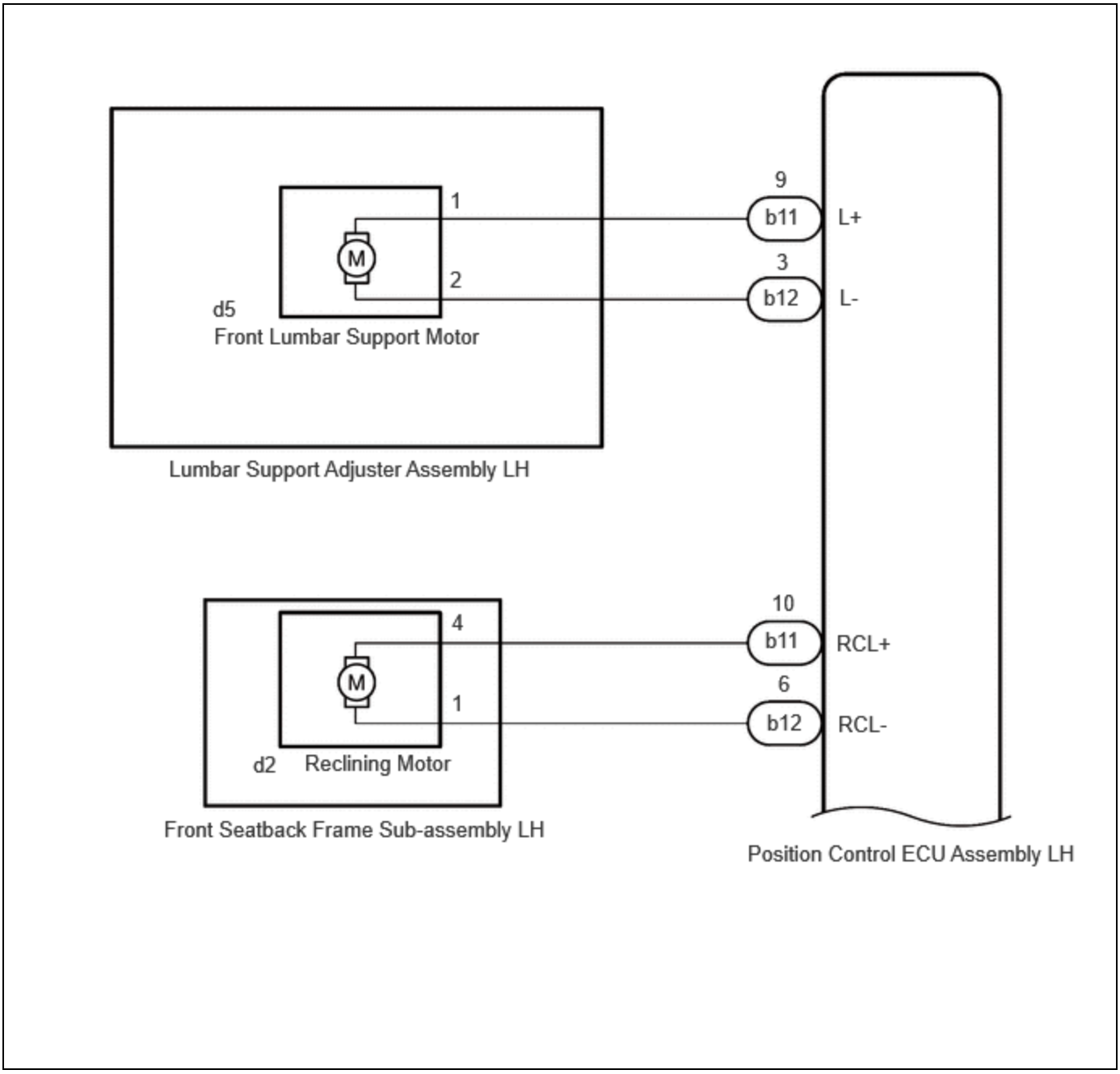
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029X3I
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: SEAT: FRONT POWER SEAT CONTROL SYSTEM (w/ Memory): One or more Power Seat Motors do not Operate; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

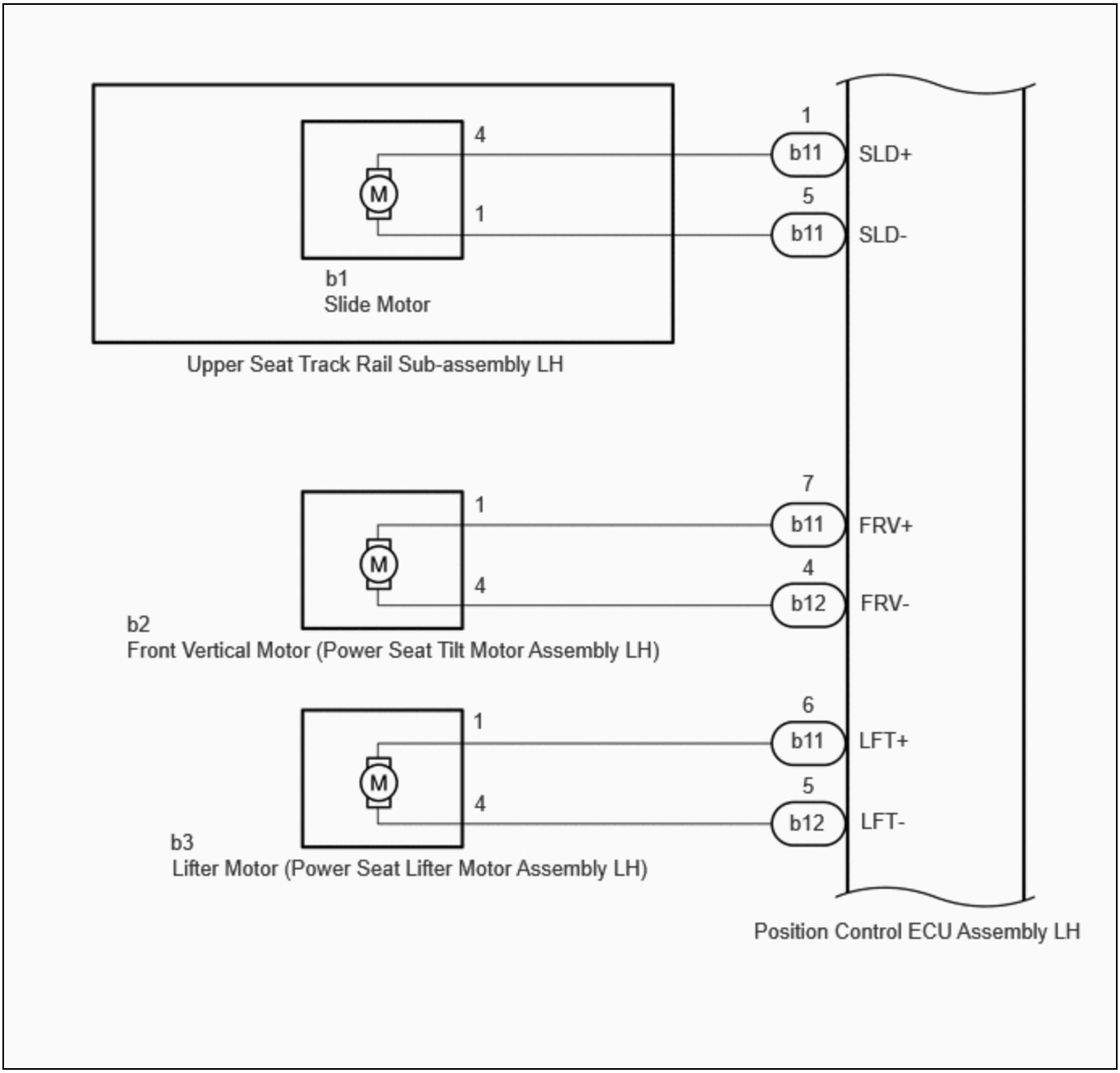
One or more Power Seat Motors do not Operate

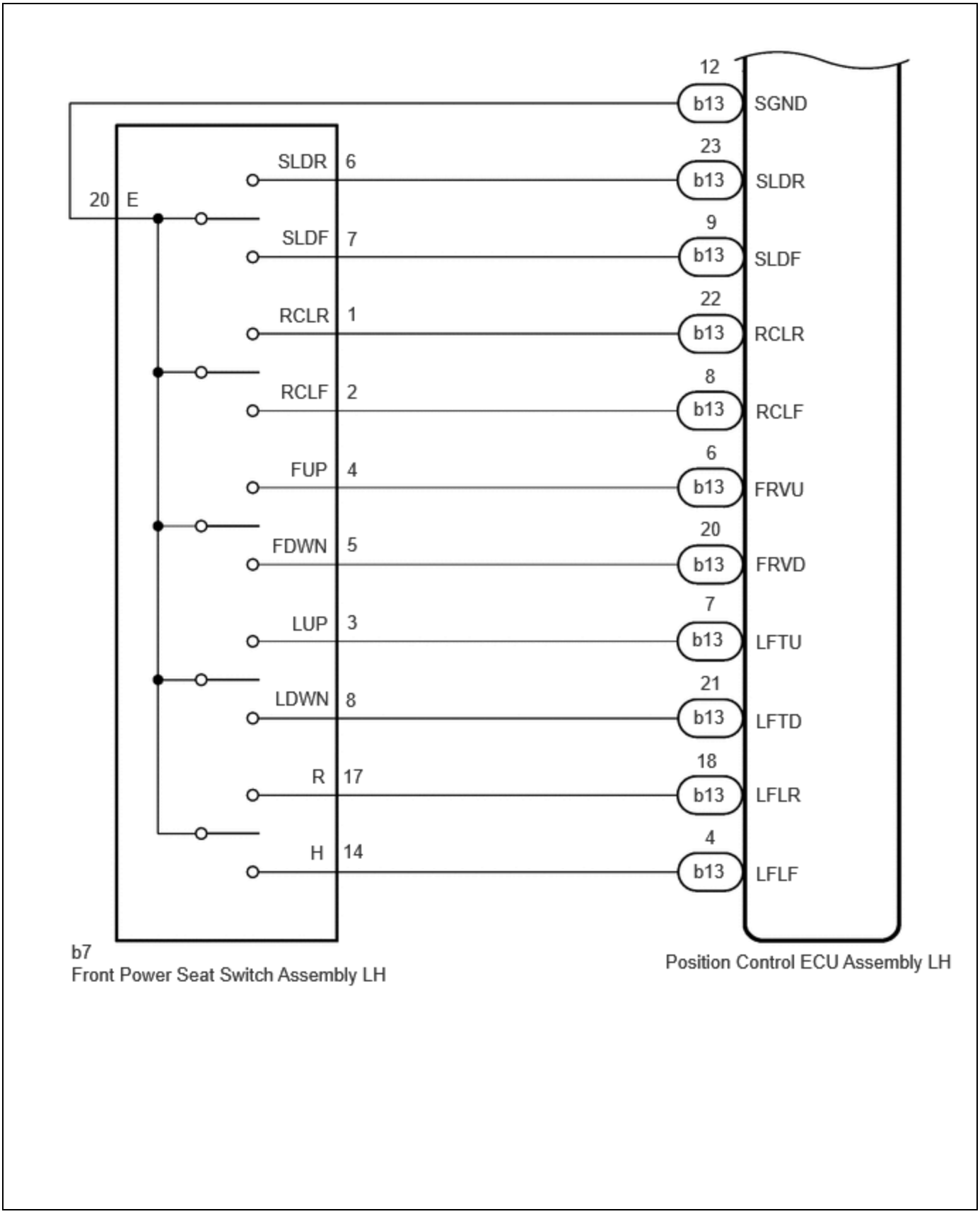
DESCRIPTION

Signals are input into the position control ECU assembly LH. The built-in ECU manages the signals received from the position control ECU assembly LH and operates each motor. If the position control ECU assembly LH receives 2 or more operation signals for the same motor, the motor will be stopped. Manual operation resumes when the position control ECU assembly LH receives only 1 signal.

WIRING DIAGRAM


1
2
M
d5
Front Lumbar Support Motor
Lumbar Support Adjuster Assembly LH
9
b11
L+
3
b12
L-
4
1
M
d2
Reclining Motor
Front Seatback Frame Sub-assembly LH
10
b11
RCL+
6
b12
RCL-
Position Control ECU Assembly LH


4
1
M
b1
Slide Motor
Upper Seat Track Rail Sub-assembly LH
1
b11
SLD+
5
b11
SLD-
1
4
M
b2
Front Vertical Motor (Power Seat Tilt Motor Assembly LH)
7
b11
FRV+
4
b12
FRV-
1
4
M
b3
Lifter Motor (Power Seat Lifter Motor Assembly LH)
6
b11
LFT+
5
b12
LFT-
Position Control ECU Assembly LH



CAUTION / NOTICE / HINT

NOTICE:

- Make sure to initialize the position control ECU assembly LH after replacing the position control ECU assembly LH, seat assembly or any related parts (including removal and installation).

Click here INFO

- Initializing the position control ECU assembly LH will clear the seat position memory.

PROCEDURE

1.	**CHECK FRONT POWER SEAT OPERATION**

(a) Check that each function of the power seat operates normally by using the front power seat switch assembly LH.

Click here INFO

RESULT	PROCEED TO
One or more power seat functions do not operate	A
All power seat functions do not operate	B

B ▶ **GO TO OTHER DIAGNOSIS PROCEDURE (Front Power Seat does not Operate with Front Power Seat Switch)**

A ▼

2.	**READ VALUE USING GTS**

(a) Read the Data List according to the display on the GTS.

Body Electrical > Driver Seat > Data List

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Slide Front	Slide switch signal (Forward)	OFF or ON	OFF: Slide switch (Forward) off ON: Slide switch (Forward) on	-
Slide Rear	Slide switch signal (Rearward)	OFF or ON	OFF: Slide switch (Rearward) off ON: Slide switch (Rearward) on	-
Reclining Front	Reclining switch signal (Forward)	OFF or ON	OFF: Reclining switch (Forward) off ON: Reclining switch (Forward) on	-

TESTER DISPLAY	MEASUREMENT ITEM	RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Reclining Rear	Reclining switch signal (Rearward)	OFF or ON	OFF: Reclining switch (Rearward) off ON: Reclining switch (Rearward) on	-
Lifter Up	Lifter switch signal (Upward)	OFF or ON	OFF: Lifter switch (Upward) off ON: Lifter switch (Upward) on	-
Lifter Down	Lifter switch signal (Downward)	OFF or ON	OFF: Lifter switch (Downward) off ON: Lifter switch (Downward) on	-
Front Vertical Up	Front vertical switch signal (Upward)	OFF or ON	OFF: Front vertical switch (Upward) off ON: Front vertical switch (Upward) on	-
Front Vertical Down	Front vertical switch signal (Downward)	OFF or ON	OFF: Front vertical switch (Downward) off ON: Front vertical switch (Downward) on	-
Lumbar Front	Lumbar support adjuster switch signal (Forward)	OFF or ON	OFF: Lumbar support adjuster switch (Forward) off ON: Lumbar support adjuster switch (Forward) on	-
Lumbar Rear	Lumbar support adjuster switch signal (Rearward)	OFF or ON	OFF: Lumbar support adjuster switch (Rearward) off ON: Lumbar support adjuster switch (Rearward) on	-

Body Electrical > Driver Seat > Data List

TESTER DISPLAY
Slide Front
Slide Rear
Reclining Front
Reclining Rear

TESTER DISPLAY
Lifter Up
Lifter Down
Front Vertical Up
Front Vertical Down
Lumbar Front
Lumbar Rear

OK:
On the GTS screen, OFF or ON is displayed accordingly

NG ▶ **GO TO STEP 10**

OK ▼

3.	**PERFORM ACTIVE TEST USING GTS**

(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Slide Motor	Seat slide operation	Front/Rear	-
Reclining Motor	Seat reclining operation	Front/Rear	-
Lifter Motor	Seat lifter operation	Up/Down	-
Front Vertical Motor	Seat front vertical operation	Up/Down	-
Lumbar Front/Rear Motor	Lumbar support operation (Forward - Rearward)	Front/Rear	-

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY
Slide Motor

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY
Reclining Motor

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY
Lifter Motor

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY
Front Vertical Motor

Body Electrical > Driver Seat > Active Test

TESTER DISPLAY
Lumbar Front/Rear Motor

RESULT	PROCEED TO
All power seat functions operate normally	A
Slide function does not operate normally	B
Front vertical function does not operate normally	C
Lifter function does not operate normally	D
Reclining function does not operate normally	E
Lumbar support adjustment function does not operate normally	F

A ▶ **REPLACE POSITION CONTROL ECU ASSEMBLY LH**

Click here INFO

C ▶ **GO TO STEP 5**

D ▶ **GO TO STEP 6**

E ▶ **GO TO STEP 7**

F ▶ **GO TO STEP 8**

B

▼

4.	**INSPECT SLIDE MOTOR (UPPER SEAT TRACK RAIL SUB-ASSEMBLY LH)**

Click here INFO

OK ▶ **GO TO STEP 9**

NG ▶ **REPLACE SLIDE MOTOR (UPPER SEAT TRACK RAIL SUB-ASSEMBLY LH)**

Click here INFO

5.	**INSPECT FRONT VERTICAL MOTOR (POWER SEAT TILT MOTOR ASSEMBLY LH)**

Click here INFO

OK ▶ **GO TO STEP 9**

NG ▶ **REPLACE FRONT VERTICAL MOTOR (POWER SEAT TILT MOTOR ASSEMBLY LH)**

Click here INFO

6.	**INSPECT LIFTER MOTOR (POWER SEAT LIFTER MOTOR ASSEMBLY LH)**

Click here INFO

OK ▶ **GO TO STEP 9**

NG ▶ **REPLACE LIFTER MOTOR (POWER SEAT LIFTER MOTOR ASSEMBLY LH)**

Click here INFO

7.	**INSPECT RECLINING MOTOR (FRONT SEATBACK FRAME SUB-ASSEMBLY LH)**

Click here INFO

OK ▶ **GO TO STEP 9**

NG ▶ **REPLACE RECLINING MOTOR (FRONT SEATBACK FRAME SUB-ASSEMBLY LH)**

8.	**INSPECT LUMBAR SUPPORT ADJUSTER ASSEMBLY LH**

Click here INFO

NG ▶ **REPLACE LUMBAR SUPPORT ADJUSTER ASSEMBLY LH**

Click here INFO

OK ▼

9.	**CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU ASSEMBLY LH - POWER SEAT MOTOR)**

(a) Disconnect the b11 and b12 position control ECU assembly LH connectors.

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

HINT:

Check the wire harness and connector between the position control ECU assembly LH and applicable motor.

Standard Resistance:

Slide Motor

EWD INFO

Click Location & Routing(b11,b1)
Click Connector(b11)
Click Connector(b1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-1 (SLD+) - b1-4	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-1 (SLD+) or b1-4 - Body ground	Always	10 kΩ or higher
b11-5 (SLD-) - b1-1	Always	Below 1 Ω
b11-5 (SLD-) or b1-1 - Body ground	Always	10 kΩ or higher

Front Vertical Motor

EWD INFO

Click Location & Routing(b11,b2,b12)
Click Connector(b11)
Click Connector(b2)
Click Connector(b12)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-7 (FRV+) - b2-1	Always	Below 1 Ω
b11-7 (FRV+) or b2-1 - Body ground	Always	10 kΩ or higher
b12-4 (FRV-) - b2-4	Always	Below 1 Ω
b12-4 (FRV-) or b2-4 - Body ground	Always	10 kΩ or higher

Lifter Motor

EWD INFO

Click Location & Routing(b11,b3,b12)
Click Connector(b11)
Click Connector(b3)
Click Connector(b12)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-6 (LFT+) - b3-1	Always	Below 1 Ω
b11-6 (LFT+) or b3-1 - Body ground	Always	10 kΩ or higher
b12-5 (LFT-) - b3-4	Always	Below 1 Ω
b12-5 (LFT-) or b3-4 - Body ground	Always	10 kΩ or higher

Reclining Motor

EWD INFO

Click Location & Routing(b11,d2,b12)
Click Connector(b11)
Click Connector(d2)
Click Connector(b12)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-10 (RCL+) - d2-4	Always	Below 1 Ω
b11-10 (RCL+) or d2-4 - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b12-6 (RCL-) - d2-1	Always	Below 1 Ω
b12-6 (RCL-) or d2-1 - Body ground	Always	10 kΩ or higher

Front Lumbar Support Motor (Forward - Back)

EWD INFO

Click Location & Routing(b11,d5,b12)
Click Connector(b11)
Click Connector(d5)
Click Connector(b12)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b11-9 (L+) - d5-1	Always	Below 1 Ω
b11-9 (L+) or d5-1 - Body ground	Always	10 kΩ or higher
b12-3 (L-) - d5-2	Always	Below 1 Ω
b12-3 (L-) or d5-2 - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE POSITION CONTROL ECU ASSEMBLY LH**

Click here INFO

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

10.	**INSPECT FRONT POWER SEAT SWITCH ASSEMBLY LH**

Click here INFO

NG ▶ **REPLACE FRONT POWER SEAT SWITCH ASSEMBLY LH**

Click here INFO

OK
▼

11.	**CHECK HARNESS AND CONNECTOR (FRONT POWER SEAT SWITCH ASSEMBLY LH - POSITION CONTROL ECU ASSEMBLY LH)**

(a) Disconnect the b13 position control ECU assembly LH connector.

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

Standard Resistance:

Ground

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-20 (E) - b13-12 (SGND)	Always	Below 1 Ω

Slide Function

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-6 (SLDR) - b13-23 (SLDR)	Always	Below 1 Ω
b7-6 (SLDR) or b13-23 (SLDR) - Body ground	Always	10 kΩ or higher
b7-7 (SLDF) - b13-9 (SLDF)	Always	Below 1 Ω
b7-7 (SLDF) or b13-9 (SLDF) - Body ground	Always	10 kΩ or higher

Reclining Function

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-1 (RCLR) - b13-22 (RCLR)	Always	Below 1 Ω
b7-1 (RCLR) or b13-22 (RCLR) - Body ground	Always	10 kΩ or higher
b7-2 (RCLF) - b13-8 (RCLF)	Always	Below 1 Ω
b7-2 (RCLF) or b13-8 (RCLF) - Body ground	Always	10 kΩ or higher

Front Vertical Function

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-4 (FUP) - b13-6 (FRVU)	Always	Below 1 Ω

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-4 (FUP) or b13-6 (FRVU) - Body ground	Always	10 kΩ or higher
b7-5 (FDWN) - b13-20 (FRVD)	Always	Below 1 Ω
b7-5 (FDWN) or b13-20 (FRVD) - Body ground	Always	10 kΩ or higher

Lifter Function

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-3 (LUP) - b13-7 (LFTU)	Always	Below 1 Ω
b7-3 (LUP) or b13-7 (LFTU) - Body ground	Always	10 kΩ or higher
b7-8 (LDWN) - b13-21 (LFTD)	Always	Below 1 Ω
b7-8 (LDWN) or b13-21 (LFTD) - Body ground	Always	10 kΩ or higher

Lumbar Support Adjustment Function (Forward - Back)

EWD INFO

Click Location & Routing(b7,b13)
Click Connector(b7)
Click Connector(b13)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
b7-17 (R) - b13-18 (LFLR)	Always	Below 1 Ω
b7-17 (R) or b13-18 (LFLR) - Body ground	Always	10 kΩ or higher
b7-14 (H) - b13-4 (LFLF)	Always	Below 1 Ω
b7-14 (H) or b13-4 (LFLF) - Body ground	Always	10 kΩ or higher

OK ▶ **REPLACE POSITION CONTROL ECU ASSEMBLY LH**

Click here INFO

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**