

## SEATS - POWER

### Article Text

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:09AM

## ARTICLE BEGINNING

1993 ACCESSORIES/SAFETY EQUIPMENT

Mazda Power Seats

929

## DESCRIPTION & OPERATION

System uses a control switch to adjust seat position. Driver seat movements include forward, backward, entire seat up or down, front of seat up or down, rear of seat up or down, and seat back reclining. Passenger seat movements include forward, backward, and seat back reclining.

Limit switch under each seat senses forward/backward movement. Driver seat contains a slide motor (forward/backward), front lift motor, rear lift motor and recliner motor (for seat back). See Fig. 5. Passenger seat contains a slide motor and recliner motor. See Fig. 6.

## SYSTEM TESTING

### ALL FUNCTIONS OF BOTH SEATS INOPERATIVE

1) Check fuse. If fuse is blown, replace fuse (repair circuit if shorted). If fuse is okay, measure voltage at Blue wire terminal of control switch connector for each seat.

2) If no voltage is present, repair Blue wire. If battery voltage is present, disconnect control switch connector for each seat. Check continuity between ground and Black wire terminal of control switch connector for each seat. If there is no continuity, repair Black wire.

3) If there is continuity, reconnect control switch connectors. Hold control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of control switch connector (or recliner seat motor connector on passenger seat). If battery voltage is present at all terminals, go to next step. If battery voltage is not present at all terminals, replace control switch (or recliner seat motor on passenger seat).

4) Hold control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of seat motor connectors. If battery voltage is present at all terminals, replace seat motors. If battery voltage is not present at all terminals, repair wiring harness.

### VOLTAGE TEST TABLE

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Switch Position

Wire Terminal

Slide

Forward ..... Green

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Backward .....	Green/White
Recline (1)	
Forward .....	Green
Backward .....	Red
Front Lift	
Up .....	Red/White
Down .....	Red
Rear Lift	
Up .....	Yellow
Down .....	Yellow/Red

- (1) - Wires leading from control switch to passenger seat recliner motor lead directly out of control switch; there is no connector. Check voltage directly at seat motor connector.

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#### ALL FUNCTIONS OF DRIVER SEAT INOPERATIVE

1) Measure voltage at Blue wire terminal of control switch connector. If battery voltage is not present, repair Blue wire. If battery voltage is present, disconnect control switch connector. Check continuity between ground and Black wire terminal of control switch connector.

2) If there is no continuity, repair Black wire. If there is continuity, reconnect control switch connector. Hold control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of control switch connector.

3) If battery voltage is not present at all terminals, replace control switch. If battery voltage is present at all terminals, hold control switch in specified position. See VOLTAGE TEST table.

4) Measure voltage at specified wire terminals of seat motor connectors. If battery voltage is present at all terminals, replace seat motors. If battery voltage is not present at all terminals, repair wiring harness.

#### ALL FUNCTIONS OF PASSENGER SEAT INOPERATIVE

1) Measure voltage at Blue wire terminal of control switch connector. If no voltage is present, repair Blue wire. If battery voltage is present, disconnect control switch connector. Check continuity between ground and Black wire terminal of control switch connector.

2) If there is no continuity, repair Black wire. If there is continuity, reconnect control switch connector. Hold control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of control switch connector (or recliner seat motor connector, as necessary).

3) If battery voltage is not present at all terminals, replace control switch (or recliner seat motor). If battery voltage is present at all terminals, hold control switch in specified position.

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See VOLTAGE TEST table.

4) Measure voltage at specified wire terminals of seat motor connectors. If battery voltage is present at all terminals, replace seat motors. If battery voltage is not present at all terminals, repair wiring harness.

#### NO RECLINING OF DRIVER SEAT

1) Hold recliner seat motor control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of control switch connector. If battery voltage is not present at both terminals, replace control switch.

2) If battery voltage is present at both terminals, hold recliner motor control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of recliner motor connector. If battery voltage is present at both terminals, replace recliner motor. If battery voltage is not present at both terminals, repair wiring.

#### NO RECLINING OF PASSENGER SEAT

Hold recliner seat motor control switch in specified position. See VOLTAGE TEST table. Measure voltage at specified wire terminals of recliner motor connector. If battery voltage is present at both terminals, replace recliner motor. If battery voltage is not present at both terminals, repair wiring.

#### NO SLIDING OF EITHER SEAT

1) With control switch held in slide forward or slide backward position, measure voltage at Blue/White, Black/White and White/Red wire terminals of control switch connector. If battery voltage is not present at all terminals, replace control switch.

2) If battery voltage is present at all terminals, measure voltage at:

- \* Blue/White and White/Red wire terminals of limit switch connector with control switch held in slide forward position
- \* Black/White and White/Red wire terminals of limit switch connector with control switch held in slide backward position.

3) If battery voltage is not present at all terminals, repair wiring between control switch and limit switch. If battery voltage is present at all terminals, ensure continuity exists between the following terminals of limit switch connector is as follows. See Fig. 1.

- \* Seat fully forward - Terminals "B" and "C"
- \* Seat in middle position - Terminals "A", "B" and "C"
- \* Seat fully rearward - Terminals "A" and "C".

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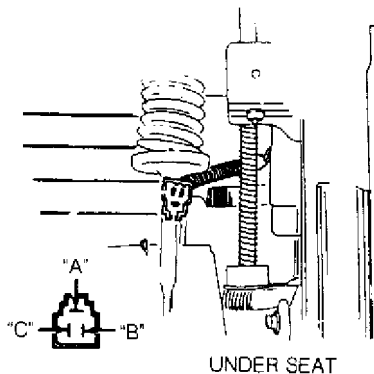
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4) If continuity is not as specified, replace limit switch. If continuity is as specified, ensure battery voltage is present at the following terminals of slide motor connector:

- \* Green wire with switch in forward position
- \* Green/White wire with switch in backward position.

5) If battery voltage is not present at both terminals, repair wiring between slide motor and control switch. If battery voltage is present at both terminals, replace slide motor.



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Fig. 1: Limit Switch Connector Terminal ID  
Courtesy of Mazda Motors Corp.

#### NO ADJUST OF FRONT HEIGHT & ENTIRE SEAT HEIGHT AT DRIVER SEAT

1) Measure voltage at control switch connector terminals. Battery voltage should be present at:

- \* Green wire terminal with front lift switch in up position
- \* Green/White wire terminal with front lift switch in down position.

2) If battery voltage is not present at both terminals, replace control switch. If battery voltage is present at both terminals, measure voltage at front lift motor connector terminals. Battery voltage should be present at:

- \* Red/White wire terminal with front lift switch in up position
- \* Red wire terminal with front lift switch in down position.

3) If battery voltage is not present at both terminals, repair wiring between control switch and front lift motor. If battery voltage is present at both terminals, replace front lift motor.

#### NO ADJUST OF REAR HEIGHT & ENTIRE SEAT HEIGHT AT DRIVER SEAT

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1) Measure voltage at control switch connector terminals. Battery voltage should be present at:

- \* Yellow wire terminal with rear lift switch in up position
- \* Yellow/Red wire terminal with rear lift switch in down position.

2) If battery voltage is not present at both terminals, replace control switch. If battery voltage is present at both terminals, measure voltage at rear lift motor connector terminals. Battery voltage should be present at:

- \* Yellow wire terminal with rear lift switch in up position
- \* Yellow/Red wire terminal with rear lift switch in down position.

3) If battery voltage is not present at both terminals, repair wiring between control switch and rear lift motor. If battery voltage is present at both terminals, replace rear lift motor.

## COMPONENT TESTING

### CONTROL SWITCH TEST

Disconnect control switch connector. With control switch in specified position, check continuity between specified terminals of control switch connector. See Fig. 2. If continuity between control switch connector terminals is not as specified, replace control switch.

Terminal		"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"
Recline	FORWARD	○						○		○	○		○		○	○
	OFF							○		○	○		○		○	○
	BACKWARD	○						○		○	○		○		○	○
Slide	FORWARD	○	○				○							○		
	OFF		○	○			○							○		
	BACKWARD	○	○	○			○									
Front Lift	UP	○			○	○		○		○	○		○			
	OFF				○	○		○		○	○		○			
	DOWN	○			○	○		○		○	○		○			
Rear Lift	UP	○						○	○	○	○		○			
	OFF							○		○	○		○			
	DOWN	○						○	○	○	○		○			

○-○: Continuity

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Fig. 2: Control Switch Continuity Test Table (Driver Seat)  
Courtesy of Mazda Motors Corp.

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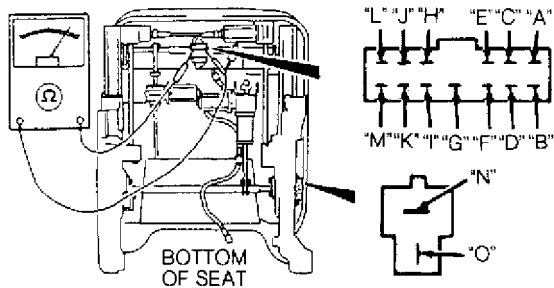
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Fig. 3: Control Switch Connector Terminal ID  
Courtesy of Mazda Motors Corp.

Terminal		"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"	"N"	"O"
Switch Condition																
Recline	FORWARD	O						O		O	O		O		O	O
	OFF							O		O	O		O		O	O
	BACKWARD	O						O		O	O		O			O
Slide	FORWARD	O	O				O							O		
	OFF		O	O			O							O		
	BACKWARD	O		O			O									

O-O : Continuity

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Fig. 4: Control Switch Continuity Test Table (Passenger Seat)  
Courtesy of Mazda Motors Corp.

### SEAT MOTOR TEST

Disconnect seat motor connector. Apply battery voltage and ground across seat motor connector terminals. Reverse polarity to move seat in opposite direction. Replace seat motor if it does not operate.

### REMOVAL & INSTALLATION

**CAUTION:** When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION section before disconnecting battery.

**NOTE:** Use appropriate illustration for removal and installation. See Fig. 6. Remove components in numerical order.

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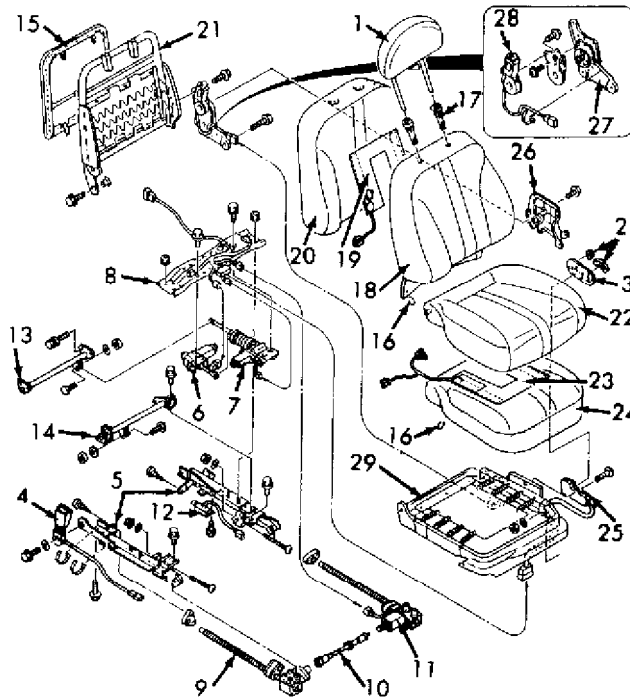
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- |                         |                         |
|-------------------------|-------------------------|
| 1. Headrest             | 16. Hog Ring            |
| 2. Control Switch Knob  | 17. Pole Guide          |
| 3. Control Switch Bezel | 18. Seat Back Trim      |
| 4. Buckle               | 19. Seat Back Warmer    |
| 5. Slider Adjuster      | 20. Seat Back Pad       |
| 6. Front Lift Motor     | 21. Seat Back Frame     |
| 7. Rear Lift Motor      | 22. Seat Cushion Trim   |
| 8. Motor Bracket        | 23. Seat Cushion Warmer |
| 9. Slider Unit          | 24. Seat Cushion Pad    |
| 10. Cable               | 25. Control Switch      |
| 11. Slide Motor         | 26. Knuckle Cover       |
| 12. Limit Switch        | 27. Recliner Knuckle    |
| 13. Rear Lifter Link    | 28. Recliner Motor      |
| 14. Front Lifter Link   | 29. Seat Cushion Frame  |
| 15. Seat Back Cover     |                         |

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Fig. 5: Exploded View Of Power Seat Assembly (Driver Seat)  
Courtesy of Mazda Motors Corp.

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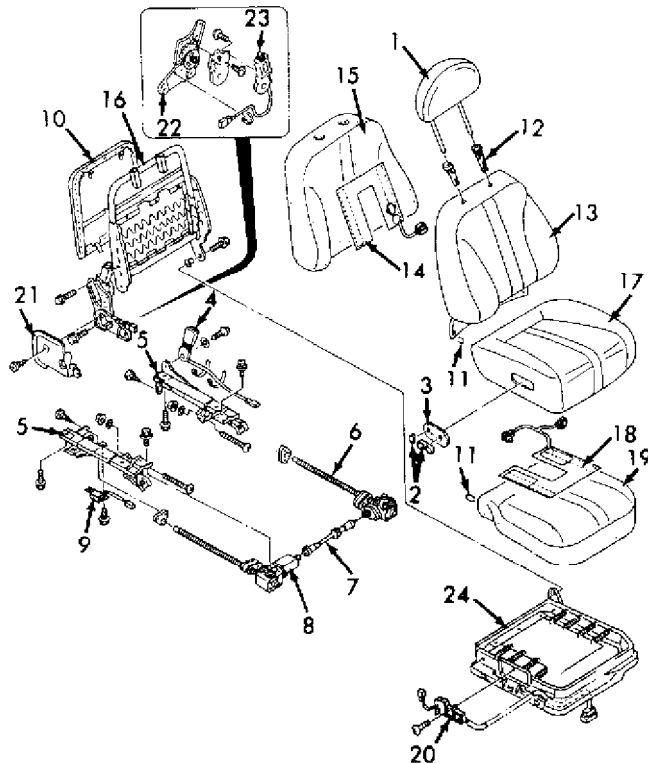
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1. Headrest
2. Control Switch Knob
3. Control Switch Bezel
4. Buckle
5. Slider Adjuster
6. Slider Unit
7. Cable
8. Slide Motor
9. Limit Switch
10. Seat Back Cover
11. Hog Ring
12. Pole Guide

13. Seat Back Trim
14. Seat Back Warmer
15. Seat Back Pad
16. Seat Back Frame
17. Seat Cushion Trim
18. Seat Cushion Warmer
19. Seat Cushion Pad
20. Control Switch
21. Knuckle Cover
22. Recliner Knuckle
23. Recliner Motor
24. Seat Cushion Frame

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Fig. 6: Exploded View Of Power Seat Assembly (Passenger Seat)  
Courtesy of Mazda Motors Corp.

## WIRING DIAGRAMS

See appropriate chassis WIRING DIAGRAMS article in WIRING DIAGRAMS section.

END OF ARTICLE