HEADREST MOTOR AND POSITION SENSOR CIRCUIT (RH)

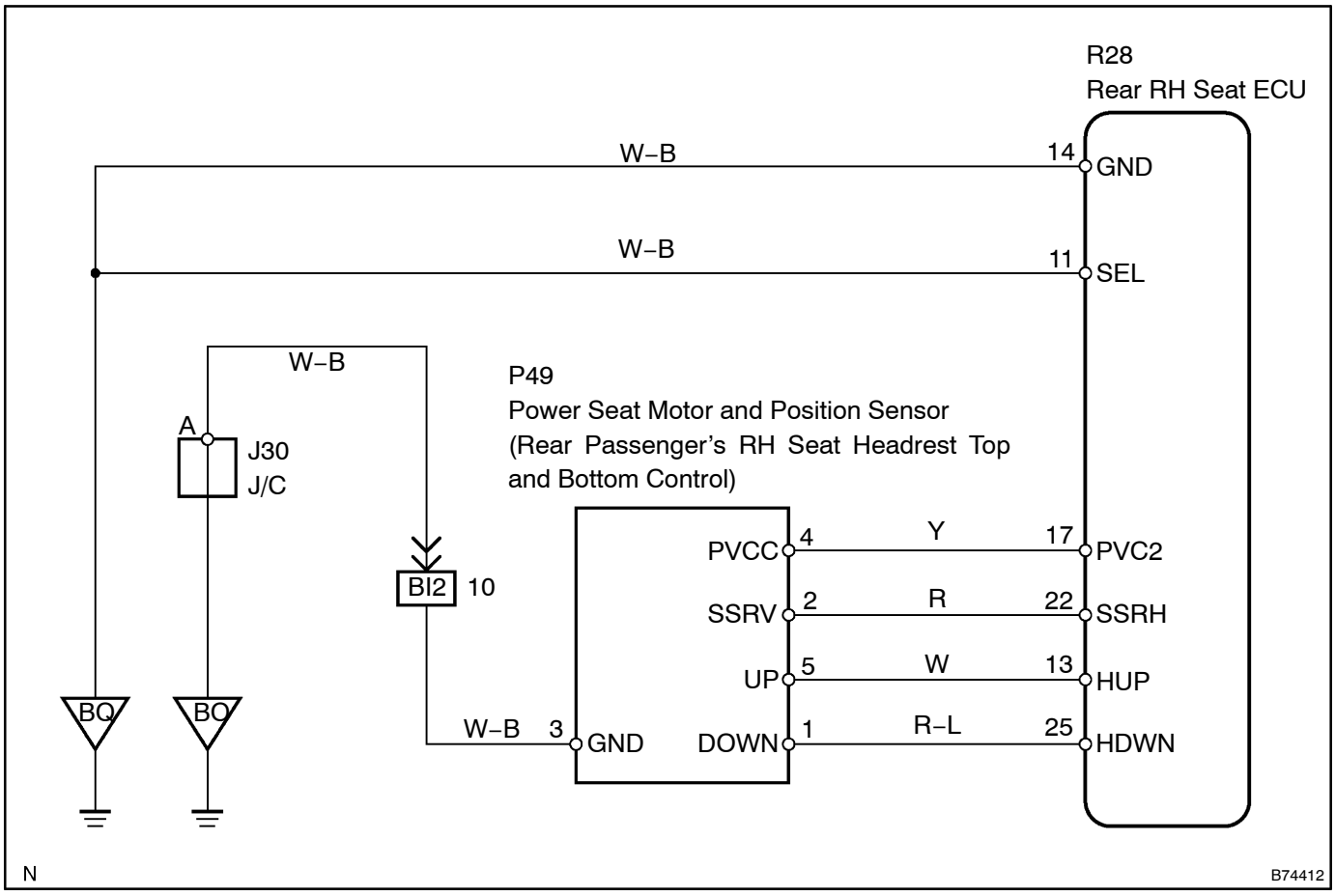
CIRCUIT DESCRIPTION

The position sensor detects seat movement and sends pulse signals to the rear RH seat ECU for use with the memory function.

The position sensor sends pulses to the ECU in proportion to the amount of seat movement. The ECU records the number of pulses relative to a previously recorded seat position and uses this data to return the seat to that position.

If a malfunction occurs in a position sensor and seat movement does not result in pulse signals being input into the ECU, the ECU deactivates the memory function.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	PERFORM ACTIVE TEST USING INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch ON and push the intelligent tester II main switch ON.
(c) Select the item below in the ACTIVE TEST and then check the rear power seat operates.
Rear RH seat ECU:

Item	Test Details	Diagnostic
Headrest	Test detail: headrest operation UP/DOWN Vehicle condition: stopped	–

OK:
The motor operates normally.

NG → **Go to step 2**

OK

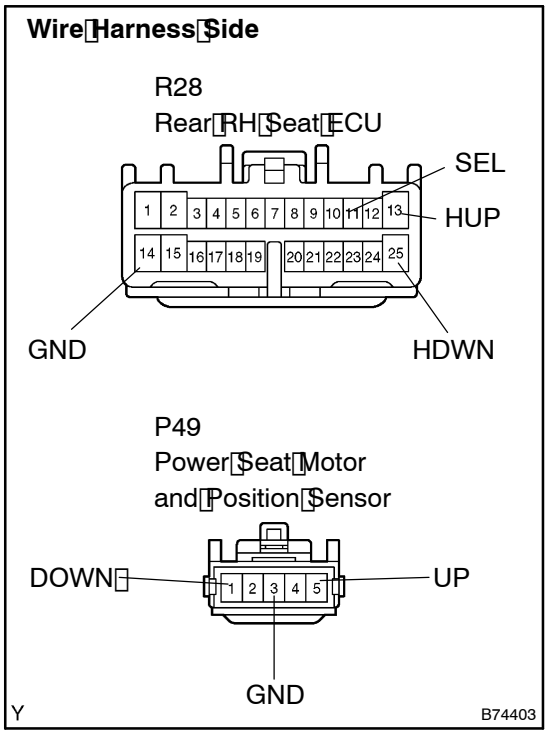
Go to step 4

2	INSPECT POWER SEAT MOTOR (See page 05–2434)

NG → **REPLACE POWER SEAT MOTOR**

OK

3	CHECK WIRE HARNESS (REAR RH SEAT ECU – POWER SEAT MOTOR AND POSITION SENSOR AND BODY GROUND)



(a) Disconnect the R28 ECU and P49 motor connectors.
(b) Measure the resistance of the wire harness side connectors.
Standard:

Tester Connection	Specified Condition
R28–25 (HDWN) – P49–1 (DOWN)	Below 1 Ω
R28–13 (HUP) – P49–5 (UP)	Below 1 Ω
R28–14 (GND) – Body ground	Below 1 Ω
R28–11 (SEL) – Body ground	Below 1 Ω

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

OK

4	READ VALUE OF INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch ON and press the intelligent tester II main switch ON.
(c) Select the items below in the DATA LIST, and read the displays on the intelligent tester II.
(d) Watch the intelligent tester II screen while adjusting the seat with the power seat control switches. Check that the position sensor value changes.
(e) Watch the intelligent tester II screen while adjusting the seat with the power seat control switches. Check that the motor status changes from STANDBY to MOVING.

HINT:
When the seat is at an extreme position (for example, seat back position fully forward or sliding position fully rearward) and the power seat control switch is held down, the motor status should read LOCK. When the switch is released, the motor status should change to STANDBY.

Item	Measurement Item/ Display (Range)	Normal Condition
Headrest Pos	Rear headrest position/ MIN: –16384 MAX: 49152	Within range from –16384 to 49152
Motor Status	Motor status/ STANDBY or MOVING or LOCK	STANDBY: motor is idle MOVING: motor is moving LOCK: motor is locked

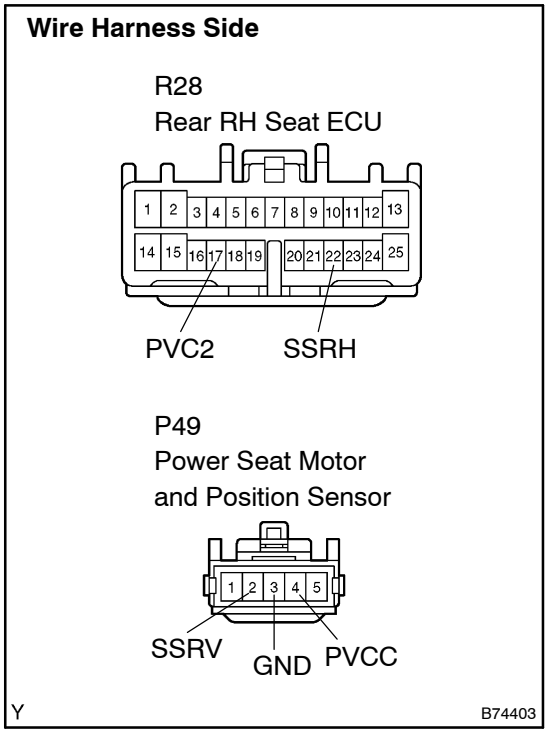
OK:
Position sensor values should vary within the minimum and maximum values shown in the chart above.
For the tester's motor status item, the display should change between STANDBY, MOVING and LOCK according to the chart above.

OK → **Go to step 5**

NG

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05–2340)

5 CHECK WIRE HARNESS (REAR RH SEAT ECU – POSITION SENSOR AND BODY GROUND)



(a) Disconnect the R28 ECU and P48 motor connectors.
(b) Measure the resistance of the wire harness side connectors.

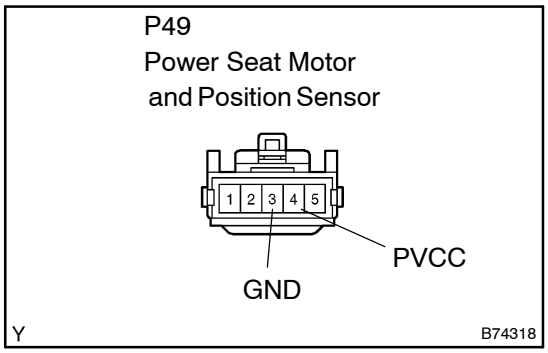
Standard:

Tester Connection	Specified Condition
R28–22 (SSRH) – P49–2 (SSRV)	Below 1 Ω
R28–17 (PVC2) – P49–4 (PVCC)	Below 1 Ω
P49–3 (GND) – Body ground	Below 1 Ω

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

OK

6 CHECK REAR RH SEAT ECU (SENSOR POWER SOURCE VOLTAGE)



(a) Disconnect the P49 sensor connector.
(b) Turn the ignition switch ON.
(c) Measure the voltage of the ECU connector.

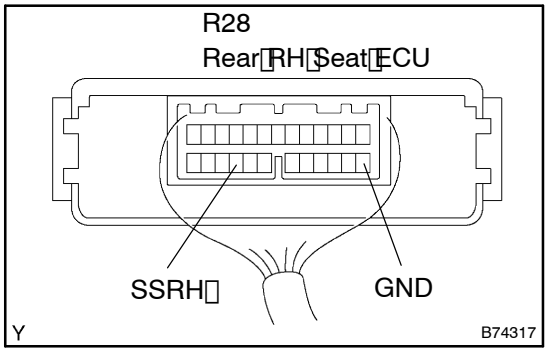
Standard:

Tester Connection	Specified Condition
P49–4 (PVCC) – P49–3 (GND)	8 V

NG → **REPLACE REAR RH SEAT ECU**

OK

7 CHECK POSITION SENSOR



(a) Turn the ignition switch ON.
(b) Measure the voltage of the ECU connector.

Standard:

Tester Connection	Specified Condition
R28–22 (SSRH) – R28–14 (GND)	Varies between 0 V and approx. 8 V

HINT:
Raise and lower the headrest RH and check that the voltage readings vary within the "specified condition" shown in the chart above.

NG → **REPLACE POWER HEADREST ADJUSTER RH**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05–2340)