

**SEATS - POWER**

**ABC123**

**Entire Article**  
2000 Chevrolet Camaro

**ARTICLE BEGINNING**

2000 ACCESSORIES & EQUIPMENT  
General Motors Power Seats

Camaro & Firebird

**DESCRIPTION**

Power driver seat operates using 3 toggle switches located on seat side. Seat adjusters are powered by 3, 12-volt reversible motors with an internal circuit breaker. Forward/back motor moves entire seat forward and backward. Front height motor tilts front of seat up and down, and rear height motor tilts rear of seat up and down. Front and rear height motors can be operated at the same time using center switch which moves entire seat up and down. Front seats, may be equipped with optional adjustable lumbar and side lateral supports. A 30-amp, plug-in circuit breaker (DEFOG/SEATS) is located in fuse block and protects power seat and lumbar wiring.

**OPERATION**

**6-WAY POWER SEATS**

Power driver seat uses 3 reversible motors that operate seat functions. Front and back of seat are operated by different motors, and can be raised and lowered independently. Third motor controls forward/backward movement. Drive cables connect motor to gearnuts, which turn jack screws and adjusters at each side of seat. Power passenger's seat is not available.

**INFLATABLE LUMBAR SUPPORTS**

Power for inflatable lumbar support pump assembly is supplied by a 30-amp DEFOG/SEATS circuit breaker No. 12 in fuse block. Operation is controlled by a switch located on seat side. Adjustments are made by solenoid valves located in the power seat cushion air control module. Pump assembly is part of power seat cushion air control module, located under passenger's seat. Since the control module contains one pump for both seats, only one seat can be adjusted at a time.

**COMPONENT LOCATIONS**

COMPONENT LOCATIONS

AA  
Component Locati on

Forward/Back, Front Height &  
Rear Height Motors ..... Under Driver's Seat (Part Of

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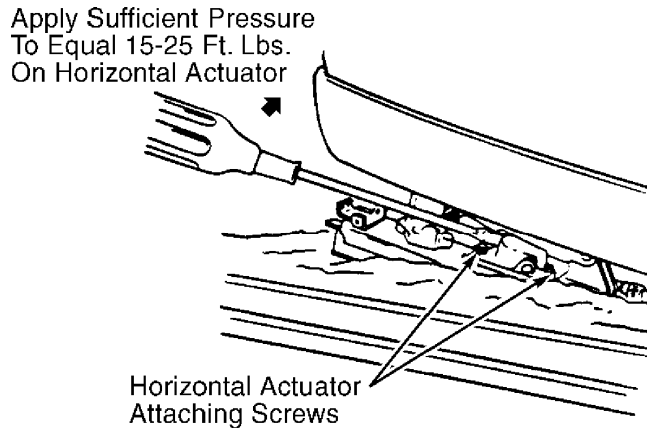
Actuator Assembly)  
In-Line Connector C310 ..... Between Rear Mounting Bolts Of  
Driver's Seat  
Instrument Panel Fuse Block ..... In Left End Of Instrument Panel  
Power Seat Cushion Air Control Module ..... Under Driver's Seat  
AA

### ADJUSTMENTS

#### HORIZONTAL ACTUATOR

1) Chucking or jerking can be corrected by adjusting horizontal actuator and pinion gear to fully mesh with lower adjuster track rack gear. Operate seat to full up position and about 3/4 forward. Loosen horizontal actuator attaching screws. See Fig. 1.

2) Using a large screwdriver, apply outward pressure on horizontal actuator (about 15-25 ft. lbs.) and energize horizontal switch to move seat slightly fore and aft. This keeps seat horizontal actuator pinion gear teeth in close contact with lower track rack gear teeth and eliminates free play between gear teeth. Tighten screws while maintaining outward pressure against horizontal actuators.



NOTE: Position adjuster with upper track slightly rearward of lower track and check for horizontal looseness.

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Fig. 1: Adjusting Horizontal Actuator  
Courtesy of General Motors Corp.

#### SEAT ADJUSTER PHASING

When installing power seat adjusters (except at back recliner), ensure each pair of adjusters is in phase. When adjusters are out of phase, one adjuster will reach its maximum travel limit before the other, resulting in improper seat travel.

Horizontal Travel  
Operate seat until one adjuster reaches full forward

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position. Detach horizontal drive cable from adjuster which has reached its travel limit. Operate seat forward until other adjuster reaches its full forward position. Reconnect drive cable of first adjuster. Adjusters are now in phase.

### Vertical Travel (Front Or Rear)

1) Operate seat until one adjuster has reached fully raised position at both front and rear vertical travel limits. Disconnect both front and rear vertical drive cables from adjuster which has reached its travel limit.

2) Operate seat until other adjuster reaches fully raised position. Reconnect previously disconnected front and rear vertical drive cables. Seat adjusters should be in phase. If not, repeat procedure.

## TROUBLE SHOOTING

### PRELIMINARY CHECKS

Verify customer complaint by operating power seat. Visually inspect for obvious sign of mechanical and electrical damage. Check for blown fuses or faulty circuit breakers, loose or corroded connectors, damaged wiring, damaged motors, faulty switches, damaged adjusters, and obstructed or damaged seat track. Check for any aftermarket devices which could affect power seat operation. If no visual damage is evident, perform appropriate system test. See SYMPTOM INDEX table under SYSTEM TESTS.

### POWER SEATS SYSTEM CHECK

1) If seat does not operate in any position, go to TEST B: ALL POWER SEAT FUNCTIONS INOPERATIVE under SYSTEM TESTS. If seat is inoperative in one position, go to next step.

2) Move power seat switch to forward and rearward, upward and downward, front tilt and rear tilt positions. Seat should move accordingly. If seat operates as specified, go to next step. If seat does not operate as specified, go to TEST C: POWER SEAT INOPERATIVE IN ONE DIRECTION under SYSTEM TESTS.

### POWER LUMBAR SUPPORT SYSTEM CHECK

1) Push forward lumbar inflator switch to up position. Both lateral (side) bladders should inflate. Lumbar pump will cut out after bladders are fully inflated.

2) Push forward lumbar inflator switch to down position. Both lateral (side) bladders should deflate. Lumbar pump will cut out after bladders are fully deflated.

3) Push rearward lumbar inflator switch to up position. Lumbar bladder should inflate. Lumbar pump will cut out after bladder is fully inflated.

4) Push rearward lumbar inflator switch to down position. Lumbar bladder should deflate. Lumbar pump will cut out after bladder

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is fully deflated.

5) If power lumbar support does not operate at all, go to TEST D: LUMBAR SUPPORT INOPERATIVE under SYSTEM TESTS. If power lumbar/lateral support is inoperative in one function, go to next step.

6) If either lumbar or lateral support does not move in or out, go to TEST E: LUMBAR OR LATERAL SUPPORT DOES NOT MOVE IN OR OUT under SYSTEM TESTS.

**SYSTEM TESTS**

SYMPTOM INDEX

AA  
Symptom Perform Test

Power Seat Adjuster Does Not Move Vertically .....	A
All Power Seat Functions Inoperative .....	B
Power Seat Inoperative In One Direction .....	C
Lumbar Support Inoperative .....	D
Lumbar Or Lateral Support Does Not Move In Or Out .....	E
AA	

**TEST A: POWER SEAT ADJUSTER DOES NOT MOVE VERTICALLY**

- 1) Perform PRELIMINARY CHECKS and POWER SEATS SYSTEM CHECK under TROUBLESHOOTING. Go to next step.
- 2) Attempt to adjust seat vertically. If seat moves vertically, check for intermittent and poor connections. If seat does not move vertically, go to next step.
- 3) Check for poor terminal contact at power seat adjuster switch. Repair as necessary. After repair, go to step 5). If terminal contact is okay, go to next step.
- 4) Replace power seat switch. See POWER SEAT SWITCHES under REMOVAL & INSTALLATION. After repair, go to next step.
- 5) Recheck system operation to verify repair. If problem still exists, repeat step 3). If problem no longer exists, system is okay at this time.

**TEST B: ALL POWER SEAT FUNCTIONS INOPERATIVE**

- 1) Perform PRELIMINARY CHECKS and POWER SEATS SYSTEM CHECK under TROUBLESHOOTING. Go to next step.
- 2) Attempt to operate seat in all directions. If seat moves properly in all directions, check for intermittent and poor terminal contact. If seat does not move properly in all directions, go to next step.
- 3) Using a test light connected to ground, backprobe power seat switch terminal "F" (Orange wire) or "A" (Orange wire) if equipped with power lumbar. See Figs. 2 and 3. If test light illuminates, go to next step. If test light does not illuminate, repair poor connection or open in Orange wire between power seat switch and DEFOG/SEATS circuit breaker 12 (30-amp) in instrument panel

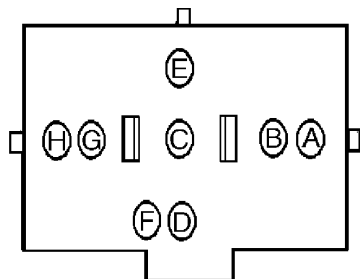
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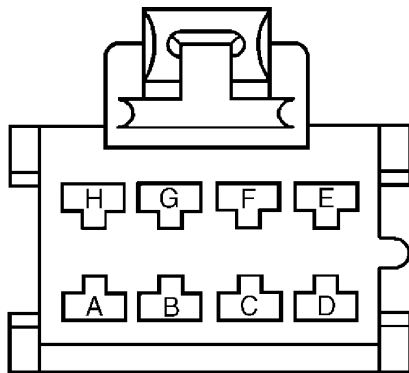
fuse block. See WIRING DIAGRAMS. Instrument panel fuse block is located on left end of instrument panel.

4) Backprobe between power seat switch terminals "F" (Orange wire) and "C" (Black wire) or "A" (Orange wire) and "D" (Black wire) if equipped with power lumbar. If test light does not illuminate, repair open in Black wire between power seat switch and ground. See WIRING DIAGRAMS. If test light illuminates, check for poor connections at power seat switch. If connections are okay, replace power seat switch. See POWER SEAT SWITCHES under REMOVAL & INSTALLATION.



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Fig. 2: Identifying Driver's Power Seat Adjuster Switch Connector Terminals (Without Power Lumbar)  
Courtesy of General Motors Corp.



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Fig. 3: Identifying Driver's Power Seat Adjuster Switch Connector Terminals (With Power Lumbar)  
Courtesy of General Motors Corp.

### TEST C: POWER SEAT INOPERATIVE IN ONE DIRECTION

- 1) Perform PRELIMINARY CHECKS and POWER SEATS SYSTEM CHECK under TROUBLESHOOTING. Go to next step.
- 2) Attempt to operate seat in all directions. If seat moves properly in all directions, check for intermittent and poor terminal contact. If seat does not move properly in all directions, go to next step.
- 3) Using DVOM, measure voltage between inoperative motor harness connector terminals "A" and "B". See POWER SEAT MOTOR CIRCUIT IDENTIFICATION table. Press and hold seat

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adjuster switch to FORWARD then BACK position or UP then DOWN position. If 9-14 volts exists in all positions, go to next step. If 9-14 volts does not exist, go to step 5).

### POWER SEAT MOTOR CIRCUIT IDENTIFICATION

AA

	Terminal "A"	Terminal "B"
Motor	Wire Color	Wire Color

Forward/Back	Tan	Light Green
Front Height	Dark Green	Dark Blue
Rear Height	Yellow	Light Blue

AA

- 4) Check for poor terminal contact at inoperative motor connector. Repair as necessary. Recheck system operation. If terminal contact is okay, replace inoperative motor. Recheck system operation.
- 5) Disconnect seat adjuster switch. Check motor control circuits for short to ground between inoperative motor and seat adjuster switch. See POWER SEAT MOTOR CIRCUIT IDENTIFICATION table. Repair as necessary. See WIRING DIAGRAMS. Recheck system operation. If motor control circuits are okay, go to next step.
- 6) Check motor control circuits for open or high resistance between inoperative motor and seat adjuster switch. See POWER SEAT MOTOR CIRCUIT IDENTIFICATION table. Repair as necessary. Recheck system operation. If motor control circuits are okay, replace inoperative motor. See POWER SEAT ADJUSTER ASSEMBLY under REMOVAL & INSTALLATION.
- 7) Check for poor terminal contact at seat adjuster switch connector. Repair as necessary. Recheck system operation. If terminal contact is okay, replace power seat switch. See POWER SEAT SWITCHES under REMOVAL & INSTALLATION.

### TEST D: LUMBAR SUPPORT INOPERATIVE

- 1) Perform PRELIMINARY CHECKS and POWER LUMBAR SUPPORT SYSTEM CHECK under TROUBLESHOOTING. Go to next step.
- 2) Attempt to operate lumbar support. If lumbar and lateral support operate properly, check circuits for intermittent and poor connections. If lumbar support does not operate properly, go to next step.
- 3) Disconnect power seat cushion air control module 6-pin harness connector C1. Connect test light between ground and power seat cushion air control module harness connector C1 terminal "A" (Orange wire). See Fig. 4. If test light illuminates, go to next step. If test light does not illuminate, repair open or high resistance in Orange wire (battery feed) between power seat cushion air control module and DEFOG/SEATS circuit breaker. See WIRING DIAGRAMS.
- 4) Disconnect power seat cushion air control module 4-pin harness connector C2. Connect test light between power seat cushion air control module harness connector C1 terminal "A" (Orange wire) and

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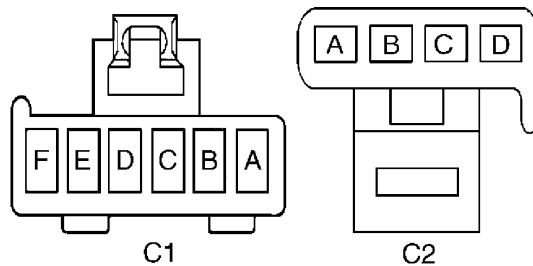
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harness connector C2 terminal "D" (Black wire). If test light illuminates, go to next step. If test light does not illuminate, go to step 6).

5) Check for poor terminal contact at power seat cushion air control module harness connectors. Repair as necessary. Recheck system operation. If terminal contact is okay, replace power seat cushion air control module. See POWER SEAT CUSHION AIR CONTROL MODULE under REMOVAL & INSTALLATION. Recheck system operation.

6) Repair open or poor terminal contact in Black wire between power seat cushion air control module and ground. See WIRING DIAGRAMS. Recheck system operation.



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Fig. 4: Identifying Power Seat Cushion Air Control Module Connector C1 & C2 Terminals  
Courtesy of General Motors Corp.

### TEST E: LUMBAR OR LATERAL SUPPORT DOES NOT MOVE IN OR OUT

1) Perform PRELIMINARY CHECKS and POWER LUMBAR SUPPORT SYSTEM CHECK under TROUBLESHOOTING. Go to next step.

2) Attempt to operate lumbar support and lateral support. If lumbar and lateral support operate properly, check circuits for intermittent and poor connections. If lumbar and lateral support does not operate properly, go to next step.

3) Disconnect in-line 2-pin harness connector C310. Connected a test light between ground in-line harness connector terminal "A" (Orange wire). See WIRING DIAGRAMS. If test light illuminates, go to next step. If test light does not illuminate, go to step 5).

4) Connect test light between in-line harness connector C310 terminals "A" (Orange wire) and "B" (Black wire). If test light illuminates, go to step 6). If test light does not illuminate, repair open or high resistance in Black wire between ground and in-line connector C310. See WIRING DIAGRAMS. Recheck system operation.

5) Repair open or high resistance in Orange wire between DEFOG/SEATS fuse and lumbar adjuster switch. See WIRING DIAGRAMS. Recheck system operation.

6) Connect a test light between ground and power seat cushion air control module harness connector C1 terminal "A" (Orange wire). See Fig. 4. If test light illuminates, go to next step. If test light does not illuminate, go to step 8).

7) Disconnect power seat cushion air control module harness connectors C1 and C2. Connect test light between power seat cushion

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air control module harness connector C1 terminal "A" (Orange wire) and power seat cushion air control module harness connector C2 terminal "D" (Black wire). If test light illuminates, go to step 9). If test light does not illuminate, repair open or high resistance in Black wire between power seat cushion air control module and ground. Recheck system operation.

8) Repair open or high resistance in Orange wire between DEFOG/SEATS fuse and power seat cushion air control module. See WIRING DIAGRAMS. Recheck system operation.

9) Replace power seat cushion air control module. See POWER SEAT CUSHION AIR CONTROL MODULE under REMOVAL & INSTALLATION. Recheck system operation.

### 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 before disconnecting battery.

### LUMBAR & LATERAL BLADDERS (FIREBIRD)

#### Removal & Installation

Remove seatback cover. See SEATBACK COVER (FIREBIRD). Remove seatback pad from frame. Remove lumbar bladder and hose. Remove lateral support bladder retainer. Remove lateral bladders and hose. See Fig. 5. To install, reverse removal procedure.

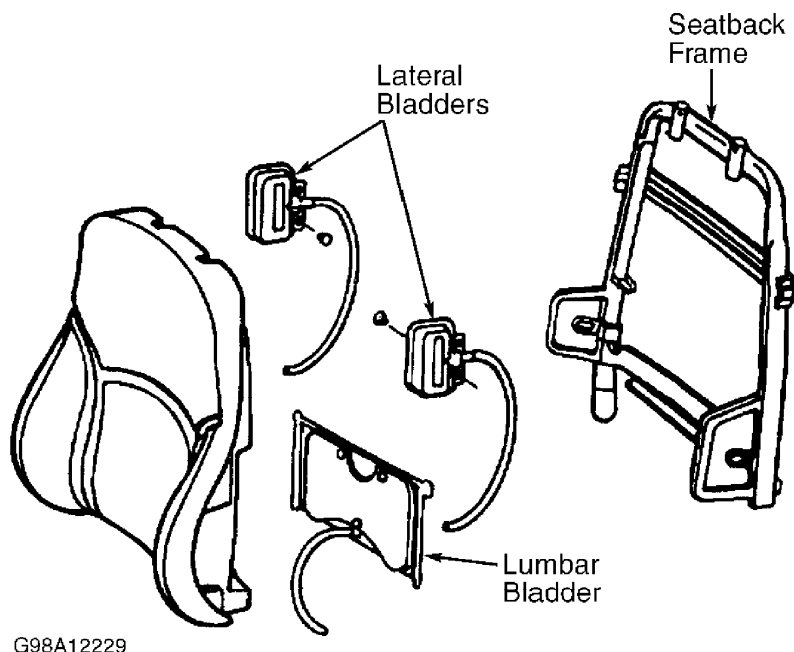


Fig. 5: Exploded View Of Lumbar & Lateral Support Assembly  
Courtesy of General Motors Corp.



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### POWER SEAT

#### Removal & Installation

Remove seat adjuster stud caps. Remove seat adjuster nuts from studs. Disconnect body wiring harness electrical connector, if necessary. Remove lumbar seat air supply hose. Put a protective shield over nearby trim and paint. Remove power seat from vehicle. To install, reverse removal procedure. Tighten seat adjuster nuts to 18 ft. lbs. (24 N.m).

### POWER SEAT ADJUSTER ASSEMBLY

#### Removal & Installation

Remove power seat. See POWER SEAT. Disconnect drive cables. Remove nut and motor support, leaving motor attached. See Fig. 6. Remove bolts/screws and adjuster. Remove adjuster covers, if necessary.

#### Disassembly & Reassembly

**WARNING:** Place adjuster in a bench vise before removing rear vertical adjuster, or ejection of compressed assist spring may cause personal injury.

Place adjuster in a bench vise. Remove rear adjuster nut. See Fig. 7. Slowly open vise to relieve spring compression, and remove rear adjuster and vertical assist spring. Remove front adjuster nut. Remove bolts/screws and horizontal actuator. Remove front and rear vertical actuators. Repeat procedure for other adjuster. To assemble, reverse disassembly procedure.

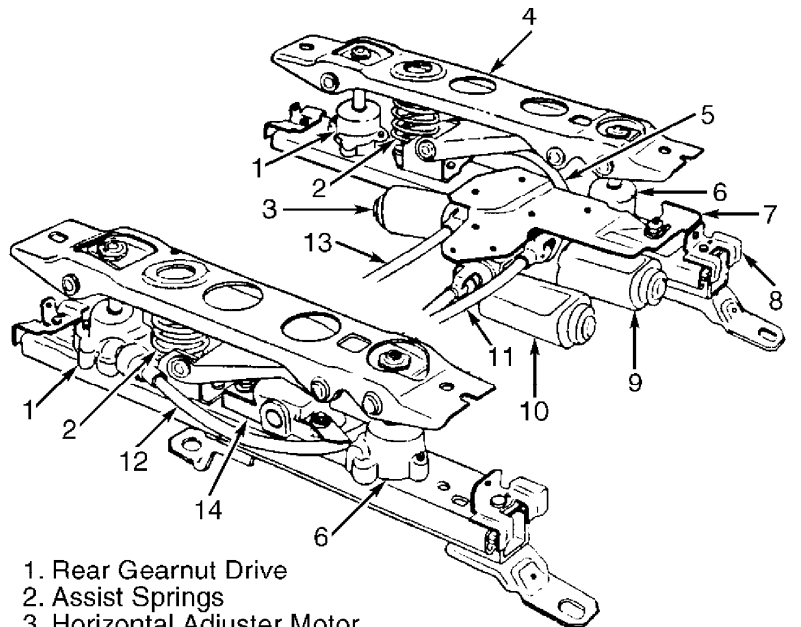
#### Installation

To install, reverse removal procedure. Tighten upper and lower adjuster cover bolts/screws to 15 INCH lbs. (1.7 N.m). Tighten adjuster bolts/screws to 18 ft. lbs. (24 N.m).

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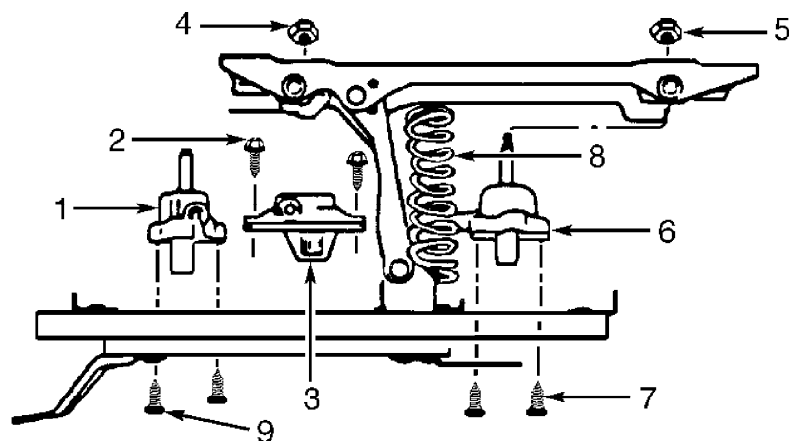
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- |                                 |                                 |
|---------------------------------|---------------------------------|
| 1. Rear Gearnut Drive           | 10. Rear Vertical Gearnut Motor |
| 2. Assist Springs               | 11. Front Vertical Drive Cable  |
| 3. Horizontal Adjuster Motor    | 12. Rear Vertical Drive Cable   |
| 4. Adjuster Assembly            | 13. Horizontal Drive Cable      |
| 5. Rear Vertical Gearnut Cable  | 14. Horizontal Adjuster Drive   |
| 6. Front Gearnut Drive          |                                 |
| 7. Motor Support                |                                 |
| 8. Lower Channel Stop           |                                 |
| 9. Front Vertical Gearnut Motor |                                 |

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Fig. 6: Power Seat Adjuster Assembly  
Courtesy of General Motors Corp.



- |                            |                           |
|----------------------------|---------------------------|
| 1. Front Vertical Actuator | 6. Rear Vertical Actuator |
| 2. Bolt/Screw              | 7. Bolt/Screw             |
| 3. Horizontal Actuator     | 8. Vertical Assist Spring |
| 4. Front Adjuster Nut      | 9. Bolt/Screw             |
| 5. Rear Adjuster Nut       |                           |

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Fig. 7: Removing Adjuster Assembly Components  
Courtesy of General Motors Corp.

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### POWER SEAT CUSHION AIR CONTROL MODULE

#### Removal & Installation

Remove passenger's seat. See POWER SEAT. Disconnect air supply hoses and electrical connectors as necessary. Remove bolts/screws and power seat cushion air control module. To install, reverse removal procedure.

### POWER SEAT SWITCHES

Remove seat. See POWER SEAT. Remove lower seat trim cover. See SEAT TRIM (FIREBIRD). Disconnect switch from retainer. To install, reverse removal procedure.

### SEATBACK

#### Removal & Installation

1) Remove power seat. See POWER SEAT. Remove bolts/screws and hinge arm trim cover. On Firebird, remove bolts/screws and finish panel. On all models, remove hinge arm bolts/screws. Remove seatback from cushion by unsnapping seatback from pivot bushing. See Fig. 8.

NOTE: Whenever seatback is removed, seatback pivot bushing must be replaced.

2) To install, reverse removal procedure using NEW seatback pivot bushing. Tighten hinge arm bolts/screws to 18 ft. lbs. (24 N.m).

### SEATBACK COVER (FIREBIRD)

#### Removal & Installation

Remove seat trim. See SEAT TRIM (FIREBIRD). Using Headrest Remover (J 39641), remove head restraint. Remove seatback. See SEATBACK. Remove rings attaching seatback cover to seat cushion pad and wire. Remove wire and seatback cover. To install, reverse removal procedure.

### SEAT TRIM (FIREBIRD)

#### Removal & Installation

1) Remove bolts/screws and cushion outer finish panel. Disconnect electrical connectors from switches. Remove bolts/screws and cushion inner finish panel.

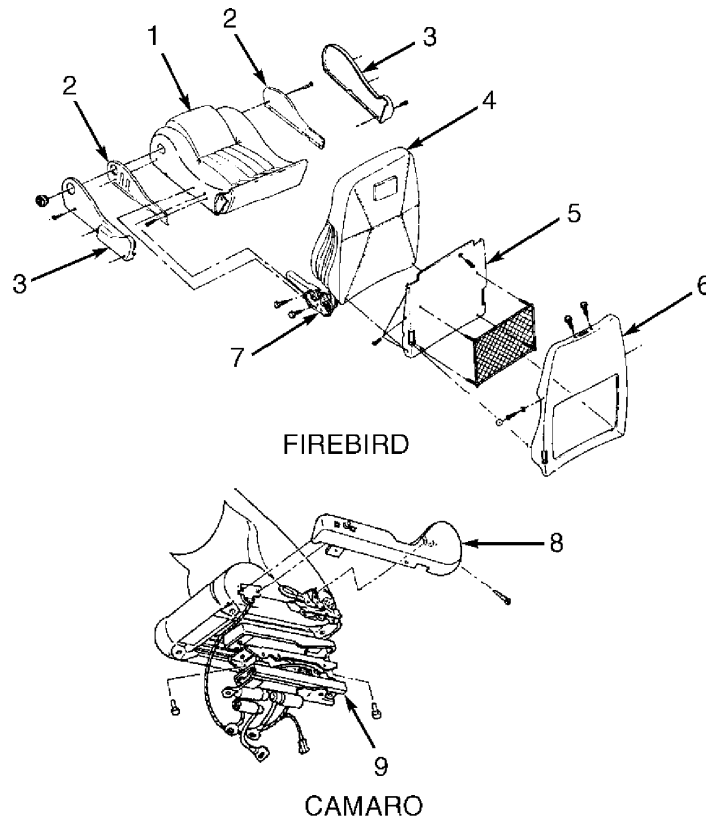
2) Remove bolts/screws to seatback hinge arm. Remove bolts/screws and cushion finish panel outer support. Remove bolts/screws and cushion finish panel inner support. See Fig. 8.

3) To install, reverse removal procedure. Tighten seatback hinge arm bolts/screws to 18 ft. lbs. (24 N.m).

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- |                              |                              |
|------------------------------|------------------------------|
| 1. Bottom Seat Cushion       | 6. Seatback Finish Panel     |
| 2. Inner Finish Panel        | 7. Seatback Hinge            |
| 3. Outer Finish Panel        | 8. Driver's Hinge Trim Cover |
| 4. Seatback                  | 9. Seat Adjuster Assembly    |
| 5. Seatback Inner Trim Panel |                              |

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Fig. 8: Exploded View Of Seat Trim Covers  
Courtesy of General Motors Corp.

### WIRING DIAGRAMS

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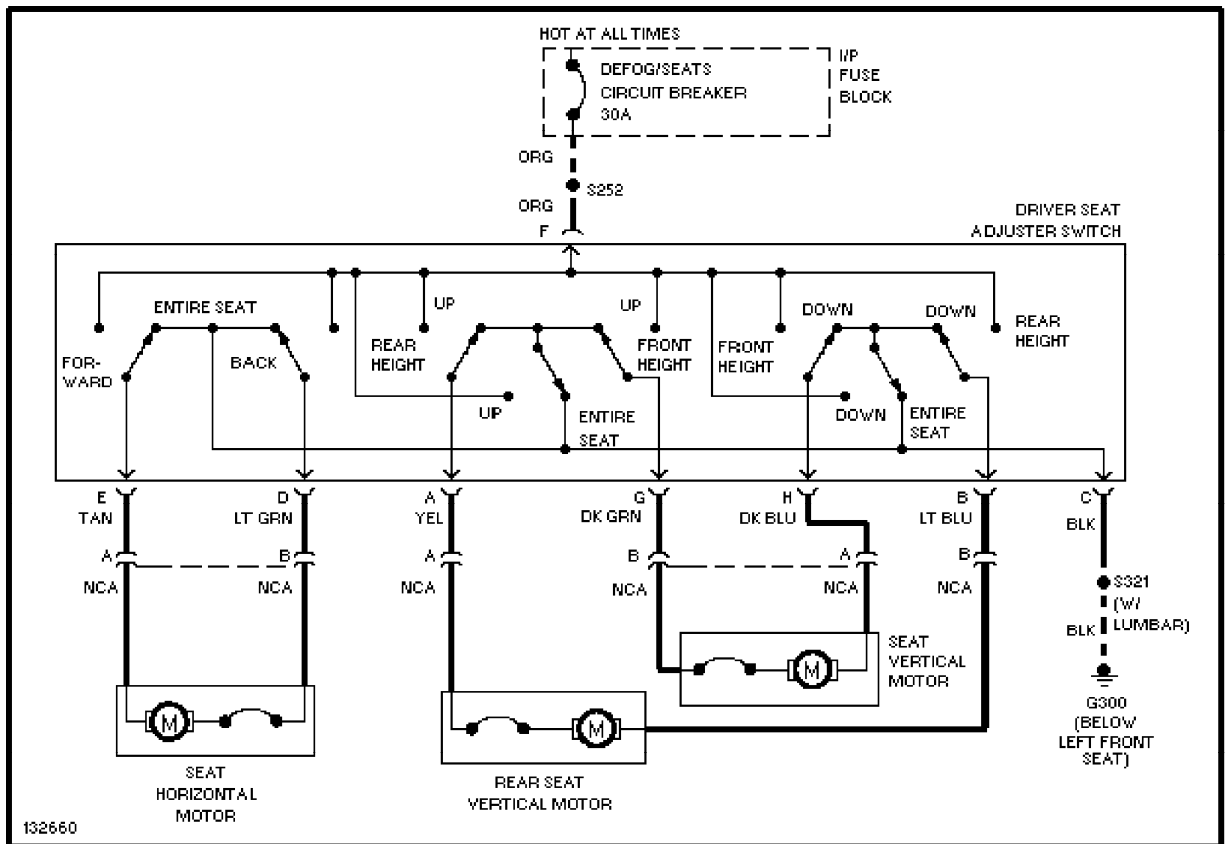


Fig. 9: Power 6-Way Seats Wiring Diagram (Camaro & Firebird)

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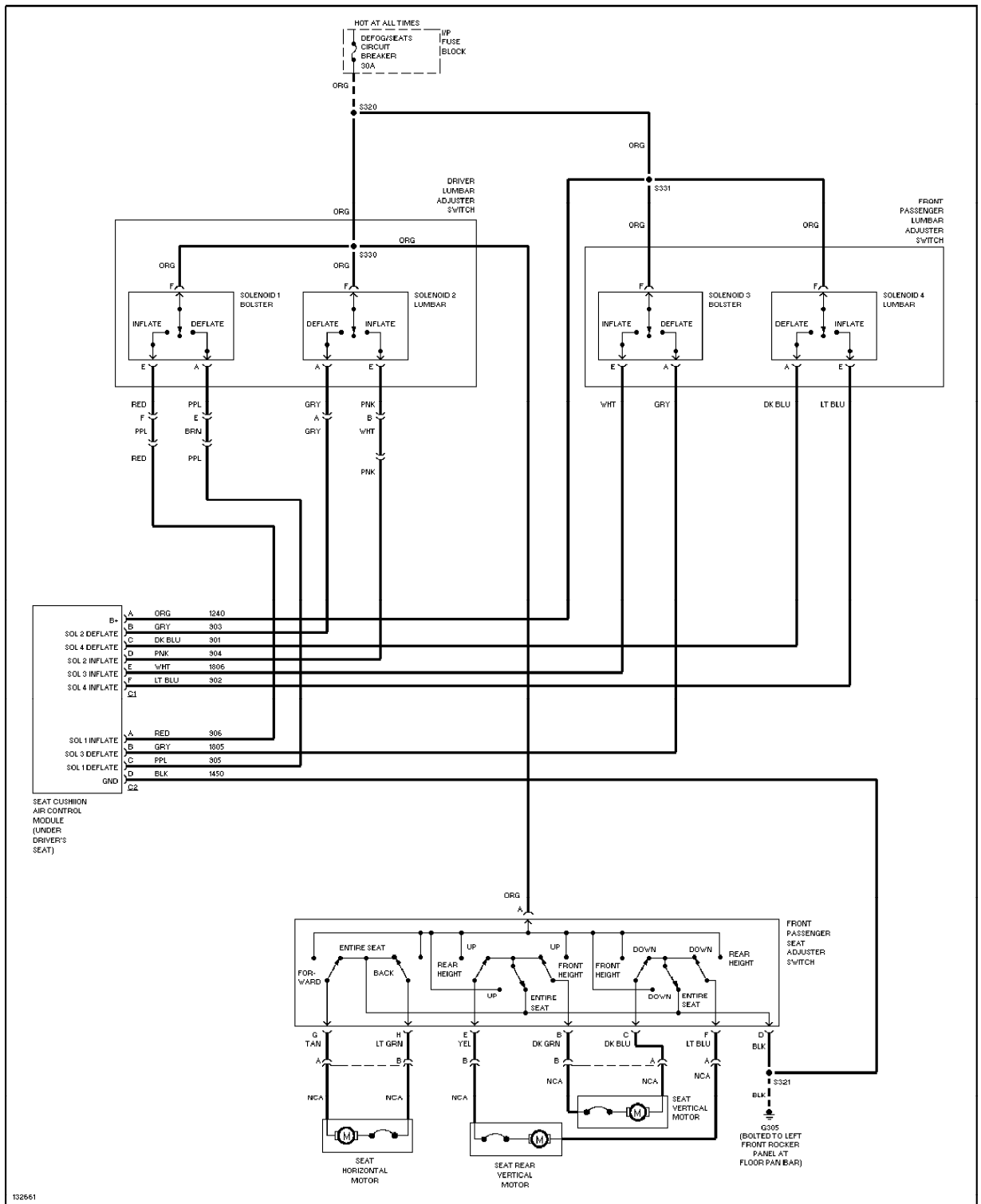


Fig. 10: Power 6-Way With Lumbar Seats Wiring Diagram (Camaro & Firebird)

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