU may have a malfunction.

2. CHECK FOLD SEAT CONTROL ECU RH



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Fig. 9: ECU Connector Terminal Identification - Fold Seat Control ECU (RH)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Disconnect the a2 and a3 fold seat control ECU connectors.
- Measure the voltage and resistance of the wire harness side connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
a2-3 (IG) - a3-8 (GND)	B - W- B	Power source (IG)	Engine switch on (IG)	11 to 14 V
			Engine switch off	Below 1 V
a3-4 (+B) - a3-8 (GND)	B - W- B	Power source (Battery)	Always	11 to 14 V
a3-8 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 ohms

If the result is not as specified, there may be a malfunction on the wire harness side.

- Reconnect the fold seat control ECU connectors.
- Measure the voltage and resistance of the connectors.

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
a2-5 (BDCY) - a3-8 (GND)	B - W- B	Back door courtesy switch signal	Back door closed	11 to 14 V
			Back door open	Below 1

				V
a2-12 (RCLF) - a3-8 (GND)	LG - W-B	Reclining seat switch signal	Always	11 to 14 V
			Rear power seat switch on (Forward)	Below 1 V
a2-13 (RCLR) - a3-8 (GND)	R - W- B	Reclining seat switch signal	Always	11 to 14 V
			Rear power seat switch on (Backward)	Below 1 V
a2-14 (TBL) - a3-8 (GND)	GR - W-B	Fold seat switch signal (Folding)	Folding switch off	11 to 14 V
			Back door open Folding switch on (Folding)	Below 1 V
a2-15 (RTRN) - a3-8 (GND)	BR - W-B	Fold seat switch signal (Return)	Stowing/Return switch off	11 to 14 V
			Back door open Stowing/Return switch on (Return)	Below 1 V
a2-16 (FOLD) - a3-8 (GND)	L - W- B	Fold seat switch signal (Stowing)	Stowing/Return switch off	11 to 14 V
			Back door open Stowing/Return switch on (Stowing)	Below 1 V
a2-22 (SRCL) - a2-36 (SG2)	GR - Y	Seatback position sensor signal	Motor is operating	Pulse generation
a2-23 (SFLD) - a3-8 (GND)	BR - W-B	Seat cushion position sensor signal	Motor is operating	Pulse generation
a2-24 (SV1) - a3-8 (GND)	G - W- B	Power supply for seat cushion position sensor	Back door open	9 to 14 V
a2-25 (SV2) - a3-8 (GND)	R - W- B	Power supply for seatback position sensor	Back door open	9 to 14 V
a2-30	B -	Ground for		

(SG1) - Body ground	Body ground	seat cushion position sensor	Always	Below 1 ohms
a2-32 (P) - a3-8 (GND)	G - W-B	Park/Neutral position switch signal	Engine switch on (ACC) or on (IG) Shift lever in P	11 to 14 V
			Engine switch on (ACC) or on (IG) Shift lever not in P	Below 1 V
a2-34 (IND2) - a3-8 (GND)	V - W-B	3rd SEAT indicator signal	Engine switch on (ACC) or on (IG)	11 to 14 V
			Engine switch on (ACC) or on (IG) • When the reclining motor or fold seat control ECU is not initialized. • When any seat legs are released. • When the seatback is outside the reclining operation range.	1 to 3 V
			Back door open Fold seat switch on • When the system detects that an	Below 1.5

a2-35 (IND1) - a3-8 (GND)	Y - W- B	Fold seat switch indicator signal	object is caught. When the seat operation conditions are not met.	V
			- When the system detects that an object is caught. - When the seat operation conditions are not met.	9 to 13 V
a2-36 (SG2) - Body ground	Y - Body ground	Ground for seatback position sensor	Always	Below 1 ohms
a2-37 (LCKR) - a3-8 (GND)	P - W- B	Fold lock switch signal	Fold lock switch lock	11 to 14 V
			Fold lock switch unlock	Below 1 V
a2-38 (LCKF) - a3-8 (GND)	Y - W- B	Lock switch signal	All lock switches lock	11 to 14 V
			Any of the lock switches unlock	Below 1 V
a3-1 (FLD+) - a3-8 (GND)	W - W- B	Folding motor operation signal	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Stowing)	11 to 14 V
a3-2 (RCL+) - a3-8 (GND)	B - W- B	Reclining motor operation signal	Back door open Lock switch unlock Rear power seat switch on (Forward)	11 to 14 V
			Engine switch	

a3-3 (RACT) - a3-8 (GND)	L - W- B	Release actuator operation signal	off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V
a3-5 (FLD-) - a3-8 (GND)	V - W- B	Folding motor operation signal	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V
a3-6 (RCL-) - a3-8 (GND)	R - W- B	Reclining motor operation signal	Back door open Lock switch unlock Rear power seat switch on (Backward)	11 to 14 V

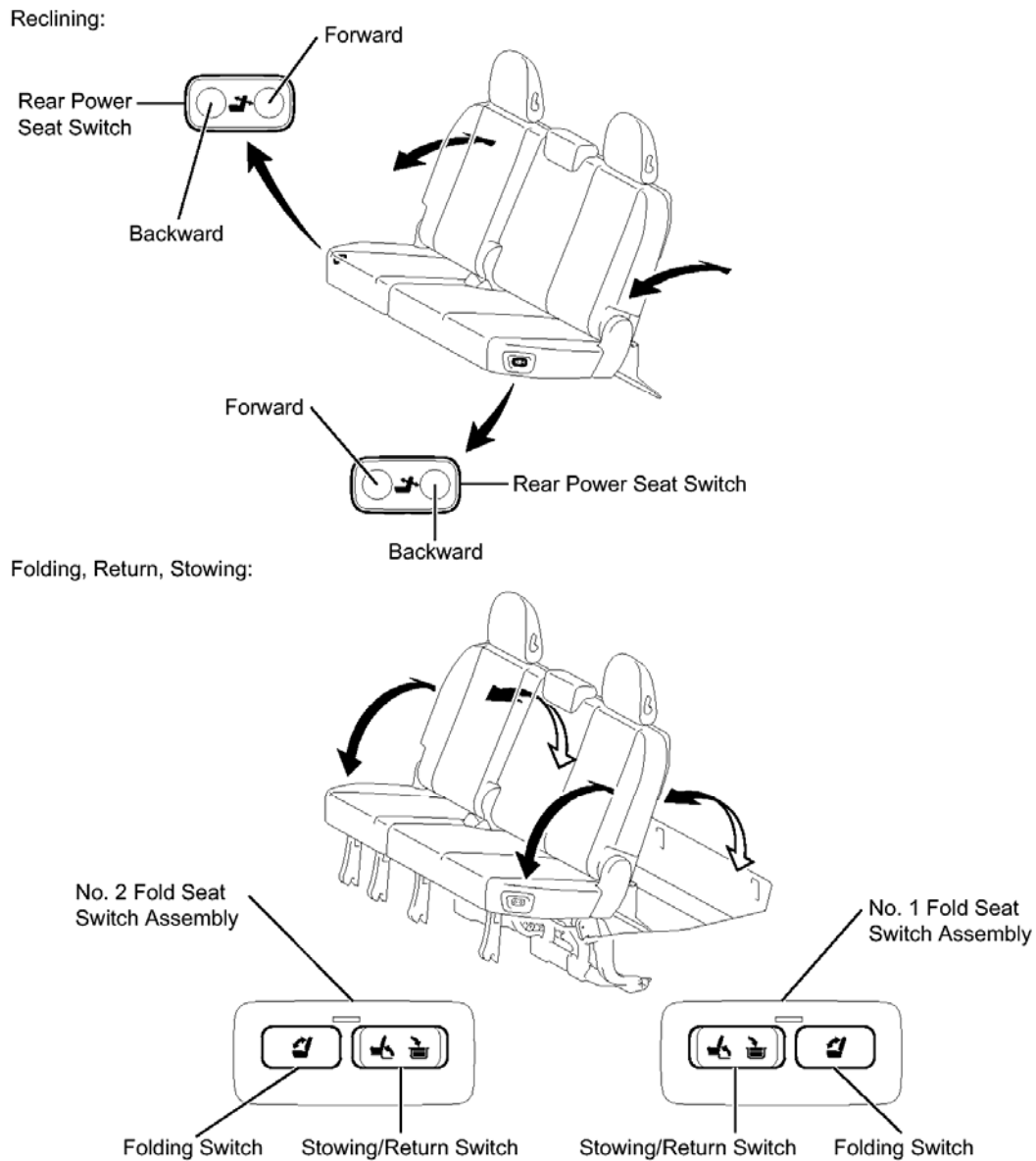
If the result is not as specified, the fold seat control ECU may have a malfunction.

ON-VEHICLE INSPECTION

ON-VEHICLE INSPECTION

1. CHECK REAR NO. 2 POWER SEAT WITH STOWING FUNCTION

- a. Check the basic functions.



P

Fig. 10: Checking Rear No. 2 Power Seat With Stowing Function
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Operate the fold seat switch and rear power seat switch and check to make sure each seat function works:
 - Folding-down operation
 - Stowing operation
 - Return operation
 - Reclining operation

CIRCUIT TESTS

Park / Neutral Position Switch Circuit

DESCRIPTION

The fold seat control ECU receives signals from the park/neutral position switch assembly and controls the seat stowing and return operations. If the shift lever is in any position other than P when the engine switch is on (ACC) or on (IG), the seat cannot be operated.

WIRING DIAGRAM

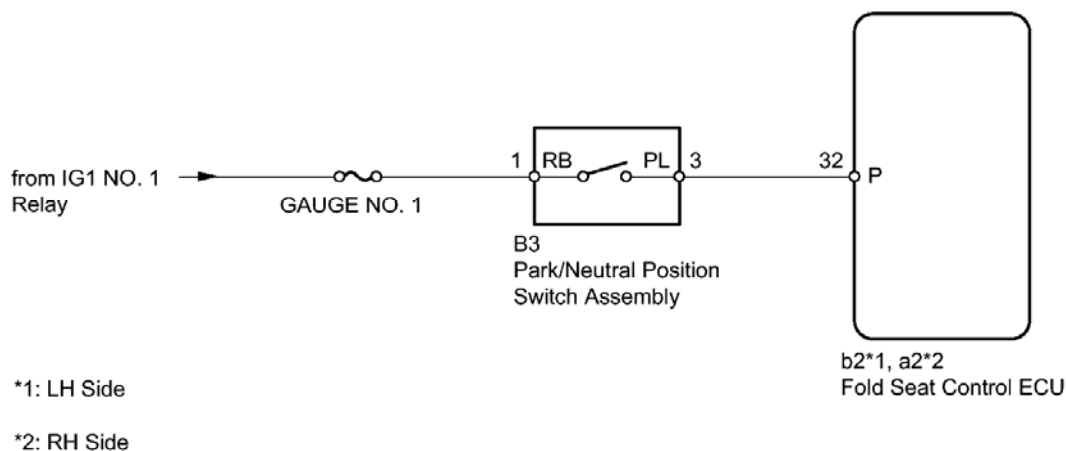


Fig. 11: Park / Neutral Position Switch Circuit - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

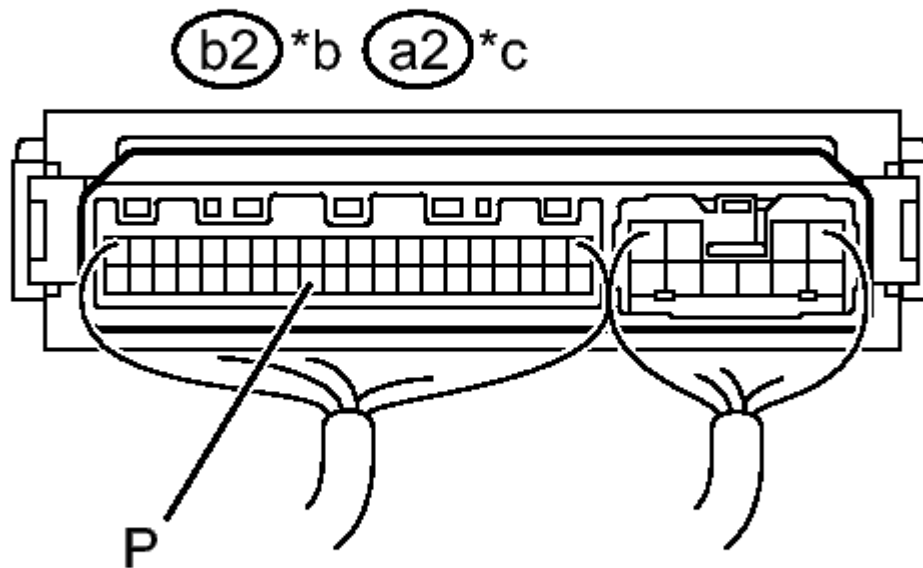
INSPECTION PROCEDURE

NOTE: Inspect the fuse for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. **CHECK FOLD SEAT CONTROL ECU (PARK/NEUTRAL POSITION SWITCH SIGNAL)**
 - a. Remove the fold seat control ECU with its connectors still connected. Refer to **REMOVAL**.

*a



H

Fig. 12: Checking Fold Seat Control ECU (Park/Neutral Position Switch Signal)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Switch Condition	Specified Condition
	Engine switch on (ACC) or	

b2-32 (P) - Body ground	on (IG) Shift lever in P	11 to 14 V
	Engine switch on (ACC) or on (IG) Shift lever not in P	Below 1 V

Tester Connection	Switch Condition	Specified Condition
a2-32 (P) - Body ground	Engine switch on (ACC) or on (IG) Shift lever in P	11 to 14 V
	Engine switch on (ACC) or on (IG) Shift lever not in P	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

c. Reinstall the fold seat control ECU.

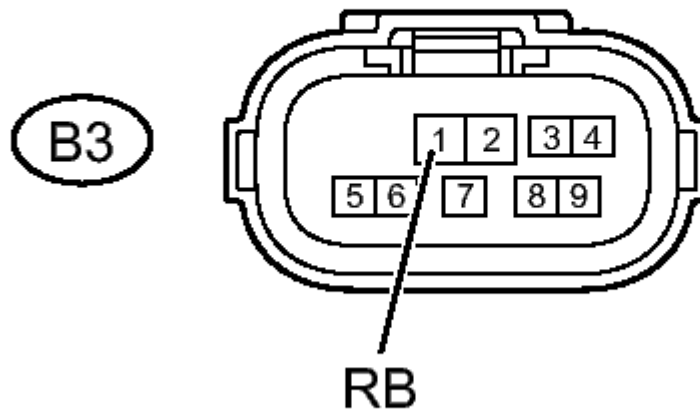
NG --> See step 2

OK --> See step 5

2. CHECK HARNESS AND CONNECTOR (PARK/NEUTRAL POSITION SWITCH - BATTERY)

a. Disconnect the B3 park/neutral position switch connector.

*a



Y

Fig. 13: Checking Harness And Connector (Park/Neutral Position Switch - Battery)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

Tester Connection	Switch Condition	Specified Condition
B3-1 (RB) - Body ground	Engine switch off	Below 1 V
	Engine switch on (ACC) or on (IG)	11 to 14 V

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Park/Neutral Position Switch Assembly)
----	---

c. Reconnect the park/neutral position switch connector.

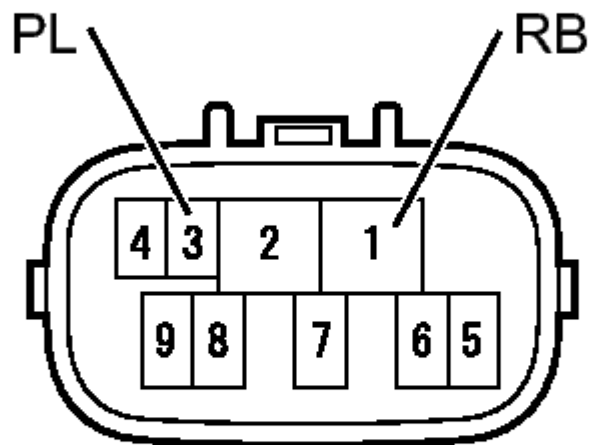
NG --> **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK: Go to next step

3. **INSPECT PARK/NEUTRAL POSITION SWITCH ASSEMBLY**

a. Remove the park/neutral position switch assembly. Refer to **REMOVAL** .

*a



H

Fig. 14: Inspecting Park/Neutral Position Switch Assembly With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
1 (RB) - 3 (PL)	Shift lever in P	Below 1 ohms
	Shift lever not in P	10 kohms or higher

TEXT IN ILLUSTRATION

*a	Component without harness connected (Park/Neutral Position Switch Assembly)
----	---

- c. Reinstall the park/neutral position switch assembly.

NG --> See step 6

OK: Go to next step

4. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - PARK/NEUTRAL POSITION SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the B3 park/neutral position switch assembly connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-32 (P) - B3-3 (PL)	Always	Below 1 ohms
b2-32 (P) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition

a2-32 (P) - B3-3 (PL)	Always	Below 1 ohms
a2-32 (P) - Body ground	Always	10 kohms or higher

- d. Reconnect the park/neutral position switch assembly connector.
- e. Reconnect the fold seat control ECU connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 7

5. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
6. **REPLACE PARK/NEUTRAL POSITION SWITCH ASSEMBLY. Refer to REMOVAL**
7. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Back Door Courtesy Switch Circuit

DESCRIPTION

The fold seat control ECU receives signals from the back door courtesy switch and detects the state of the back door (open/close). If the ECU does not detect that the back door is open, the seat stowing and return functions are not available.

WIRING DIAGRAM

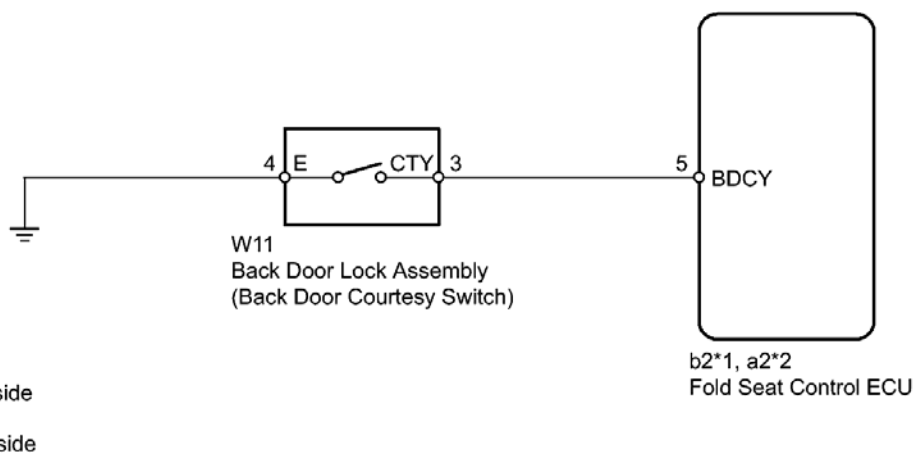


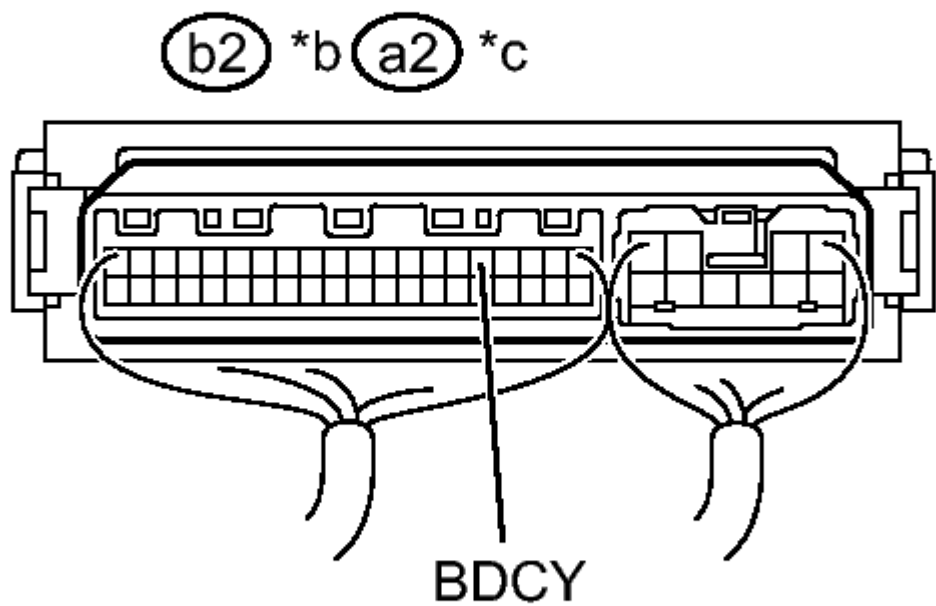
Fig. 15: Back Door Courtesy Switch Circuit - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU (BACK DOOR COURTESY SWITCH SIGNAL)
- a. Remove the fold seat control ECU with its connectors still connected. Refer to REMOVAL .

*a



H

Fig. 16: Checking Fold Seat Control ECU (Back Door Courtesy Switch Signal)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH SIDE

Tester		Specified
--------	--	-----------

Connection	Condition	Condition
b2-5 (BDCY) - Body ground	Back door closed	11 to 14 V
	Back door open	Below 1 V

RH SIDE

Tester Connection	Condition	Specified Condition
a2-5 (BDCY) - Body ground	Back door closed	11 to 14 V
	Back door open	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

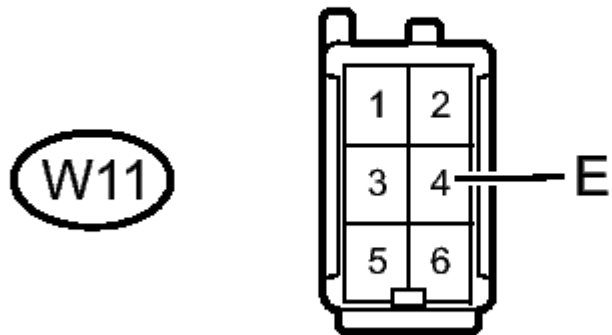
NG --> See step 2

OK --> See step 5

2. CHECK HARNESS AND CONNECTOR (BACK DOOR COURTESY SWITCH - BODY GROUND)

- a. Disconnect the W11 back door lock assembly (back door courtesy switch) connector.

*a



H

Fig. 17: Checking Harness And Connector (Back Door Courtesy Switch - Body Ground) With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
W11-4 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Back Door Lock Assembly (Back Door Courtesy
----	--

Switch))

c. Reconnect the back door lock assembly (back door courtesy switch) connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. INSPECT BACK DOOR LOCK ASSEMBLY (BACK DOOR COURTESY SWITCH)

*a

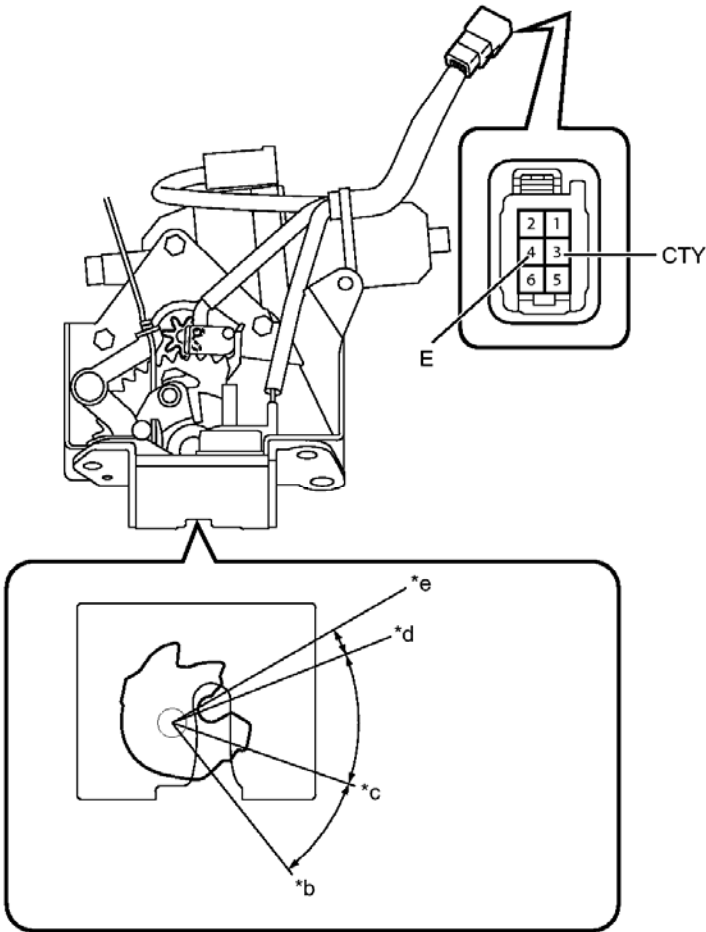


Fig. 18: Inspecting Back Door Lock Assembly (w/ Power Back Door)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

Component	
without	
harness	

*a	connected (Back Door Lock Assembly (Back Door Courtesy Switch))	*b	Open- latch
*c	Half-latch	*d	Full- latch
*e	Over-latch	-	-

- Remove the back door lock assembly. Refer to **REMOVAL** .
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
3 (CTY) - 4 (E)	Open- latch	Below 1 ohms
	Half-latch	Below 1 ohms
	Full-latch	10 kohms or higher
	Over-latch	10 kohms or higher

- Reinstall the back door lock assembly.

NG --> See step 6

OK: Go to next step

4. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - BACK DOOR COURTESY SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the W11 back door lock assembly (back door courtesy switch) connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
----------------------	-----------	------------------------

b2-5 (BDCY) - W11-3 (CTY)	Always	Below 1 ohms
b2-5 (BDCY) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Specified Condition
a2-5 (BDCY) - W11-3 (CTY)	Always	Below 1 ohms
a2-5 (BDCY) - Body ground	Always	10 kohms or higher

- d. Reconnect the back door lock assembly (back door courtesy switch) connector.
- e. Reconnect the fold seat control ECU connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 7

5. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
6. **REPLACE BACK DOOR LOCK ASSEMBLY. Refer to REMOVAL**
7. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Indicator Circuit

DESCRIPTION

This system has two indicator lights. One of the indicator lights is built into the fold seat switch assembly. This indicator light receives power from the fold seat control ECU. It comes on or blinks when the system detects that an object is caught or when the seat operation conditions are not met.

The other indicator light is on the combination meter. This indicator light comes on when the reclining motor or fold seat control ECU is not initialized, any seat legs are released, or when the seatback is outside the reclining operation range.

WIRING DIAGRAM

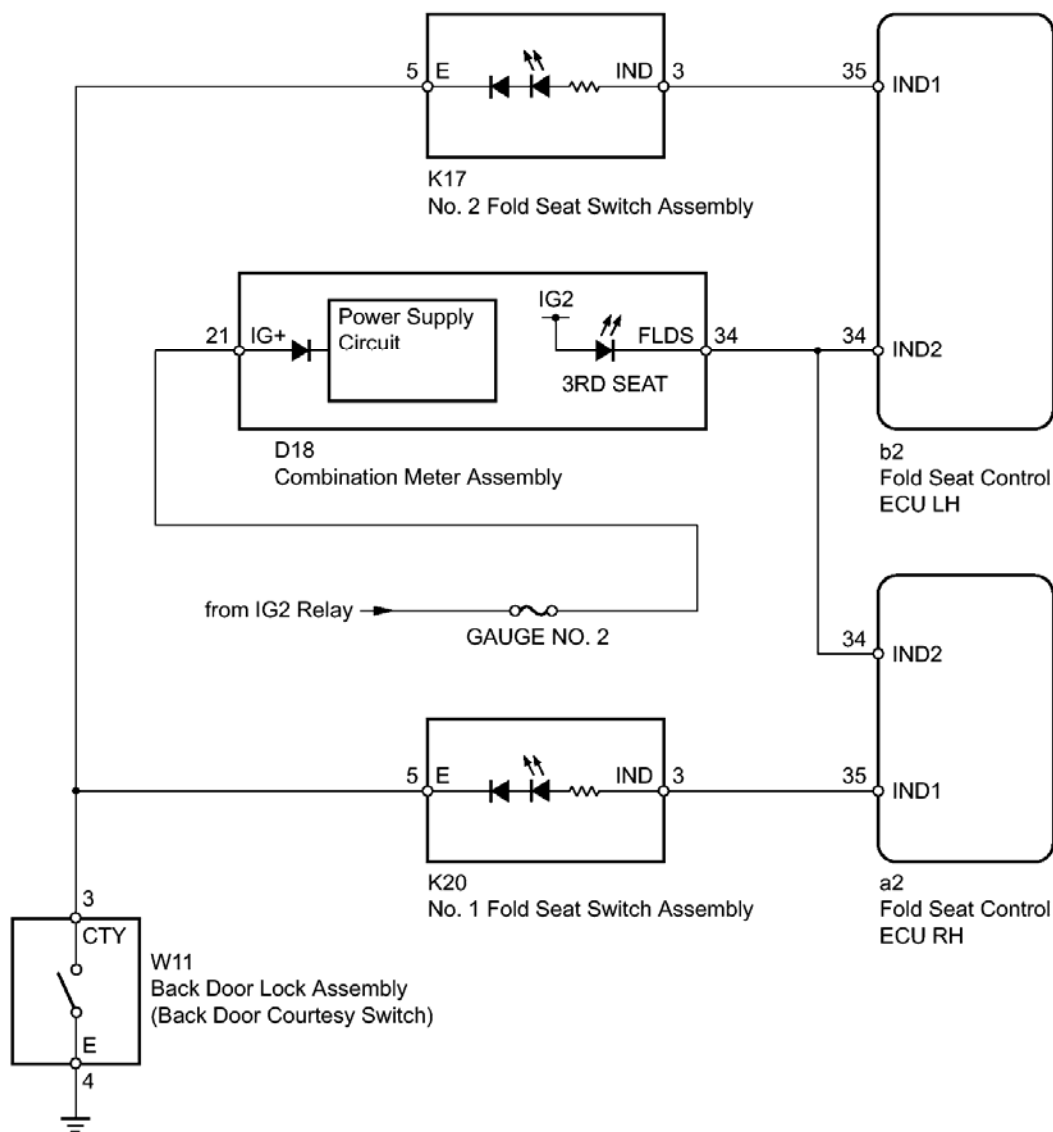


Fig. 19: Indicator Circuit - Wiring Diagram

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

NOTE: Inspect the fuse for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. CHECK OPERATION OF INDICATOR LIGHT

- Check the indicator light operation.

RESULT

Result	Proceed to
When the indicator light on the fold seat switch assembly does not come on	A
When the indicator light on the combination meter does not come on	B

B --> See step 7

A: Go to next step

2. INSPECT FOLD SEAT SWITCH ASSEMBLY

- a. Remove the fold seat switch assembly. Refer to **REMOVAL** .
- b. Apply battery voltage to the fold seat switch assembly and check that the indicator light comes on.

*a

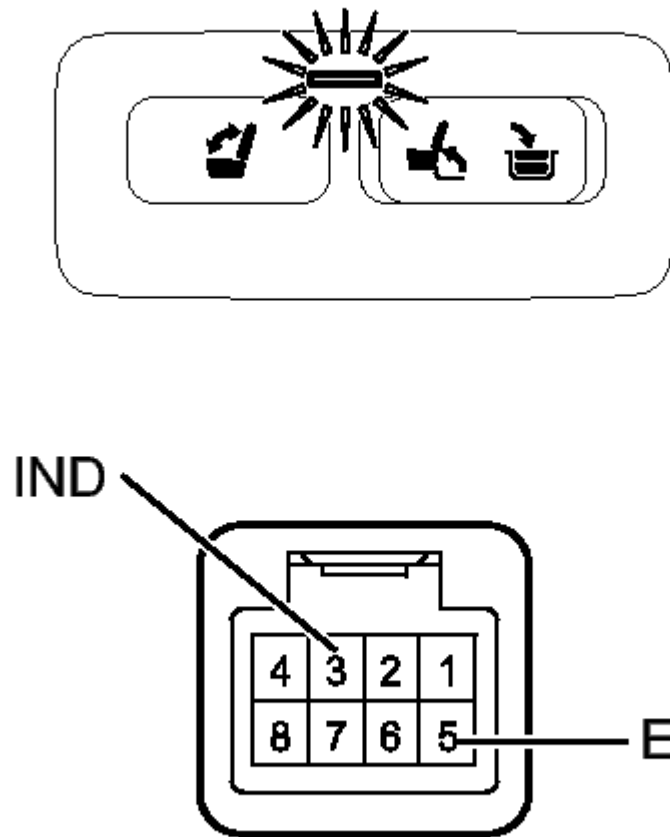


Fig. 20: Inspecting Fold Seat Switch Assembly
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

OK

Measurement Condition	Specified Condition
Battery positive (+) -- > Terminal 3 (IND) Battery negative (-) -- > Terminal 5 (E)	Indicator light comes on

TEXT IN ILLUSTRATION

*a	Component without harness connected (Fold Seat Switch Assembly)
----	---

- c. Reinstall the fold seat switch assembly.

NG --> See step 10

OK: Go to next step

3. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - FOLD SEAT SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the K17 or K20 fold seat switch assembly connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
b2-35 (IND1) - K17-3 (IND)	Always	Below 1 ohms
b2-35 (IND1) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Specified Condition
a2-35 (IND1) - K20-3 (IND)	Always	Below 1 ohms
a2-35 (IND1) - Body	Always	10 kohms or higher

ground		
--------	--	--

- d. Reconnect the fold seat switch assembly connector.
- e. Reconnect the fold seat control ECU connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

4. CHECK HARNESS AND CONNECTOR (FOLD SEAT SWITCH - BACK DOOR COURTESY SWITCH)

- a. Disconnect the K17 or K20 fold seat switch assembly connector.
- b. Disconnect the W11 back door lock assembly (back door courtesy switch) connector.
- c. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
K17-5 (E) - W11-3 (CTY)	Always	Below 1 ohms
K17-5 (E) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Specified Condition
K20-5 (E) - W11-3 (CTY)	Always	Below 1 ohms
K20-5 (E) - Body ground	Always	10 kohms or higher

- d. Reconnect the back door lock assembly (back door courtesy switch) connector.
- e. Reconnect the fold seat switch assembly connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

5. INSPECT BACK DOOR LOCK ASSEMBLY (BACK DOOR COURTESY SWITCH)

*a

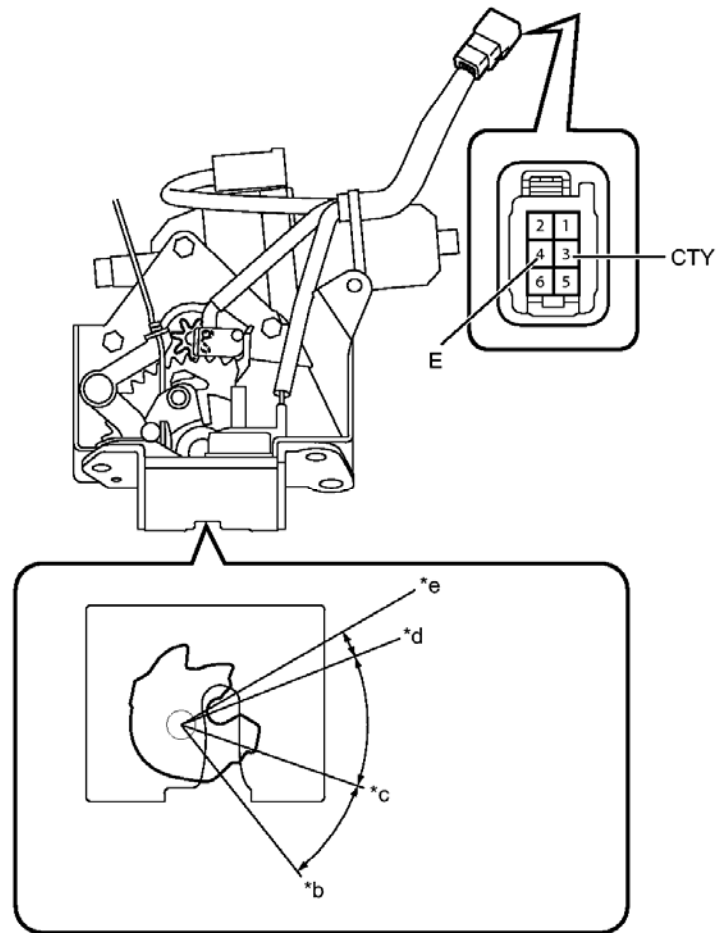


Fig. 21: Inspecting Back Door Lock Assembly (w/ Power Back Door)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a	Component without harness connected (Back Door Lock Assembly (Back Door Courtesy Switch))	*b	Open-latch
*c	Half-latch	*d	Full-latch

*e	Over-latch	-	-
----	------------	---	---

- a. Remove the back door lock assembly. Refer to **REMOVAL** .
- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
3 (CTY) - 4 (E)	Open-latch	Below 1 ohms
	Half-latch	Below 1 ohms
	Full-latch	10 kohms or higher
	Over-latch	10 kohms or higher

- c. Reinstall the back door lock assembly.

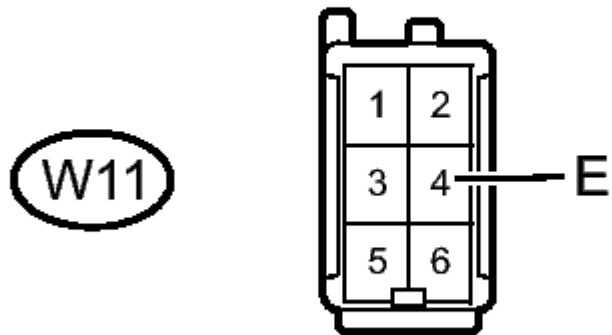
NG --> See step 11

OK: Go to next step

6. CHECK HARNESS AND CONNECTOR (BACK DOOR COURTESY SWITCH - BODY GROUND)

- a. Disconnect the W11 back door lock assembly (back door courtesy switch) connector.

*a



H

Fig. 22: Checking Harness And Connector (Back Door Courtesy Switch - Body Ground) With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
W11-4 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Back Door Lock Assembly (Back Door Courtesy
----	--

|Switch))

- c. Reconnect the back door lock assembly (back door courtesy switch) connector.

NG --> **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK --> See step 12

7. CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - BATTERY)

- a. Disconnect the D18 combination meter assembly connector.

*a

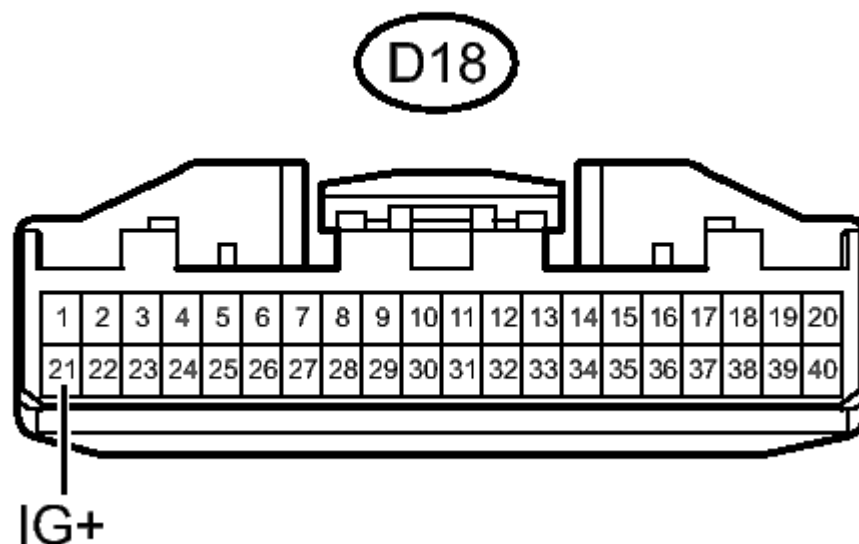


Fig. 23: Checking D18 Harness And Connector (Combination Meter Assembly - Battery) With Connector End View

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

Tester Connection	Switch Condition	Specified Condition
D18-21 (IG+) - Body ground	Engine switch off	Below 1 V
	Engine switch on (IG)	11 to 14 V

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Combination Meter Assembly)
----	---

- c. Reconnect the combination meter assembly connector.

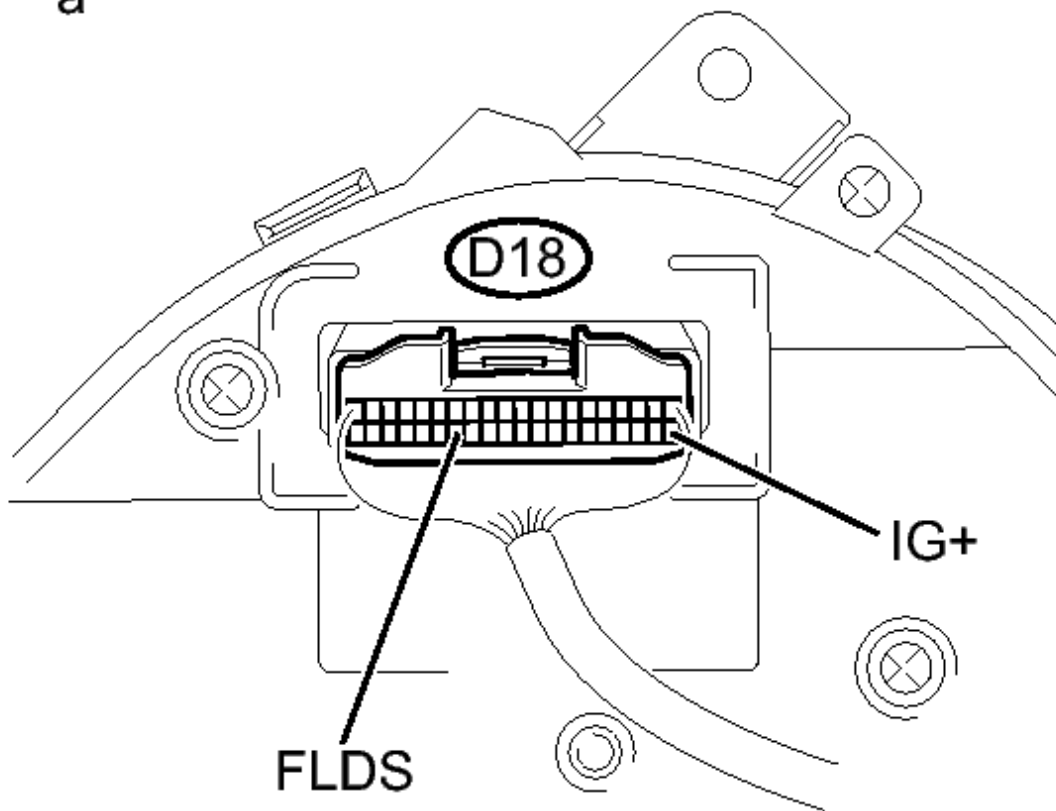
NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

8. INSPECT COMBINATION METER ASSEMBLY (3RD SEAT INDICATOR LIGHT)

- a. Remove the combination meter assembly with its connector still connected. Refer to **REMOVAL** .

*a



P

Fig. 24: Inspecting Combination Meter Assembly (3rd Seat Indicator Light)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Apply battery voltage to the combination meter assembly connector and check that the indicator light comes on.

OK

Measurement Condition	Specified Condition
Battery positive (+) -- > Terminal D18-21 (IG+) Battery negative (-) --	Indicator light comes on

> Terminal D18-34 (FLDS)	
--------------------------------	--

TEXT IN ILLUSTRATION

*a	Component with harness connected (Combination Meter Assembly)
----	--

- c. Reinstall the combination meter assembly.

NG --> See step 13

OK: Go to next step

9. CHECK HARNESS AND CONNECTOR (COMBINATION METER ASSEMBLY - FOLD SEAT CONTROL ECU)

- Disconnect the D18 combination meter assembly connector.
- Disconnect the b2 or a2 fold seat control ECU connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
D18-34 (FLDS) - b2-34 (IND2)	Always	Below 1 ohms
D18-34 (FLDS) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Specified Condition
D18-34 (FLDS) - a2-34 (IND2)	Always	Below 1 ohms

D18-34 (FLDS) - Body ground	Always	10 kohms or higher
--------------------------------------	--------	-----------------------

- d. Reconnect the fold seat control ECU connector.
- e. Reconnect the combination meter assembly connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 14

10. **REPLACE FOLD SEAT SWITCH ASSEMBLY. Refer to REMOVAL**
11. **REPLACE BACK DOOR LOCK ASSEMBLY. Refer to REMOVAL**
12. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
13. **REPLACE COMBINATION METER ASSEMBLY. Refer to REMOVAL**
14. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**

Power Source Circuit

DESCRIPTION

Power is supplied to the fold seat control ECU through the ECU-IG NO. 2 and FOLD SEAT fuses.

WIRING DIAGRAM

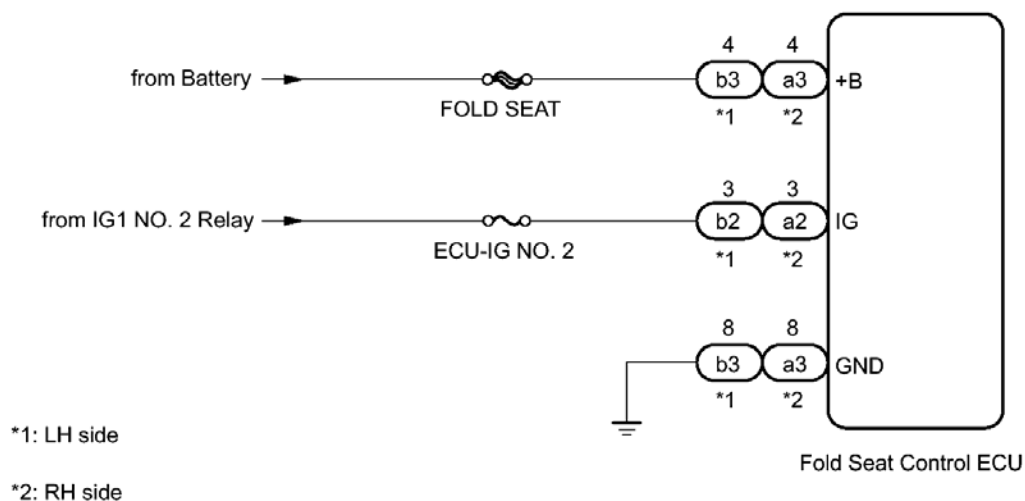


Fig. 25: Power Source Circuit - Wiring Diagram

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

NOTE: Inspect the fuse for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. **CHECK HARNESS AND CONNECTOR (FOLD CONTROL ECU - BATTERY AND BODY GROUND)**
 - a. Disconnect the b2 and b3 or a2 and a3 fold seat control ECU connectors.

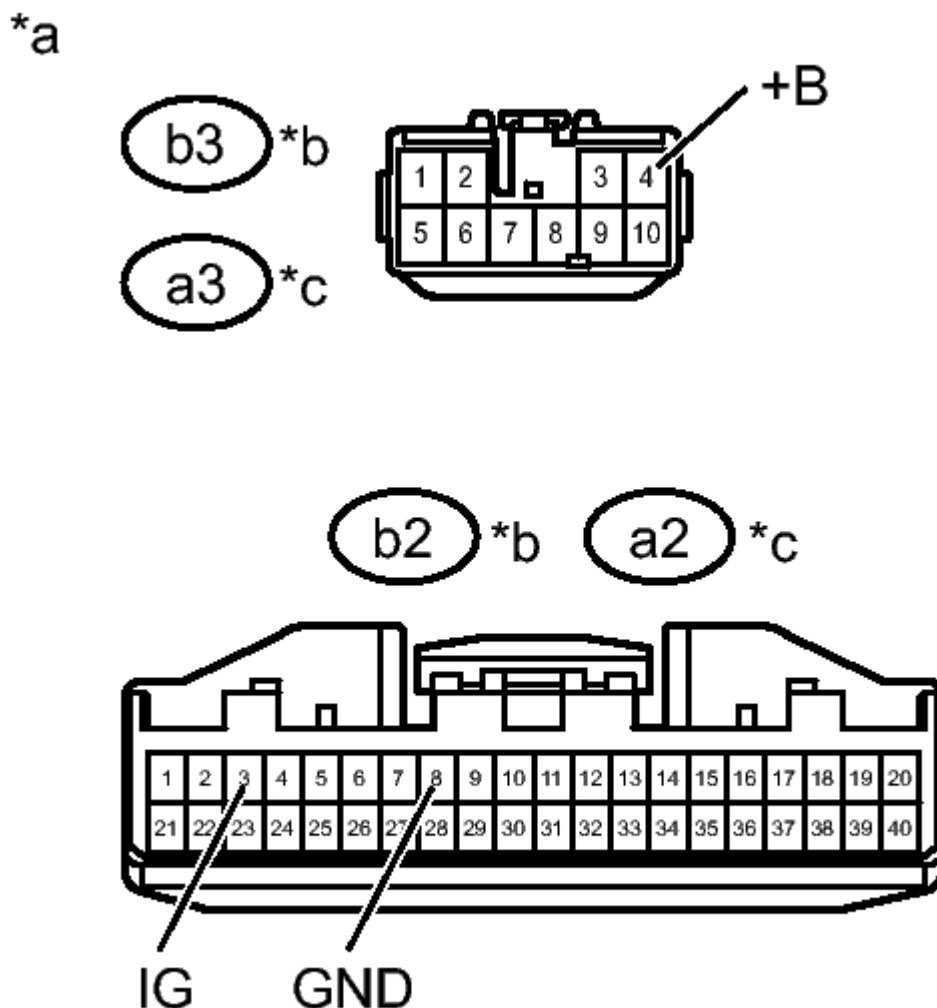


Fig. 26: Checking B2 & B3 Or A2 & A3 Harness And Connector (Fold Control ECU - Battery And Body Ground) With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Switch Condition	Specified Condition
b2-3 (IG) - Body ground	Engine switch off	Below 1 V
	Engine switch on (IG)	11 to 14 V
b3-4 (+B) - Body ground	Always	11 to 14 V

Tester Connection	Switch Condition	Specified Condition
a2-3 (IG) - Body ground	Engine switch off	Below 1 V
	Engine switch on (IG)	11 to 14 V
a3-4 (+B) - Body ground	Always	11 to 14 V

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b3-8 (GND) - Body ground	Always	Below 1 ohms

Tester Connection	Condition	Specified Condition
a3-8 (GND) - Body ground	Always	Below 1 ohms

- d. Reconnect the fold seat control ECU connectors.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 2

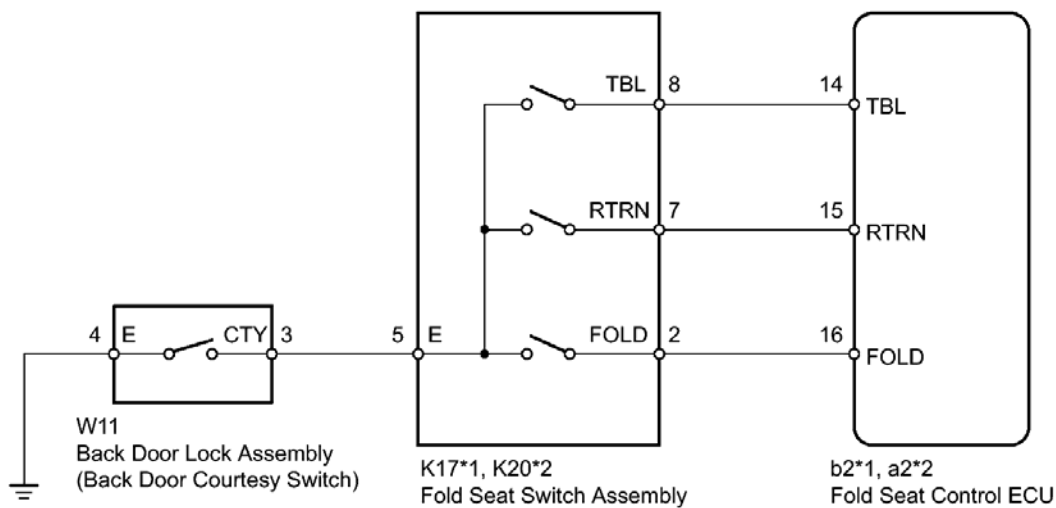
2. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**

Fold Seat Switch Circuit

DESCRIPTION

When the fold seat switch is operated, a switch operation signal is sent to the fold seat control ECU. The ECU receives switch operation signals from each switch and activates the folding motor, reclining motor, and release actuator.

WIRING DIAGRAM



*1: LH side

*2: RH side

Fig. 27: Fold Seat Switch Circuit - Wiring Diagram
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

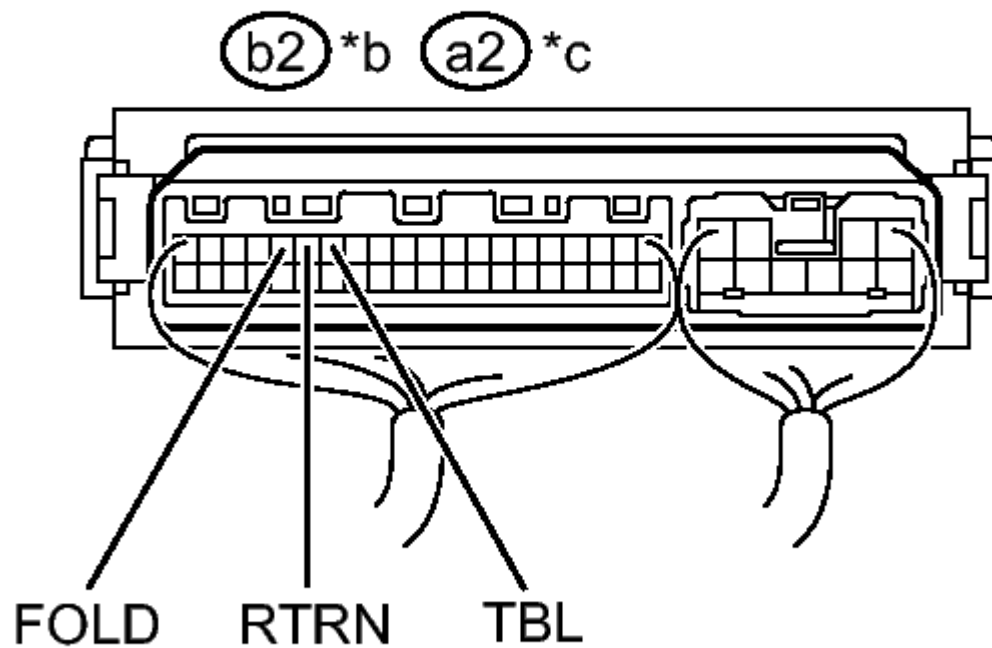
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU (FOLD SEAT SWITCH SIGNAL)

- a. Remove the fold seat control ECU with its connectors still connected. Refer to **REMOVAL** .

*a



H

Fig. 28: Checking Fold Seat Control ECU (Fold Seat Switch Signal)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Switch Condition	Specified Condition
b2-14 (TBL) -	Folding switch off	11 to 14 V
	Back door open	

Body ground	Folding switch on	Below 1 V
b2-15 (RTRN) - Body ground	Stowing/Return switch off	11 to 14 V
	Back door open Stowing/Return switch on (Return)	Below 1 V
b2-16 (FOLD) - Body ground	Stowing/Return switch off	11 to 14 V
	Back door open Stowing/Return switch on (Stowing)	Below 1 V

Tester Connection	Switch Condition	Specified Condition
a2-14 (TBL) - Body ground	Folding switch off	11 to 14 V
	Back door open Folding switch on	Below 1 V
a2-15 (RTRN) - Body ground	Stowing/Return switch off	11 to 14 V
	Back door open Stowing/Return switch on (Return)	Below 1 V
a2-16 (FOLD) - Body ground	Stowing/Return switch off	11 to 14 V
	Back door open Stowing/Return switch on (Stowing)	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 7

2. INSPECT FOLD SEAT SWITCH ASSEMBLY

a. Remove the fold seat switch assembly. Refer to REMOVAL .

*a

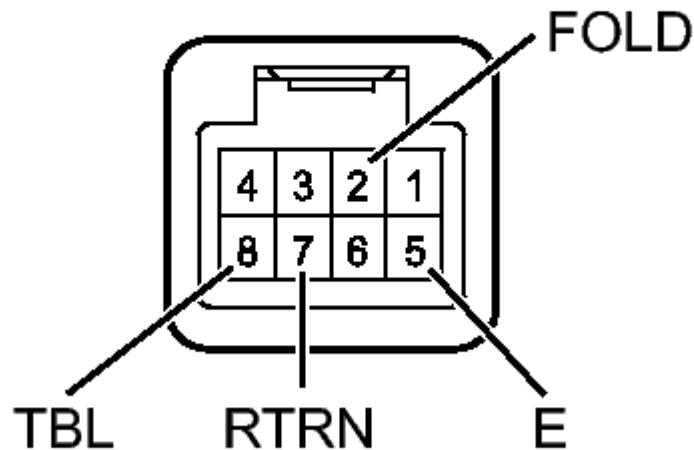


Fig. 29: Inspecting Fold Seat Switch Assembly With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
2 (FOLD) - 5 (E)	Stowing/Return switch on (Stowing)	Below 30 ohms
7 (RTRN) - 5 (E)	Stowing/Return switch on (Return)	Below 30 ohms
8 (TBL) - 5 (E)	Folding switch on	Below 30 ohms

TEXT IN ILLUSTRATION

	Component without harness
*a	connected (Fold Seat Switch Assembly)

- c. Reinstall the fold seat switch assembly.

NG --> See step 8

OK: Go to next step

3. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - FOLD SEAT SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the K17 or K20 fold seat switch assembly connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-14 (TBL) - K17-8 (TBL)	Always	Below 1 ohms
b2-14 (TBL) - Body ground	Always	10 kohms or higher
b2-15 (RTRN) - K17-7 (RTRN)	Always	Below 1 ohms
b2-15 (RTRN) - Body ground	Always	10 kohms or higher

b2-16 (FOLD) - K17-2 (FOLD)	Always	Below 1 ohms
b2-16 (FOLD) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition
a2-14 (TBL) - K20-8 (TBL)	Always	Below 1 ohms
a2-14 (TBL) - Body ground	Always	10 kohms or higher
a2-15 (RTRN) - K20-7 (RTRN)	Always	Below 1 ohms
a2-15 (RTRN) - Body ground	Always	10 kohms or higher
a2-16 (FOLD) - K20-2 (FOLD)	Always	Below 1 ohms
a2-16 (FOLD) - Body ground	Always	10 kohms or higher

- d. Reconnect the fold seat switch assembly connector.
- e. Reconnect the fold seat control ECU connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

- 4. **CHECK HARNESS AND CONNECTOR (FOLD SEAT SWITCH - BACK DOOR COURTESY SWITCH)**
 - a. Disconnect the K17 or K20 fold seat switch assembly connector.

- b. Disconnect the W11 back door lock assembly (back door courtesy switch) connector.
- c. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
K17-5 (E) - W11-3 (CTY)	Always	Below 1 ohms
K17-5 (E) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition
K20-5 (E) - W11-3 (CTY)	Always	Below 1 ohms
K20-5 (E) - Body ground	Always	10 kohms or higher

- d. Reconnect the back door lock assembly (back door courtesy switch) connector.
- e. Reconnect the fold seat switch assembly connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

5. INSPECT BACK DOOR LOCK ASSEMBLY (BACK DOOR COURTESY SWITCH)

*a

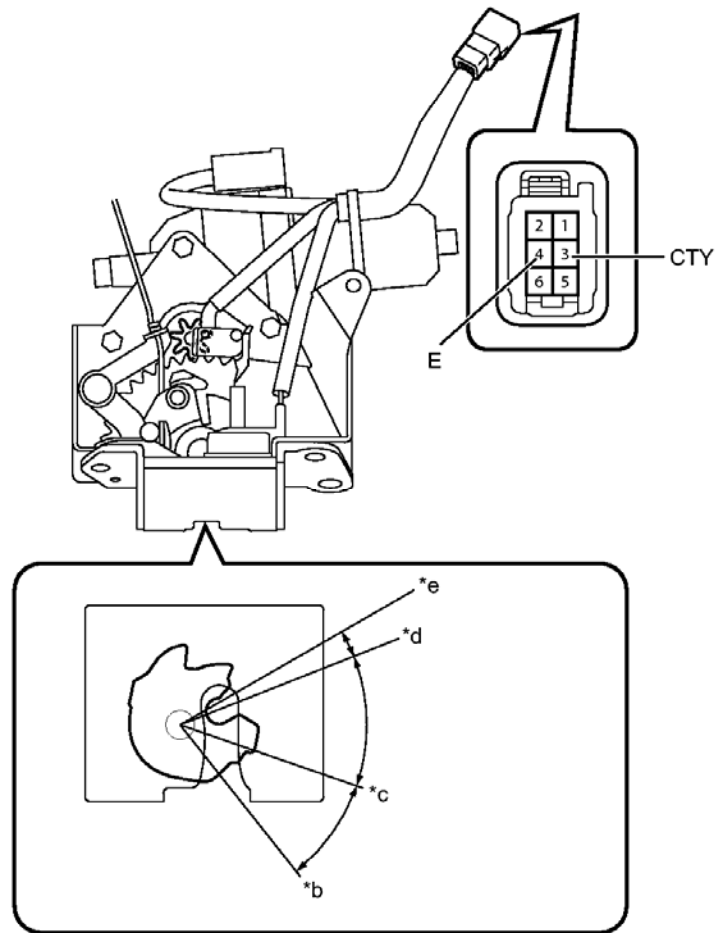


Fig. 30: Inspecting Back Door Lock Assembly (w/ Power Back Door)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a	Component without harness connected (Back Door Lock Assembly (Back Door Courtesy Switch))	*b	Open-latch
*c	Half-latch	*d	Full-latch

*e	Over-latch	-	-
----	------------	---	---

- a. Remove the back door lock assembly. Refer to **REMOVAL** .
- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
3 (CTY) - 4 (E)	Open-latch	Below 1 ohms
	Half-latch	Below 1 ohms
	Full-latch	10 kohms or higher
	Over-latch	10 kohms or higher

- c. Reinstall the back door lock assembly.

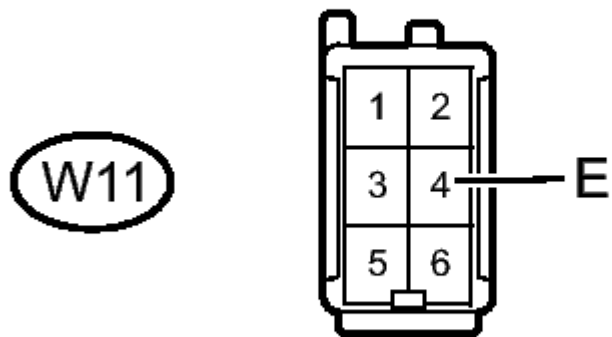
NG --> See step 9

OK: Go to next step

6. CHECK HARNESS AND CONNECTOR (BACK DOOR COURTESY SWITCH - BODY GROUND)

- a. Disconnect the W11 back door lock assembly (back door courtesy switch) connector.

*a



H

Fig. 31: Checking Harness And Connector (Back Door Courtesy Switch - Body Ground) With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Condition	Specified Condition
W11-4 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

*a	Front view of wire harness connector (to Back Door Lock Assembly (Back Door Courtesy
----	--

|Switch))|

- c. Reconnect the back door lock assembly (back door courtesy switch) connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 10

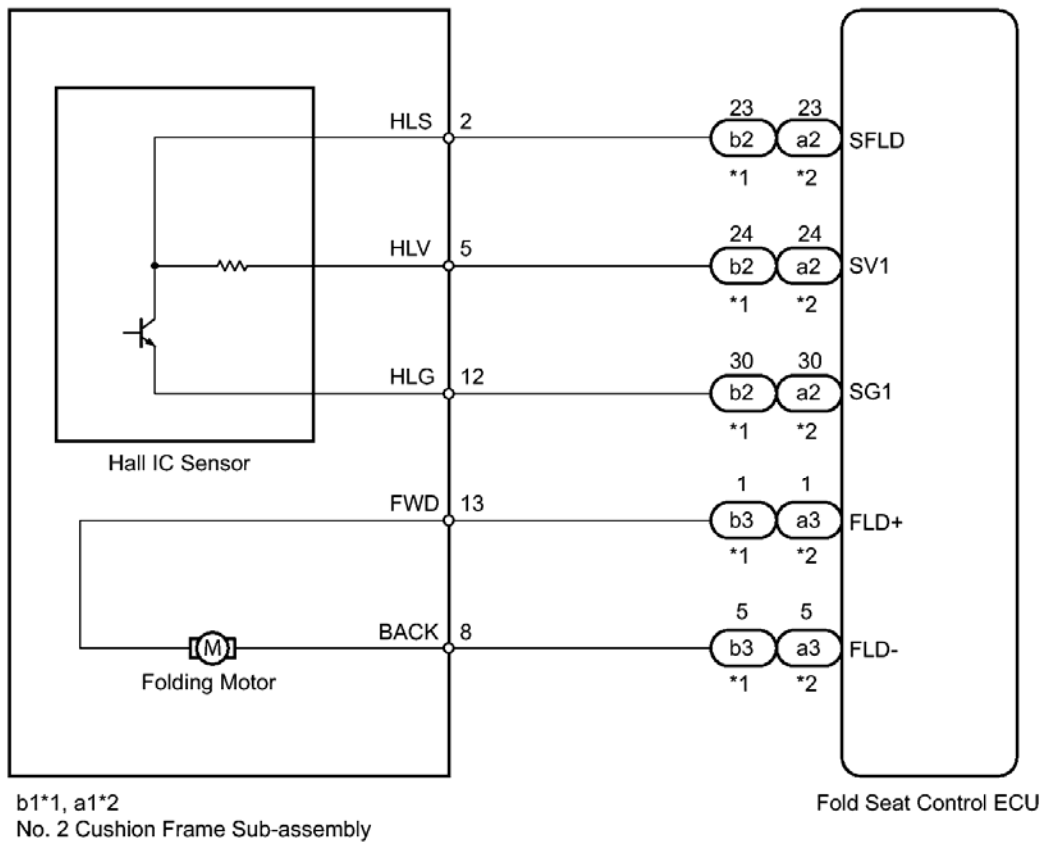
- 7. PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
- 8. REPLACE FOLD SEAT SWITCH ASSEMBLY. Refer to REMOVAL**
- 9. REPLACE BACK DOOR LOCK ASSEMBLY. Refer to REMOVAL**
- 10. REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Folding Motor Circuit

DESCRIPTION

The fold seat control ECU receives a switch operation signal from the fold seat switch and activates the folding motor. At this time, the Hall IC (seat cushion position sensor) detects the actuation signal. The fold seat control ECU uses signals from the Hall IC (seat cushion position sensor) to detect if an object is caught or if any other abnormal condition has occurred.

WIRING DIAGRAM



*1: LH side

*2: RH side

Fig. 32: Folding Motor Circuit - Wiring Diagram
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

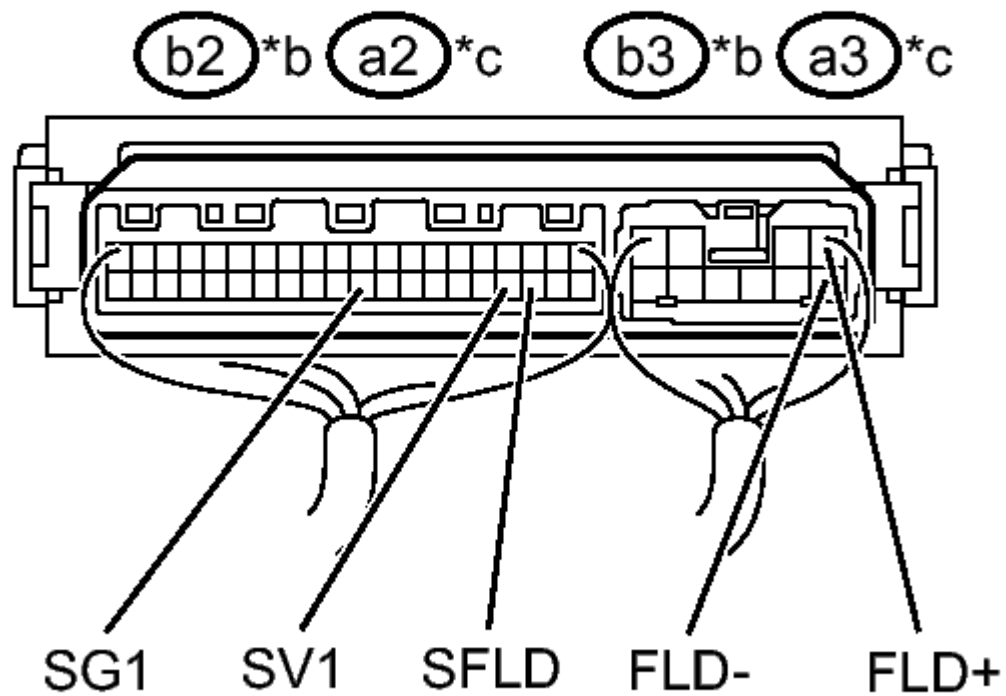
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU

- Remove the fold seat control ECU with its connectors still connected. Refer to **REMOVAL**.

*a



H

Fig. 33: Measuring Voltage Of Fold Seat Control ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-23 (SFLD) - b2-30	Motor is operating	Pulse generation

(SG1)		
b2-24 (SV1) - b2-30 (SG1)	Back door open	9 to 14 V
b3-1 (FLD+) - b3-5 (FLD-)	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Stowing)	11 to 14 V
b3-5 (FLD-) - b3-1 (FLD+)	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V

Tester Connection	Condition	Specified Condition
a2-23 (SFLD) - a2-30 (SG1)	Motor is operating	Pulse generation
a2-24 (SV1) - a2-30 (SG1)	Back door open	9 to 14 V
a3-1 (FLD+) - a3-5 (FLD-)	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Stowing)	11 to 14 V
a3-5 (FLD-) - a3-1 (FLD+)	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V

TEXT IN ILLUSTRATION

Component with

*a	harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 3

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - FOLDING MOTOR)

- Disconnect the b2 and b3 or a2 and a3 fold seat control ECU connectors.
- Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (folding motor) connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-23 (SFLD) - b1-2 (HLS)	Always	Below 1 ohms
b2-23 (SFLD) - Body ground	Always	10 kohms or higher
b2-24 (SV1) - b1- 5 (HLV)	Always	Below 1 ohms
b2-24 (SV1) - Body ground	Always	10 kohms or higher
b2-30 (SG1) - b1- 12 (HLG)	Always	Below 1 ohms
b2-30		

(SG1) - Body ground	Always	10 kohms or higher
b3-1 (FLD+) - b1-13 (FWD)	Always	Below 1 ohms
b3-1 (FLD+) - Body ground	Always	10 kohms or higher
b3-5 (FLD-) - b1-8 (BACK)	Always	Below 1 ohms
b3-5 (FLD-) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition
a2-23 (SFLD) - a1-2 (HLS)	Always	Below 1 ohms
a2-23 (SFLD) - Body ground	Always	10 kohms or higher
a2-24 (SV1) - a1- 5 (HLV)	Always	Below 1 ohms
a2-24 (SV1) - Body ground	Always	10 kohms or higher
a2-30 (SG1) - a1- 12 (HLG)	Always	Below 1 ohms
a2-30 (SG1) - Body ground	Always	10 kohms or higher
a3-1 (FLD+) - a1-13 (FWD)	Always	Below 1 ohms
a3-1		

(FLD+) - Body ground	Always	10 kohms or higher
a3-5 (FLD-) - a1-8 (BACK)	Always	Below 1 ohms
a3-5 (FLD-) - Body ground	Always	10 kohms or higher

- d. Reconnect the No. 2 seat cushion frame sub-assembly (folding motor) connector.
- e. Reconnect the fold seat control ECU connectors.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 4

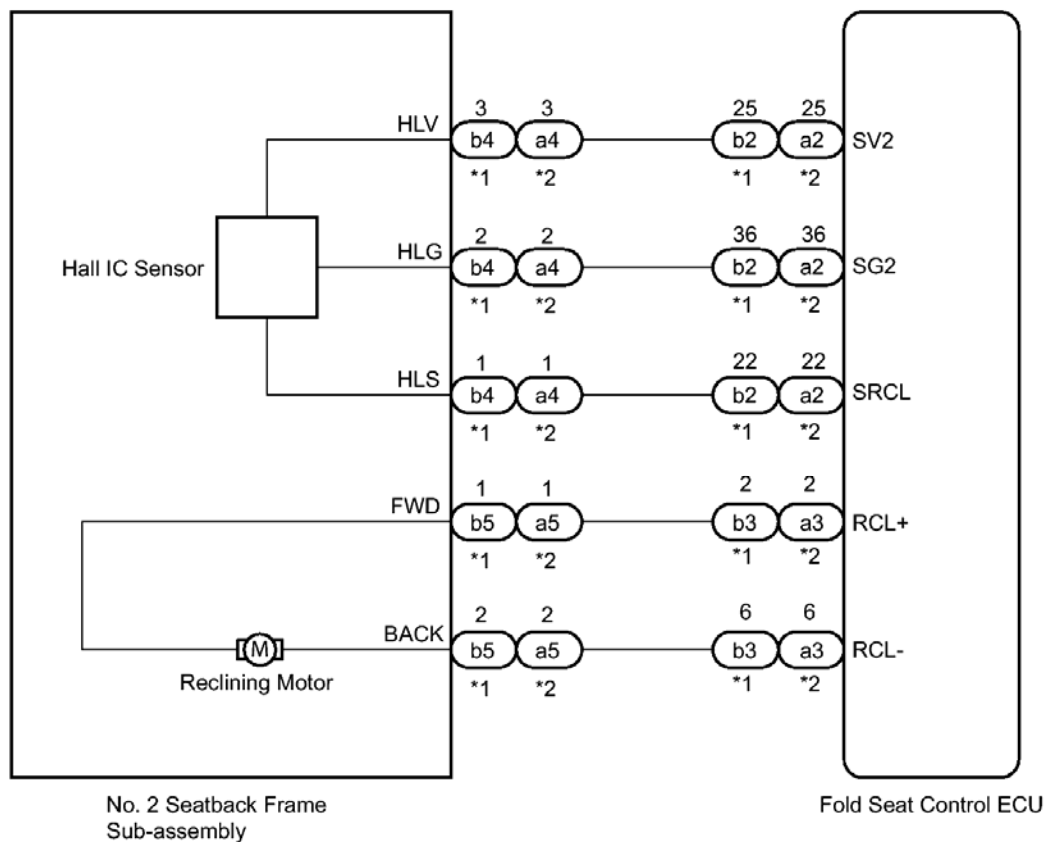
3. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
4. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**

Reclining Motor Circuit

DESCRIPTION

The fold seat control ECU receives a switch operation signal from the rear power seat switch and the fold seat switch, and activates the reclining motor. At this time, the Hall IC (seatback position sensor) detects the actuation of the seatback and sends a seatback actuation signal to the fold seat control ECU. The fold seat control ECU uses signals from the Hall IC (seatback position sensor) to detect if an object is caught or if any other abnormal condition has occurred.

WIRING DIAGRAM



*1: LH side

*2: RH side

Fig. 34: Reclining Motor Circuit - Wiring Diagram
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

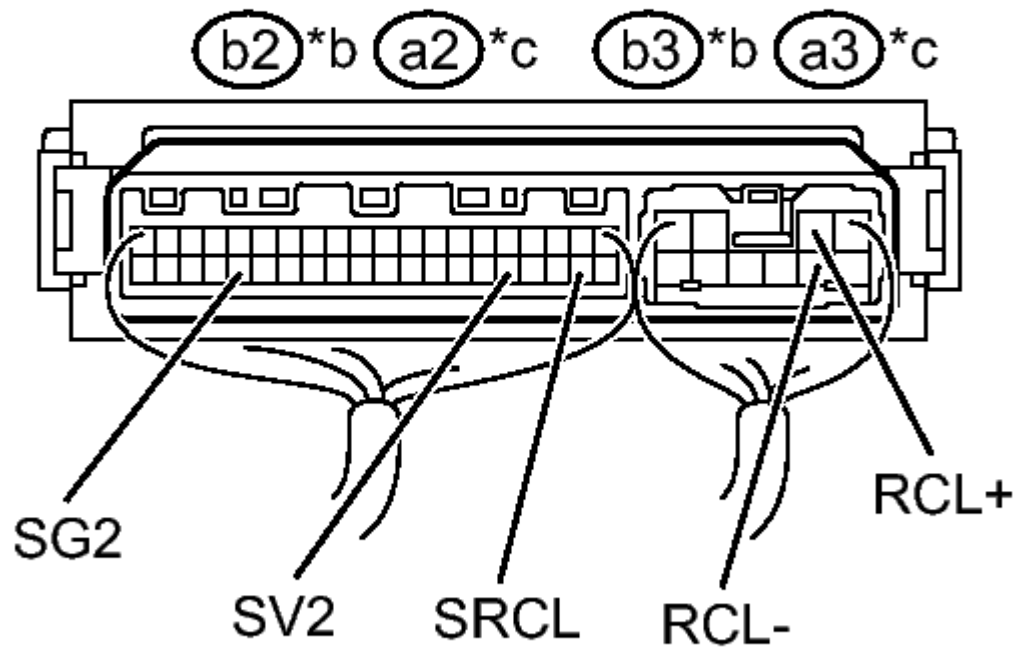
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU

- Remove the fold seat control ECU with its connectors still connected. Refer to **REMOVAL**.

*a



H

Fig. 35: Measuring Voltage Of Fold Seat Control ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-22 (SRCL) - b2-36	Motor is operating	Pulse generation

(SG2)		
b2-25 (SV2) - b2-36 (SG2)	Back door open	9 to 14 V
b3-2 (RCL+) - b3-6 (RCL-)	Back door open Lock switch unlock Rear power seat switch on (Forward)	11 to 14 V
b3-6 (RCL-) - b3-2 (RCL+)	Back door open Lock switch unlock Rear power seat switch on (Backward)	11 to 14 V

Tester Connection	Condition	Specified Condition
a2-22 (SRCL) - a2-36 (SG2)	Motor is operating	Pulse generation
a2-25 (SV2) - a2-36 (SG2)	Back door open	9 to 14 V
a3-2 (RCL+) - a3-6 (RCL-)	Back door open Lock switch unlock Rear power seat switch on (Forward)	11 to 14 V
a3-6 (RCL-) - a3-2	Back door open Lock switch unlock	11 to 14 V

(RCL+)	Rear power seat switch on (Backward)	
--------	--------------------------------------	--

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 4

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - RECLINING MOTOR)

- Disconnect the b2 and b3 or a2 and a3 fold seat control ECU connectors.
- Disconnect the b4 and b5 or a4 and a5 reclining motor connectors.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-22 (SRCL) - b4-1 (HLS)	Always	Below 1 ohms
b2-22 (SRCL) - Body ground	Always	10 kohms or higher
b2-25 (SV2) - b4-	Always	Below 1 ohms

3 (HLV)		
b2-25 (SV2) - Body ground	Always	10 kohms or higher
b2-36 (SG2) - b4-2 (HLG)	Always	Below 1 ohms
b2-36 (SG2) - Body ground	Always	10 kohms or higher
b3-2 (RCL+) - b5-1 (FWD)	Always	Below 1 ohms
b3-2 (RCL+) - Body ground	Always	10 kohms or higher
b3-6 (RCL-) - b5-2 (BACK)	Always	Below 1 ohms
b3-6 (RCL-) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition
a2-22 (SRCL) - a4-1 (HLS)	Always	Below 1 ohms
a2-22 (SRCL) - Body ground	Always	10 kohms or higher
a2-25 (SV2) - a4-3 (HLV)	Always	Below 1 ohms
a2-25 (SV2) - Body ground	Always	10 kohms or higher
a2-36 (SG2) - a4-2 (HLG)	Always	Below 1 ohms

a2-36 (SG2) - Body ground	Always	10 kohms or higher
a3-2 (RCL+) - a5-1 (FWD)	Always	Below 1 ohms
a3-2 (RCL+) - Body ground	Always	10 kohms or higher
a3-6 (RCL-) - a5-2 (BACK)	Always	Below 1 ohms
a3-6 (RCL-) - Body ground	Always	10 kohms or higher

- d. Reconnect the reclining motor connectors.
- e. Reconnect the fold seat control ECU connectors.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. INSPECT NO. 2 SEATBACK FRAME SUB-ASSEMBLY (RECLINING MOTOR)

- a. Remove the No. 2 seatback frame sub-assembly (reclining motor). Refer to **DISASSEMBLY** .

*a

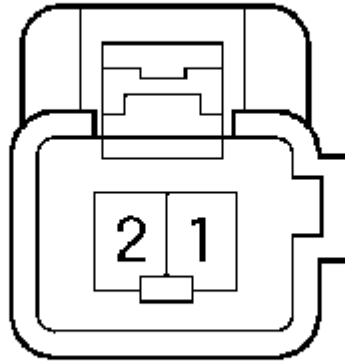


Fig. 36: Inspecting No. 2 Seatback Frame Sub-Assembly (Reclining Motor) With Connector End View

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Check the operation of the reclining motor.
 - 1. Apply battery voltage to the reclining motor and check the operation of the reclining motor.

OK

LH Side

RH Side

Measurement Condition	Specified Condition
Battery positive (+) --> Terminal 1 Battery negative (-) --> Terminal 2	Forward
Battery positive (+) --> Terminal 2 Battery negative (-) --> Terminal 1	Backward

Measurement Condition	Specified Condition
Battery positive (+) --> Terminal 1 Battery negative (-) --> Terminal 2	Forward
Battery positive (+) --> Terminal 2 Battery negative (-) --> Terminal 1	Backward

TEXT IN ILLUSTRATION

	Component without harness connected (No. 2
*a	Seatback Frame Sub-assembly (Reclining Motor))

c. Reinstall the No. 2 seatback frame sub-assembly (reclining motor).

NG --> See step 5

OK --> See step 6

4. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
5. **REPLACE NO. 2 SEATBACK FRAME SUB-ASSEMBLY. Refer to DISASSEMBLY**
6. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Release Actuator Circuit

DESCRIPTION

The fold seat control ECU receives a switch operation signal from the fold seat switch and activates the release actuator. The release actuator releases the lock of the stowed seat based on a drive voltage received from the ECU.

WIRING DIAGRAM

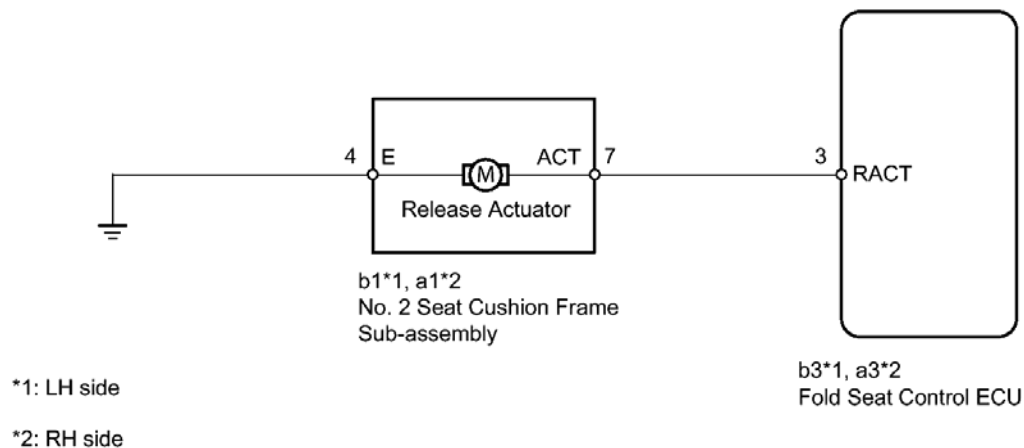


Fig. 37: Release Actuator Circuit - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

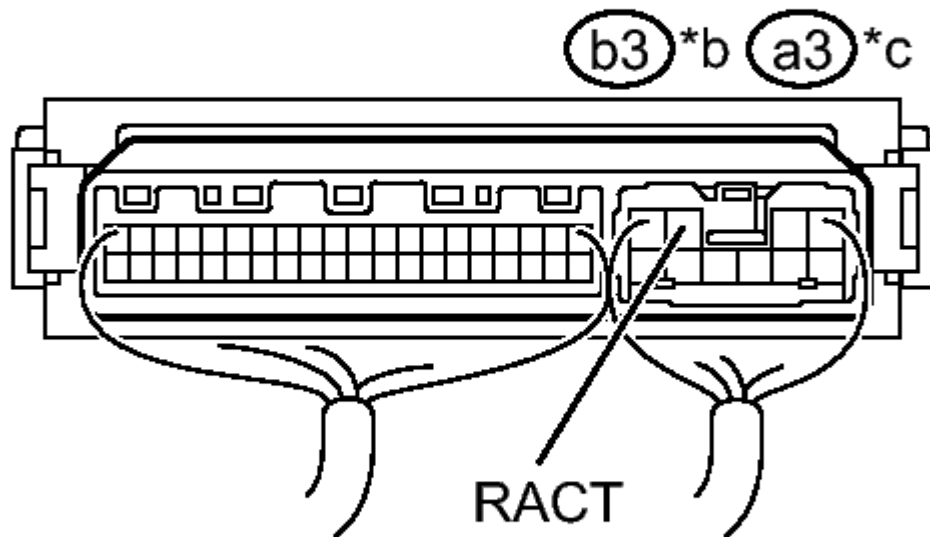
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU

- Remove the fold seat control ECU with its connector still connected. Refer to **REMOVAL** .

*a



H

Fig. 38: Measuring Voltage Of Fold Seat Control ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH SIDE

Tester Connection	Condition	Specified Condition
b3-3 (RACT) - Body ground	Engine switch off Shift lever in P Back door open Stowing/Return switch on	11 to 14 V

	(Return)	
--	----------	--

RH SIDE

Tester Connection	Condition	Specified Condition
a3-3 (RACT) - Body ground	Engine switch off Shift lever in P Back door open Stowing/Return switch on (Return)	11 to 14 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 4

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - RELEASE ACTUATOR)

- Disconnect the b3 or a3 fold seat control ECU connector.
- Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (release actuator) connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
b3-3 (RACT) - b1-7 (ACT)	Always	Below 1 ohms
b3-3		

(RACT) - Body ground	Always	10 kohms or higher
----------------------------	--------	-----------------------

RH SIDE

Tester Connection	Condition	Specified Condition
a3-3 (RACT) - a1-7 (ACT)	Always	Below 1 ohms
a3-3 (RACT) - Body ground	Always	10 kohms or higher

- d. Reconnect the No. 2 seat cushion frame sub-assembly (release actuator) connector.
- e. Reconnect the fold seat control ECU connector.

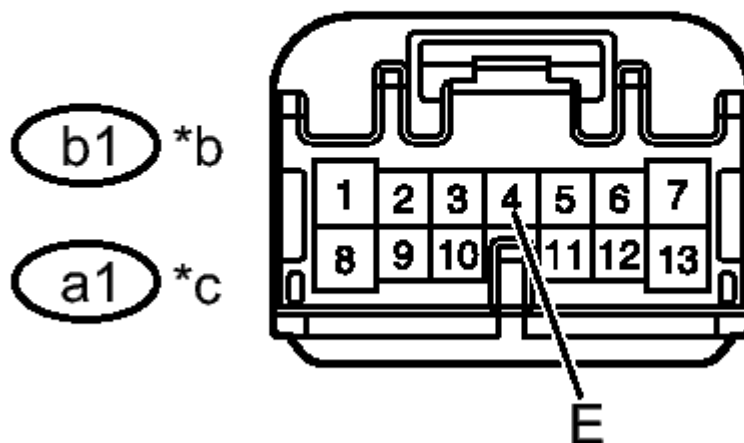
NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. CHECK HARNESS AND CONNECTOR (RELEASE ACTUATOR - BODY GROUND)

- a. Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (release actuator) connector.

***a**



P

Fig. 39: Checking Harness And Connector (Release Actuator - Body Ground) With

Connector End View**Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
b1-4 (E) - Body ground	Always	Below 1 ohms

RH SIDE

Tester Connection	Condition	Specified Condition
a1-4 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

	Front view of wire harness connector (to No. 2
*a	Seat Cushion Frame Sub-assembly (Release Actuator))
*b	LH Side
*c	RH Side

- c. Reconnect the No. 2 seat cushion frame sub-assembly (release actuator) connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK --> See step 5

4. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**

5. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**

Lock Switch Circuit

DESCRIPTION

Each of the left and right seats has lock switches that detect the lock condition of the seat legs to the floor when the seat is in the original or folded-down state. If any of the lock switches detect an unlock condition, the 3rd SEAT indicator on the combination meter will come on and the folding-down, return, and reclining operations will be disabled.

WIRING DIAGRAM

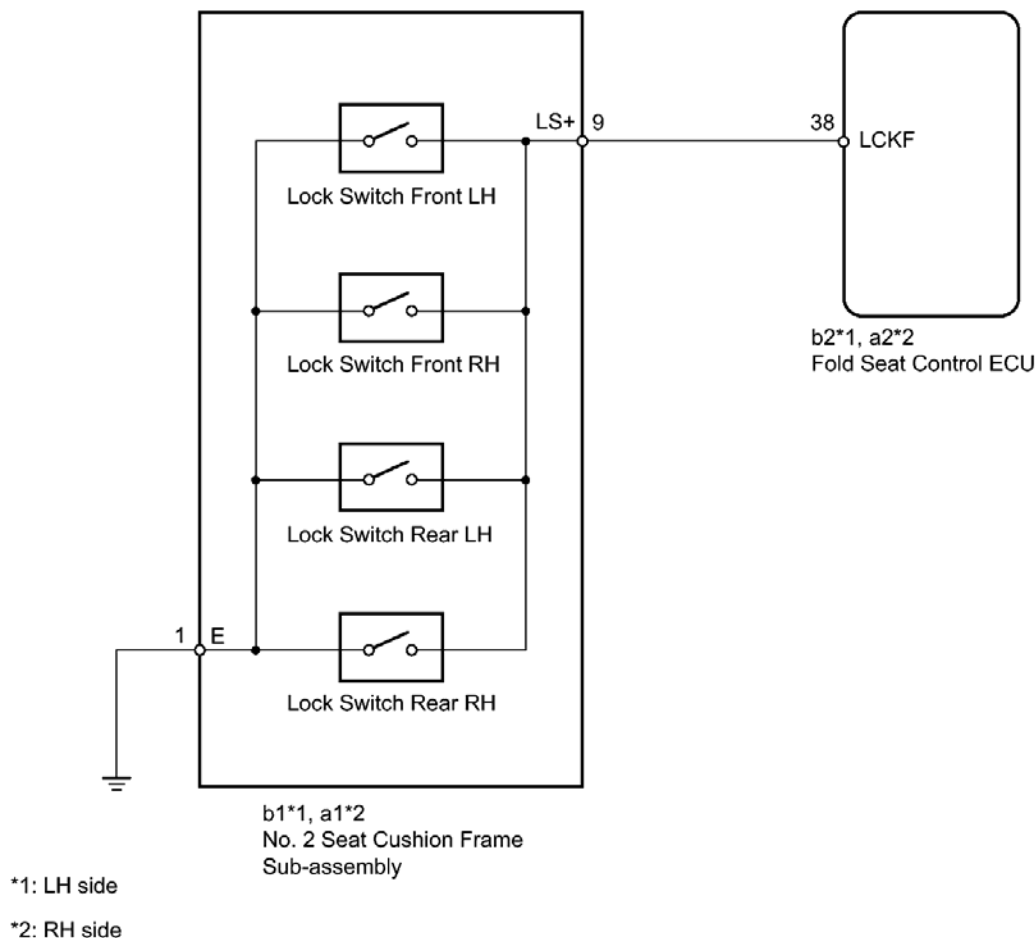


Fig. 40: Lock Switch Circuit - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

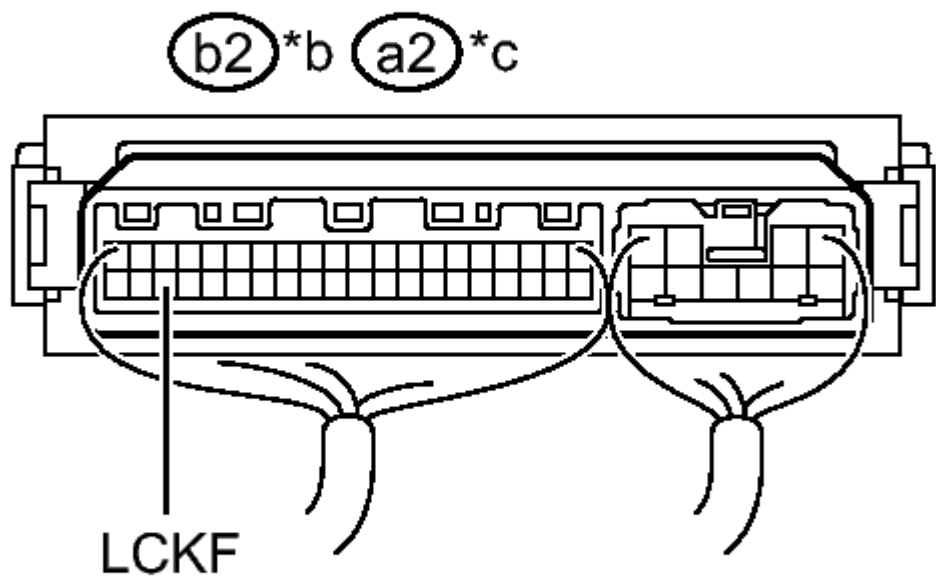
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU

- a. Remove the fold seat control ECU with its connector still connected. Refer to REMOVAL .

*a



H

Fig. 41: Checking Fold Seat Control ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH SIDE

Tester Connection	Switch Condition	Specified Condition
	All lock	

b2-38 (LCKF) - Body ground	switches lock	11 to 14 V
	Any of the lock switches unlock	Below 1 V

RH SIDE

Tester Connection	Switch Condition	Specified Condition
a2-38 (LCKF) - Body ground	All lock switches lock	11 to 14 V
	Any of the lock switches unlock	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 5

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - LOCK SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (lock switch) connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
------------------------------	------------------	--------------------------------

b2-38 (LCKF) - b1-9 (LS+)	Always	Below 1 ohms
b2-38 (LCKF) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Specified Condition
a2-38 (LCKF) - a1-9 (LS+)	Always	Below 1 ohms
a2-38 (LCKF) - Body ground	Always	10 kohms or higher

- d. Reconnect the No. 2 seat cushion frame sub-assembly (lock switch) connector.
- e. Reconnect the fold seat control ECU connector.

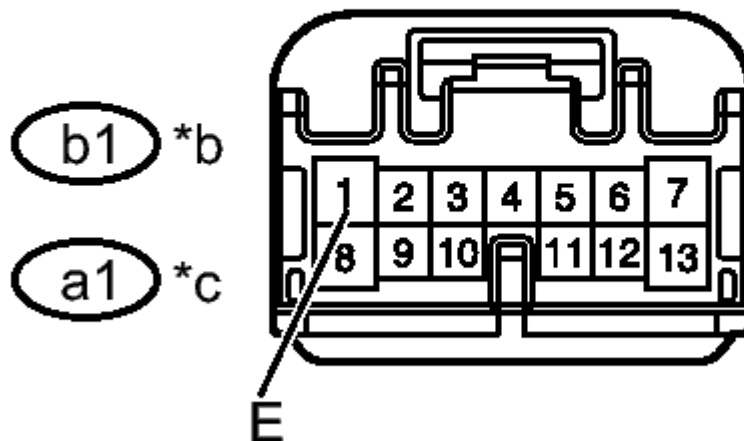
NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. CHECK HARNESS AND CONNECTOR (LOCK SWITCH - BODY GROUND)

- a. Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (lock switch) connector.

*a



P

Fig. 42: Checking Harness And Connector (Lock Switch - Body Ground) With Connector End View

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
b1-1 (E) - Body ground	Always	Below 1 ohms

RH SIDE

Tester Connection	Condition	Specified Condition
a1-1 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

Front view of wire

*a	harness connector (to No. 2 Seat Cushion Frame Sub- assembly (Lock Switch))
*b	LH Side
*c	RH Side

- c. Reconnect the No. 2 seat cushion frame sub-assembly (lock switch) connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

4. REPLACE NO. 2 SEAT CUSHION FRAME SUB-ASSEMBLY

HINT:

Since the lock switch cannot be inspected while it is removed from the vehicle, replace the No. 2 seat cushion frame sub-assembly with a normal one and check that the condition returns to normal. Refer to **DISASSEMBLY** .

OK

Same problem does not occur.

NG --> See step 6

OK --> END

5. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
6. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Rear Power Seat Switch Circuit

DESCRIPTION

When the rear power seat switch is operated, a recline signal is sent to the fold seat control ECU. The ECU activates the reclining motor based on the signal from rear power seat switch.

WIRING DIAGRAM

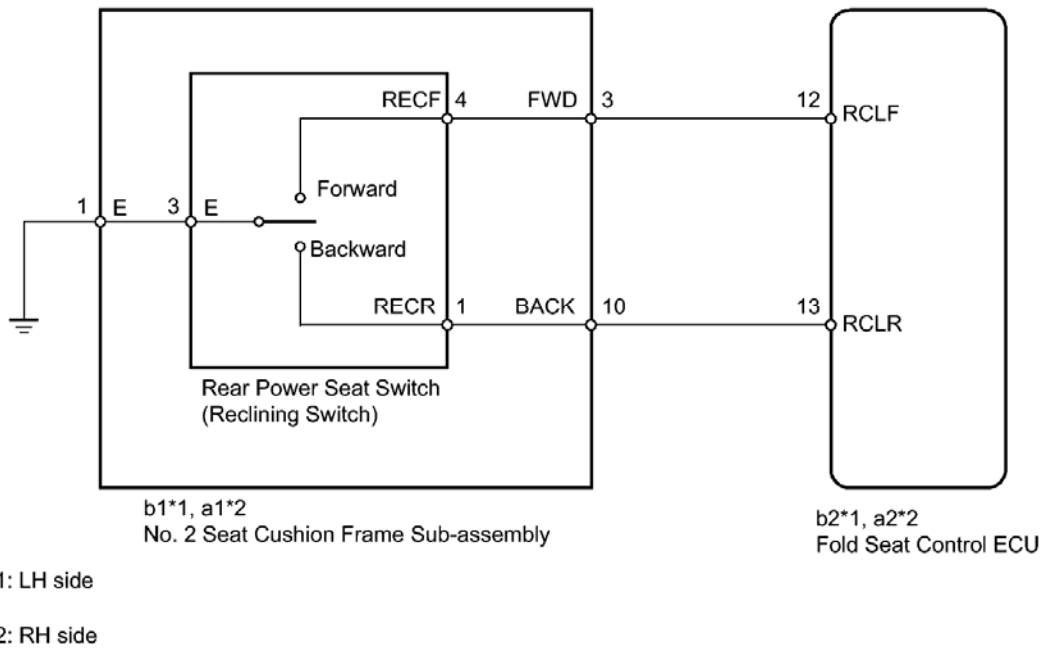


Fig. 43: Rear Power Seat Switch Circuit - Wiring Diagram
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

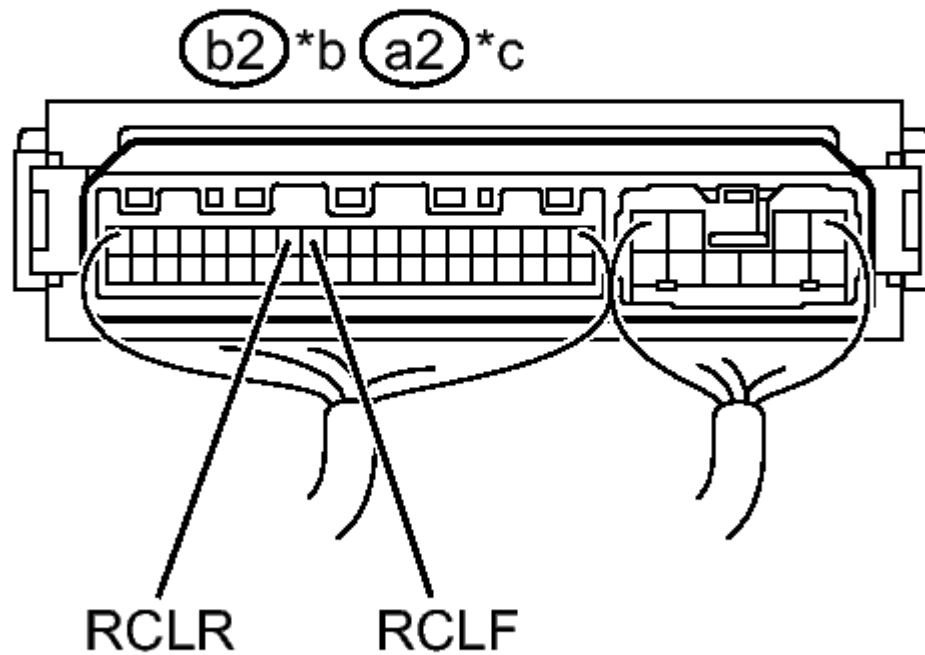
INSPECTION PROCEDURE

PROCEDURE

1. CHECK FOLD SEAT CONTROL ECU

- Remove the fold seat control ECU with its connectors still connected. Refer to **REMOVAL** .

*a



H

Fig. 44: Checking Fold Seat Control ECU
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-12 (RCLF) -	Always	11 to 14 V
	Rear power seat switch	Below 1

Body ground	on (Forward)	V
b2-13 (RCLR) - Body ground	Always	11 to 14 V
	Rear power seat switch on (Backward)	Below 1 V

Tester Connection	Condition	Specified Condition
a2-12 (RCLF) - Body ground	Always	11 to 14 V
	Rear power seat switch on (Forward)	Below 1 V
a2-13 (RCLR) - Body ground	Always	11 to 14 V
	Rear power seat switch on (Backward)	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
*b	LH Side
*c	RH Side

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 6

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - NO. 2 SEAT CUSHION FRAME)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b2-12 (RCLF) - b1-3 (FWD)	Always	Below 1 ohms
b2-12 (RCLF) - Body ground	Always	10 kohms or higher
b2-13 (RCLR) - b1-10 (BACK)	Always	Below 1 ohms
b2-13 (RCLR) - Body ground	Always	10 kohms or higher

Tester Connection	Condition	Specified Condition
a2-12 (RCLF) - a1-3 (FWD)	Always	Below 1 ohms
a2-12 (RCLF) - Body ground	Always	10 kohms or higher
a2-13 (RCLR) - a1-10 (BACK)	Always	Below 1 ohms
a2-13 (RCLR) - Body ground	Always	10 kohms or higher

- d. Reconnect the No. 2 seat cushion frame sub-assembly connector.
- e. Reconnect the fold seat control ECU connector.

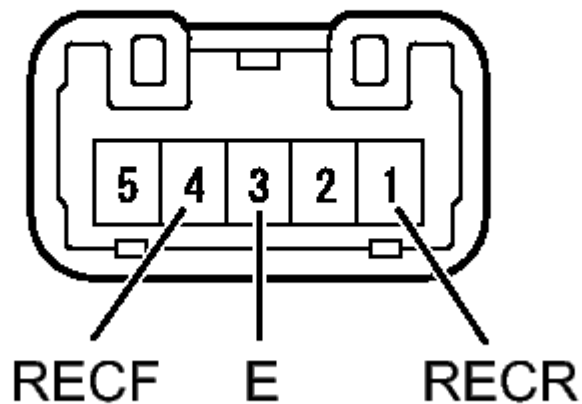
NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. INSPECT REAR POWER SEAT SWITCH

- a. Remove the rear power seat switch. Refer to REMOVAL .

*a



H

Fig. 45: Inspecting Rear Power Seat Switch With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
4 (RECF) - 3 (E)	Always	10 kohms or higher
	Rear power seat switch on (Forward)	Below 1 ohms
1 (RECR) - 3 (E)	Always	10 kohms or higher
	Rear power seat switch on (Backward)	Below 1 ohms

TEXT IN ILLUSTRATION

	Component without harness
*a	connected (Rear Power Seat Switch)

- c. Reinstall the rear power seat switch.

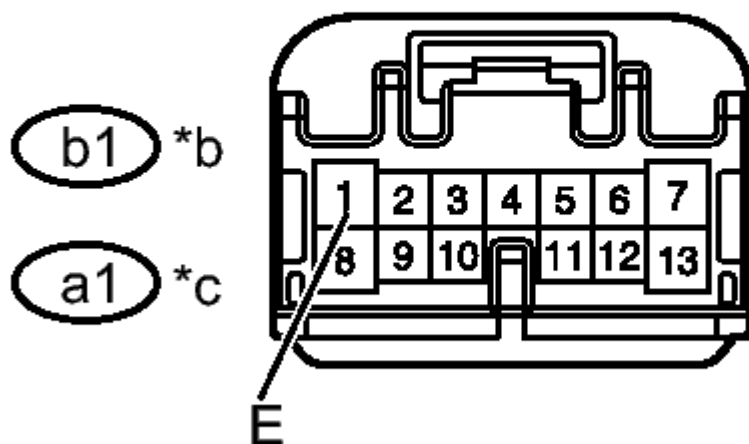
NG --> See step 7

OK: Go to next step

4. CHECK HARNESS AND CONNECTOR (NO. 2 SEAT CUSHION FRAME - BODY GROUND)

- a. Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly connector.

***a**



P

Fig. 46: Checking Harness And Connector (Lock Switch - Body Ground) With Connector End View

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH Side

RH Side

Tester Connection	Condition	Specified Condition
b1-1 (E) - Body ground	Always	Below 1 ohms

Tester Connection	Condition	Specified Condition
a1-1 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

	Front view of wire harness connector
*a	(to No. 2 Seat Cushion Frame Sub-assembly)
*b	LH Side
*c	RH Side

- c. Reconnect the No. 2 seat cushion frame sub-assembly connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

5. REPAIR OR REPLACE HARNESS OR CONNECTOR (WIRE INSIDE SEAT)

- a. Repair or replace harness or connector (wire inside seat) and check that the malfunction disappears.

OK

Malfunction disappears.

NG --> See step 8

OK --> END

6. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
7. **REPLACE REAR POWER SEAT SWITCH. Refer to REMOVAL**
8. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**

Fold Lock Switch Circuit

DESCRIPTION

Each of the left and right seats has a fold lock switch that detects the lock condition of the seat legs and floor when the seat is in the stowed state. If the fold lock switch detects an unlock condition, the 3rd SEAT indicator on the combination meter will come on.

WIRING DIAGRAM

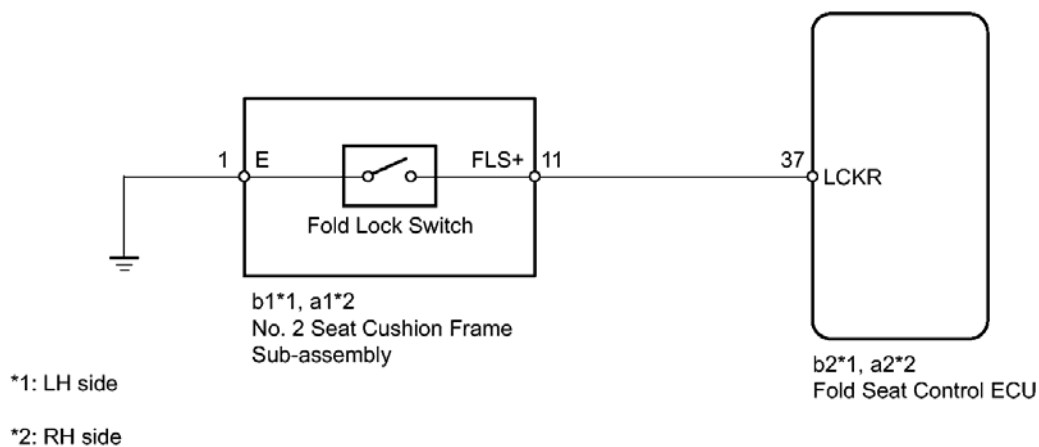


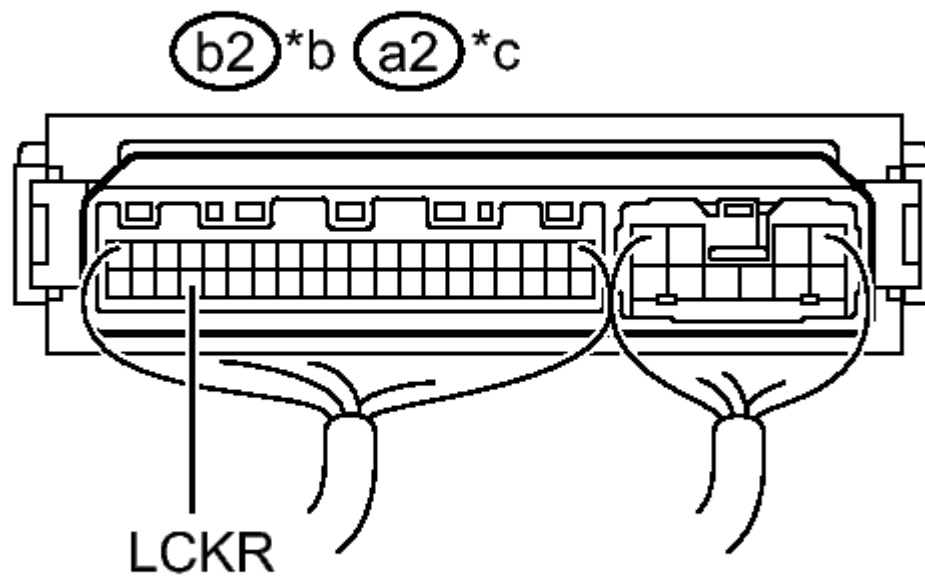
Fig. 47: Fold Lock Switch Circuit - Wiring Diagram
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION PROCEDURE

PROCEDURE

1. **CHECK FOLD SEAT CONTROL ECU**
 - a. Remove the fold seat control ECU with its connectors still connected. Refer to REMOVAL .

*a



H

Fig. 48: Checking Fold Seat Control ECU Voltage
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the voltage according to the value(s) in the table below.

Standard Voltage

LH SIDE

Tester Connection	Switch Condition	Specified Condition
b2-37 (LCKR) - Body ground	Fold lock switch lock	11 to 14 V
	Fold lock switch unlock	Below 1 V

RH SIDE

Tester Connection	Switch Condition	Specified Condition
a2-37 (LCKR) - Body ground	Fold lock switch lock	11 to 14 V
	Fold lock switch unlock	Below 1 V

TEXT IN ILLUSTRATION

*a	Component with harness connected (Fold Seat Control ECU)
----	--

- c. Reinstall the fold seat control ECU.

NG --> See step 2

OK --> See step 5

2. CHECK HARNESS AND CONNECTOR (FOLD SEAT CONTROL ECU - FOLD LOCK SWITCH)

- Disconnect the b2 or a2 fold seat control ECU connector.
- Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (fold lock switch) connector.
- Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Condition
b2-37 (LCKR) - b1-11 (FLS+)	Always	Below 1 ohms
b2-37 (LCKR) - Body ground	Always	10 kohms or higher

RH SIDE

Tester Connection	Condition	Condition
a2-37 (LCKR) - a1-11 (FLS+)	Always	Below 1 ohms
a2-37 (LCKR) - Body ground	Always	10 kohms or higher

- d. Reconnect the No. 2 seat cushion frame sub-assembly (fold lock switch) connector.
- e. Reconnect the fold seat control ECU connector.

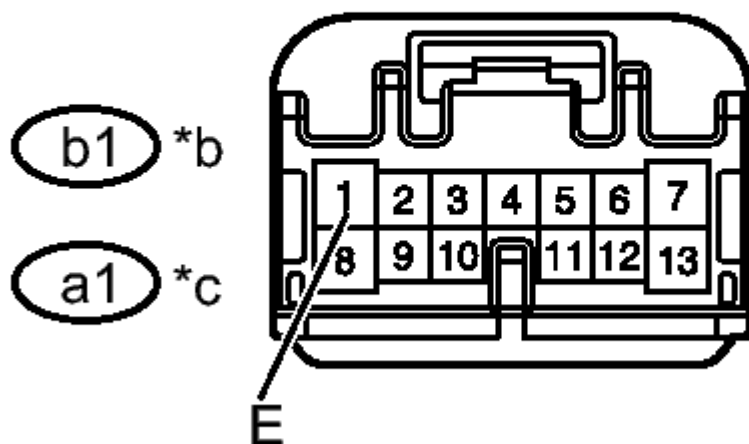
NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

3. CHECK HARNESS AND CONNECTOR (FOLD LOCK SWITCH - BODY GROUND)

- a. Disconnect the b1 or a1 No. 2 seat cushion frame sub-assembly (fold lock switch).

***a**



P

Fig. 49: Checking Harness And Connector (Lock Switch - Body Ground) With Connector End View

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

LH SIDE

Tester Connection	Condition	Specified Condition
b1-1 (E) - Body ground	Always	Below 1 ohms

RH SIDE

Tester Connection	Condition	Specified Condition
a1-1 (E) - Body ground	Always	Below 1 ohms

TEXT IN ILLUSTRATION

	Front view of wire harness connector (to No. 2 Seat Cushion Frame Sub-assembly (Fold Lock Switch))
*a	
*b	LH Side
*c	RH Side

- c. Reconnect the No. 2 seat cushion frame sub-assembly (fold lock switch) connector.

NG --> REPAIR OR REPLACE HARNESS OR CONNECTOR

OK: Go to next step

4. INSPECT NO. 2 SEAT CUSHION FRAME SUB-ASSEMBLY (FOLD LOCK SWITCH)

- a. Remove the No. 2 seat cushion frame sub-assembly. Refer to **DISASSEMBLY** .

*a

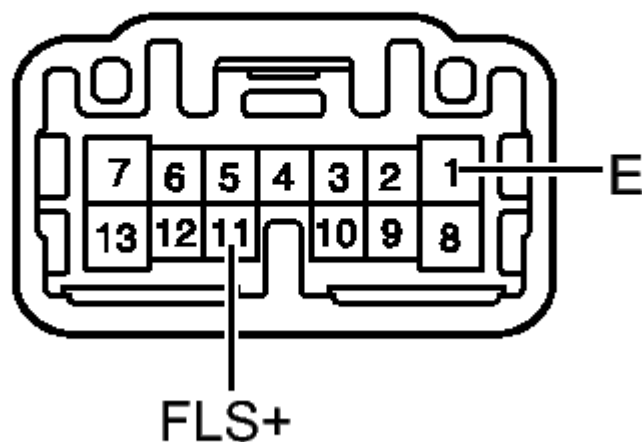


Fig. 50: Inspecting No. 2 Seat Cushion Frame Sub-Assembly Connector (Fold Lock Switch) With Connector End View
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Measure the resistance according to the value(s) in the table below.

Standard Resistance

Tester Connection	Switch Condition	Specified Condition
11 (FLS+) - 1 (E)	Fold lock switch unlock	Below 1 ohms
	Fold lock switch lock	10 kohms or higher

TEXT IN ILLUSTRATION

*a	Component without harness connected (No. 2 Seat Cushion Frame Sub-assembly)
----	---

c. Reinstall the No. 2 seat cushion frame sub-assembly.

NG --> See step 6

OK --> See step 7

5. **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE. Refer to PROBLEM SYMPTOMS TABLE**
6. **REPLACE NO. 2 SEAT CUSHION FRAME SUB-ASSEMBLY. Refer to DISASSEMBLY**
7. **REPLACE FOLD SEAT CONTROL ECU. Refer to REMOVAL**