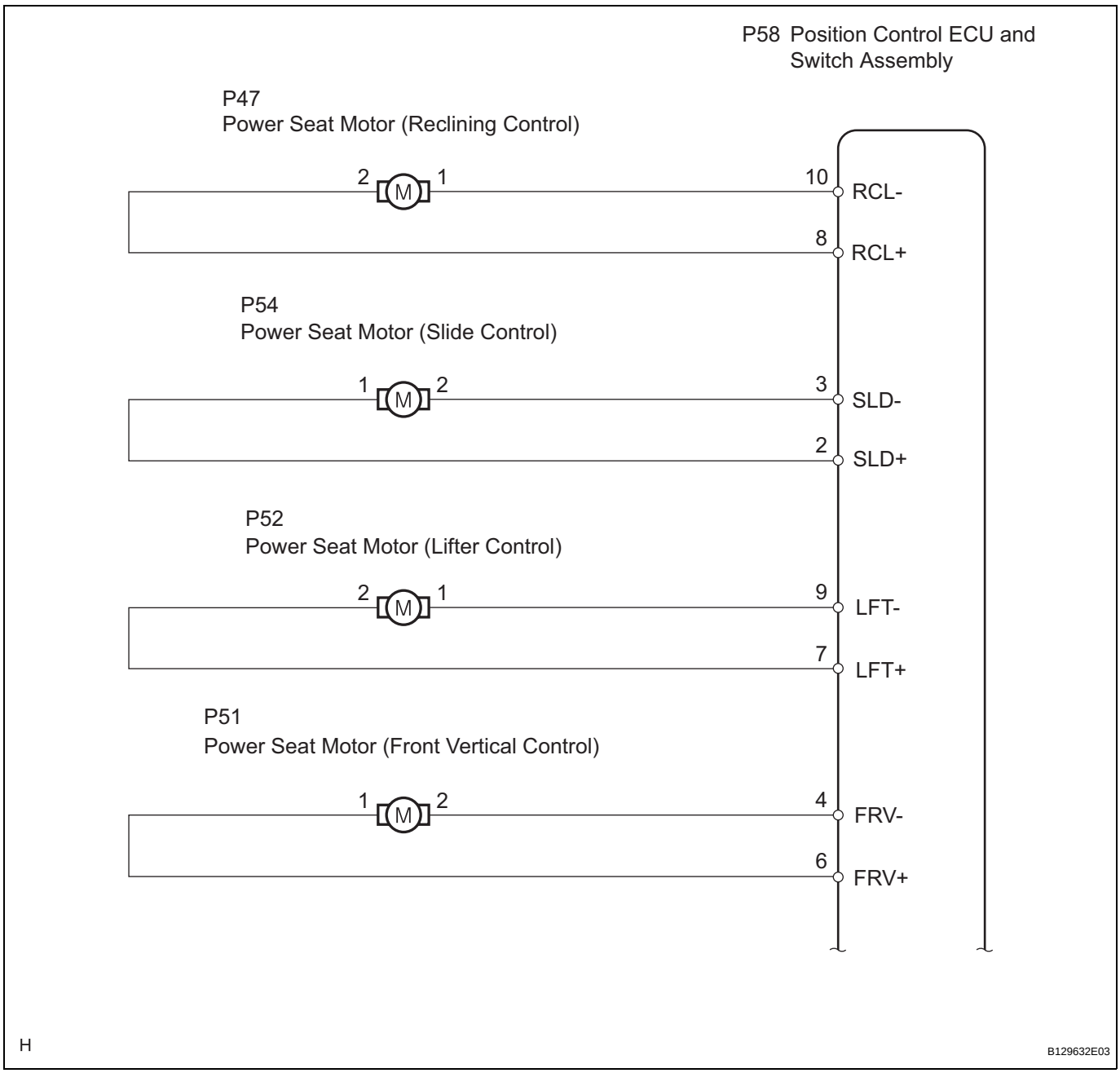
Power Seat Motor Circuit

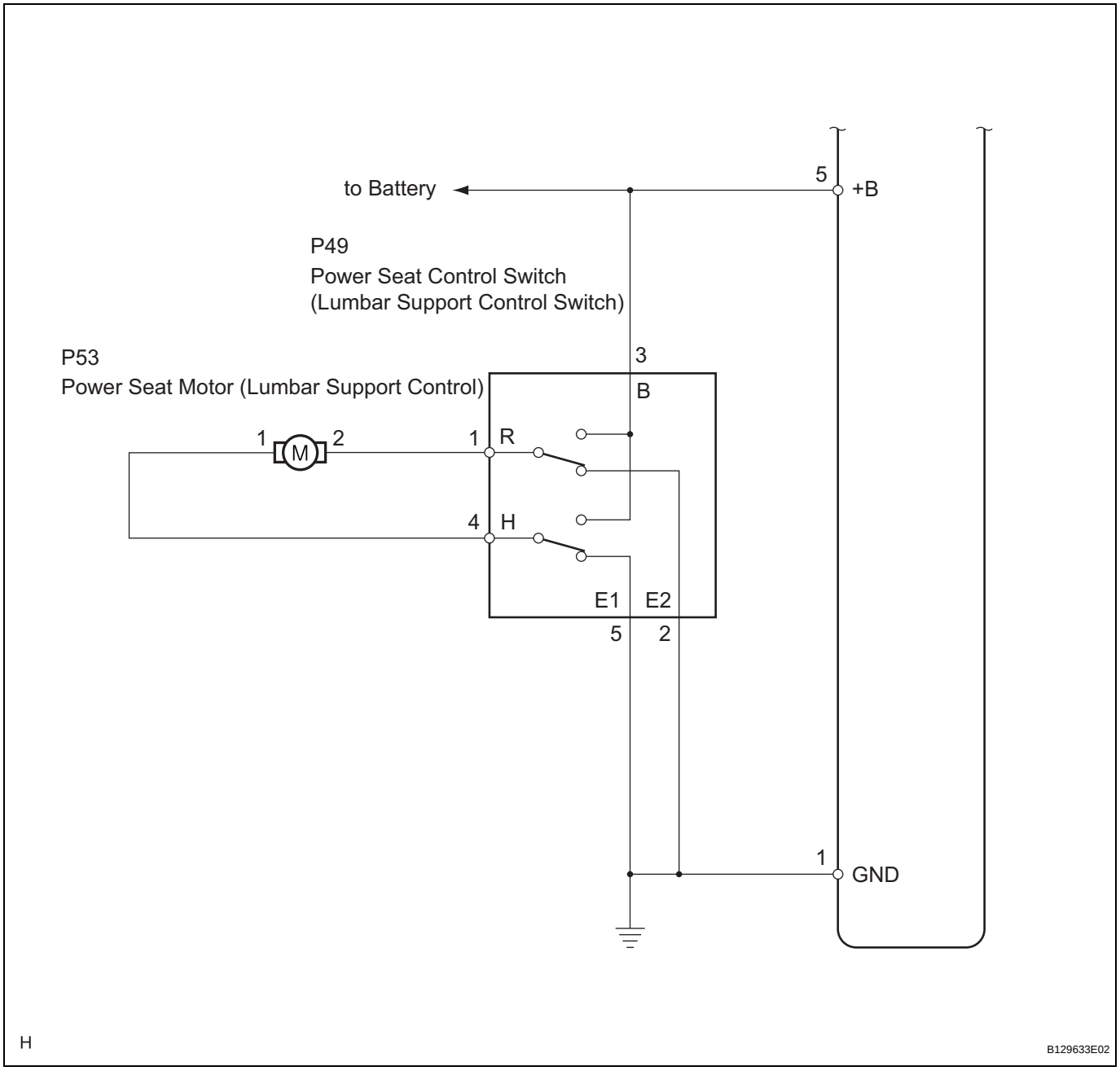
DESCRIPTION

When the power seat control switch is operated, a command signal is sent to the position control ECU and switch assembly (power seat control switch and ECU). The front power seat switch then controls the appropriate seat motor as needed. This memory system does not use a seat position sensor. The seat position is detected by counting pulses that are output when the motor turns. If there is no pulse output from the motor, the motor will stop operating. The position control ECU and switch assembly (power seat control switch and ECU) is designed so that any malfunction of the seat memory system will not interfere with manual seat control.

If the position control ECU and switch assembly (power seat control switch and ECU) detects a low motor speed, abnormal activity, or sudden motor current fluctuation, the system will stop the motor. If the motor operates continuously for 120 seconds or more, the system will stop the motor until the switch is turned on again.

WIRING DIAGRAM





INSPECTION PROCEDURE

1	CHECK FRONT POWER SEAT OPERATION

SE

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

Result

Result	Proceed to
All front power seat switch operations are malfunctioning except lumbar front power seat switch operation	A
Only lumbar front seat switch operation is malfunctioning	B

B	Go to step 6

A

2	READ VALUE OF INTELLIGENT TESTER (FRONT POWER SEAT SWITCH)

(a) Check the DATA LIST for proper functioning of the front power seat switch.

Position control ECU & switch assembly LH, RH

Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
RECLIN SW REAR	Reclining switch signal (Rearward) / ON or OFF	ON: Reclining switch (Rearward) is ON OFF: Reclining switch (Rearward) is OFF	-
RECLIN SW FRONT	Reclining switch signal (Forward) / ON or OFF	ON: Reclining switch (Forward) is ON OFF: Reclining switch (Forward) is OFF	-
FVTCL SW DOWN	Front vertical switch signal (Downward) / ON or OFF	ON: Front vertical switch (Downward) is ON OFF: Front vertical switch (Downward) is OFF	-
FVTCL SW UP	Front vertical switch signal (Upward) / ON or OFF	ON: Front vertical switch (Upward) is ON OFF: Front vertical switch (Upward) is OFF	-
LIFTER SW DOWN	Lifter switch signal (Downward) / ON or OFF	ON: Lifter switch (Downward) is ON OFF: Lifter switch (Downward) is OFF	-
LIFTER SW UP	Lifter switch signal (Upward) / ON or OFF	ON: Lifter switch (Upward) is ON OFF: Lifter switch (Upward) is OFF	-
SLIDE SW REAR	Sliding switch signal (Rearward) / ON or OFF	ON: Sliding switch (Rearward) is ON OFF: Sliding switch (Rearward) is OFF	-
SLIDE SW FRONT	Sliding switch signal (Forward) / ON or OFF	ON: Sliding switch (Forward) is ON OFF: Sliding switch (Forward) is OFF	-

OK:

On tester screen, each item changes between ON and OFF according to above chart.

NG → **REPLACE POSITION CONTROL ECU & SWITCH ASSEMBLY**

SE

OK

3	PERFORM ACTIVE TEST BY ACTIVE TEST USING INTELLIGENT TESTER (POWER SEAT MOTOR)

(a) Select the ACTIVE TEST, use the intelligent tester to generate a control command, and then check that the power seat motors operate.

Position control ECU & switch assembly (driver, passenger side)

Tester Display	Test Part	Control Range	Diagnostic Note
RECLINING	Seat reclining operation	FRONT / REAR	-

Tester Display	Test Part	Control Range	Diagnostic Note
F VERTICAL	Seat front vertical operation	UP / DOWN	-
LIFTER	Seat lifter operation	UP / DOWN	-
SLIDE	Seat sliding operation	FRONT / REAR	-

OK:

The power seat motors operate normally.

NG → **Go to step 4**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

4 INSPECT FRONT SEAT ADJUSTER SUB-ASSEMBLY (POWER SEAT MOTOR)

(a) Inspect the power seat motor (See page SE-205).

OK:

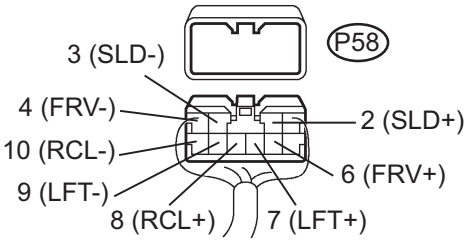
The power seat motor operates.

NG → **REPLACE FRONT SEAT ADJUSTER SUB-ASSEMBLY (POWER SEAT MOTOR)**

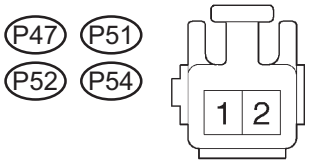
OK

5	CHECK HARNESS AND CONNECTOR (POSITION CONTROL ECU AND SWITCH ASSEMBLY - POWER SEAT MOTOR)

Position Control ECU and Switch Assembly Connector Wire Harness Rear View:



Power Seat Motor Connector Wire Harness Front View:



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(a) Disconnect the position control ECU and switch assembly connector and power seat motor connectors.

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

Standard resistance

Tester Connection	Condition	Specified Condition
P58-2 (SLD+) - P54-1	Always	Below 1 Ω
P58-3 (SLD-) - P54-2	Always	Below 1 Ω
P58-4 (FRV-) - P51-2	Always	Below 1 Ω
P58-6 (FRV+) - P51-1	Always	Below 1 Ω
P58-7 (LFT+) - P52-2	Always	Below 1 Ω
P58-9 (LFT-) - P52-1	Always	Below 1 Ω
P58-8 (RCL+) - P47-2	Always	Below 1 Ω
P58-10 (RCL-) - P47-1	Always	Below 1 Ω
P58-2 (SLD+) - Body ground	Always	10 kΩ or higher
P58-3 (SLD-) - Body ground	Always	10 kΩ or higher
P58-4 (FRV-) - Body ground	Always	10 kΩ or higher
P58-6 (FRV+) - Body ground	Always	10 kΩ or higher
P58-7 (LFT+) - Body ground	Always	10 kΩ or higher
P58-9 (LFT-) - Body ground	Always	10 kΩ or higher
P58-8 (RCL+) - Body ground	Always	10 kΩ or higher
P58-10 (RCL-) - Body ground	Always	10 kΩ or higher

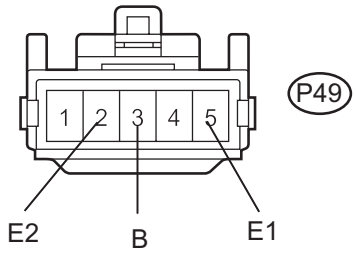
NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

6	CHECK WIRE HARNESS (POWER SEAT CONTROL SWITCH - BATTERY AND BODY GROUND)

Power Seat Control Switch Wire Harness Side:



(a) Disconnect the P49 switch connector.
(b) Measure the voltage and resistance of the wire harness side connectors.

Standard voltage (Driver side)

Tester Connection	Specified Condition
P49-3 (B) - Body ground	10 to 14 V

Standard resistance (Driver side)

Tester connection	Specified condition
P49-2 (E2) - Body ground	Below 1 Ω
P49-5 (E1) - Body ground	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ↓

7	INSPECT POWER SEAT CONTROL SWITCH (LUMBER SUPPORT CONTROL)

(a) Inspect the power seat control switch (See page SE-203).

NG → **REPLACE POWER SEAT CONTROL SWITCH (LUMBER SUPPORT CONTROL)**

OK ↓

8	INSPECT FRONT SEAT ADJUSTER SUB-ASSEMBLY (POWER SEAT MOTOR)

(a) Inspect the power seat motor (See page SE-205).
OK:
The power seat motor operates.

NG → **REPLACE FRONT SEAT ADJUSTER SUB-ASSEMBLY (POWER SEAT MOTOR)**

OK ↓

REPAIR OR REPLACE HARNESS OR CONNECTOR (POWER SEAT CONTROL SWITCH - POWER SEAT MOTOR)