Power Sliding Door Operation and Troubleshooting

(Replaces 99-027, *Power Sliding Door Problems*, dated April 20, 1999)

BACKGROUND

The Odyssey EX power sliding door system has a number of electrical and mechanical components that must work in synchronization with each other for the doors to open and close properly.

This service bulletin describes the main components of the power sliding door system, and it covers the sequence of events that happens when a door opens and closes. The Symptom Troubleshooting Chart covers the most commonly reported problems with the system.

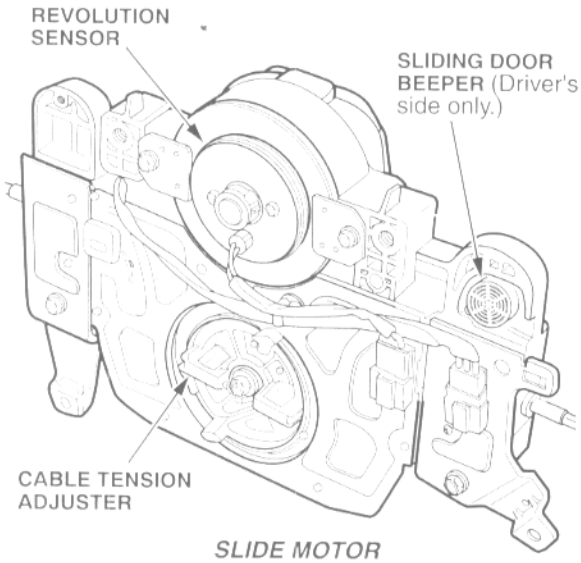
COMPONENTS

(Refer to page 2 for component locations.)

Power Sliding Door Control Unit – This unit receives inputs from the switches and sensors in the sliding door system. It outputs to the slide motor, release motor, and closer motor to control the movement of the doors. It also controls the sliding door indicator and beeper.

Slide Motor – This motor moves the door in both directions. It includes a revolution sensor and a cable tension adjuster.

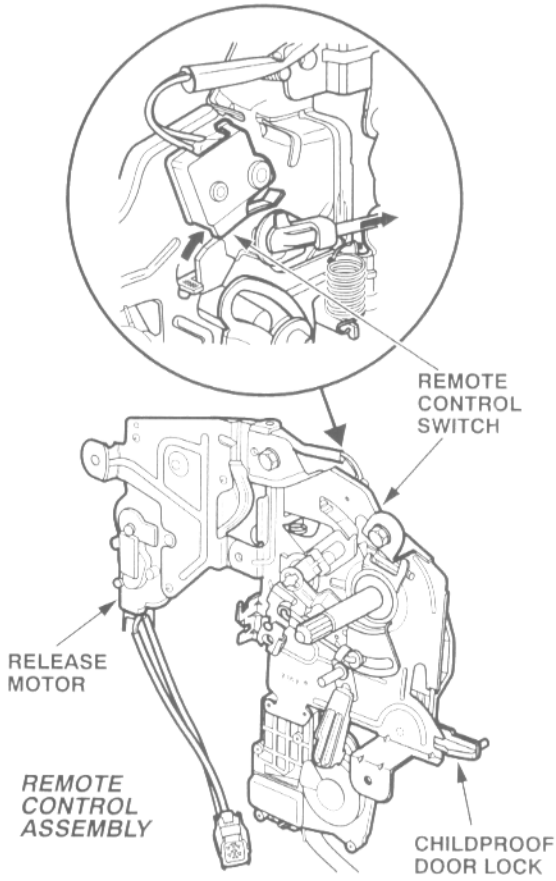
- **Revolution Sensor** – As the slide motor moves the door, the revolution sensor generates pulses that are sent to the power sliding door control unit. The unit uses these pulses to determine the speed and position of the door as it moves.



SLIDE MOTOR

Remote Control Assembly – This assembly operates cables that release the door latch and activate the failsafe lever. The assembly includes the release motor, the remote control switch, the lock actuator, the door lock, the child-proof lock, and the linkage to the inside and outside door handles.

- **Release Motor** – When the dashboard switch, the remote transmitter, or either the inside or outside door handle is used to open the door, this motor pulls on the release cable to release the door latch, allowing the door to open.
- **Remote Control Switch** – This switch signals the power sliding door control unit that someone is trying to open the door with the inside or outside door handle.



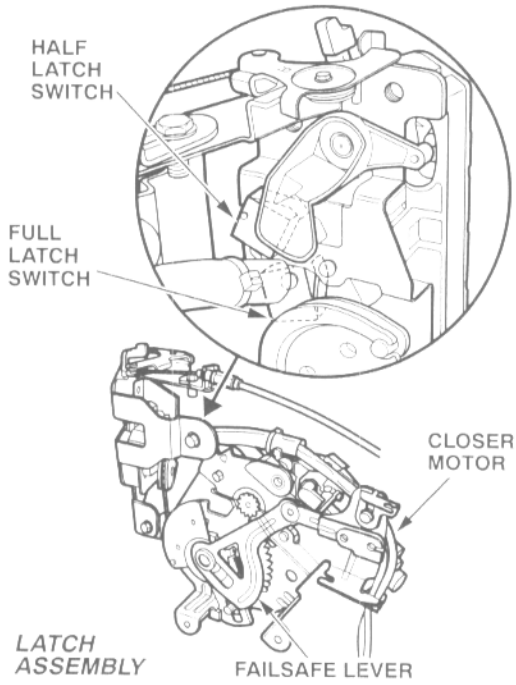
Latch Assembly – This assembly mechanically latches the door in the closed position. It contains the closer motor, the half-latch switch, the full-latch switch, and the failsafe lever.

- **Closer Motor** – This motor moves the latch from the half-latched to the fully latched position to complete closing the door.

Skill Level R REPAIR

CUSTOMER INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

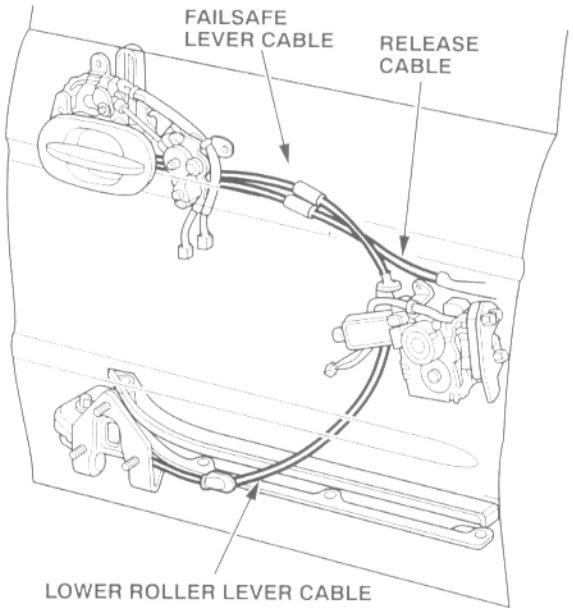
- **Half-Latch Switch** – This switch signals the power sliding door control unit that the door has reached the half-latched position.
- **Full-Latch Switch** – This switch signals the power sliding door control unit that the door has reached the fully latched position—the door is completely closed.
- **Failsafe Lever** – This lever mechanically disconnects the closer motor from the door latch. See Failsafe Emergency Stop Operation in this service bulletin.

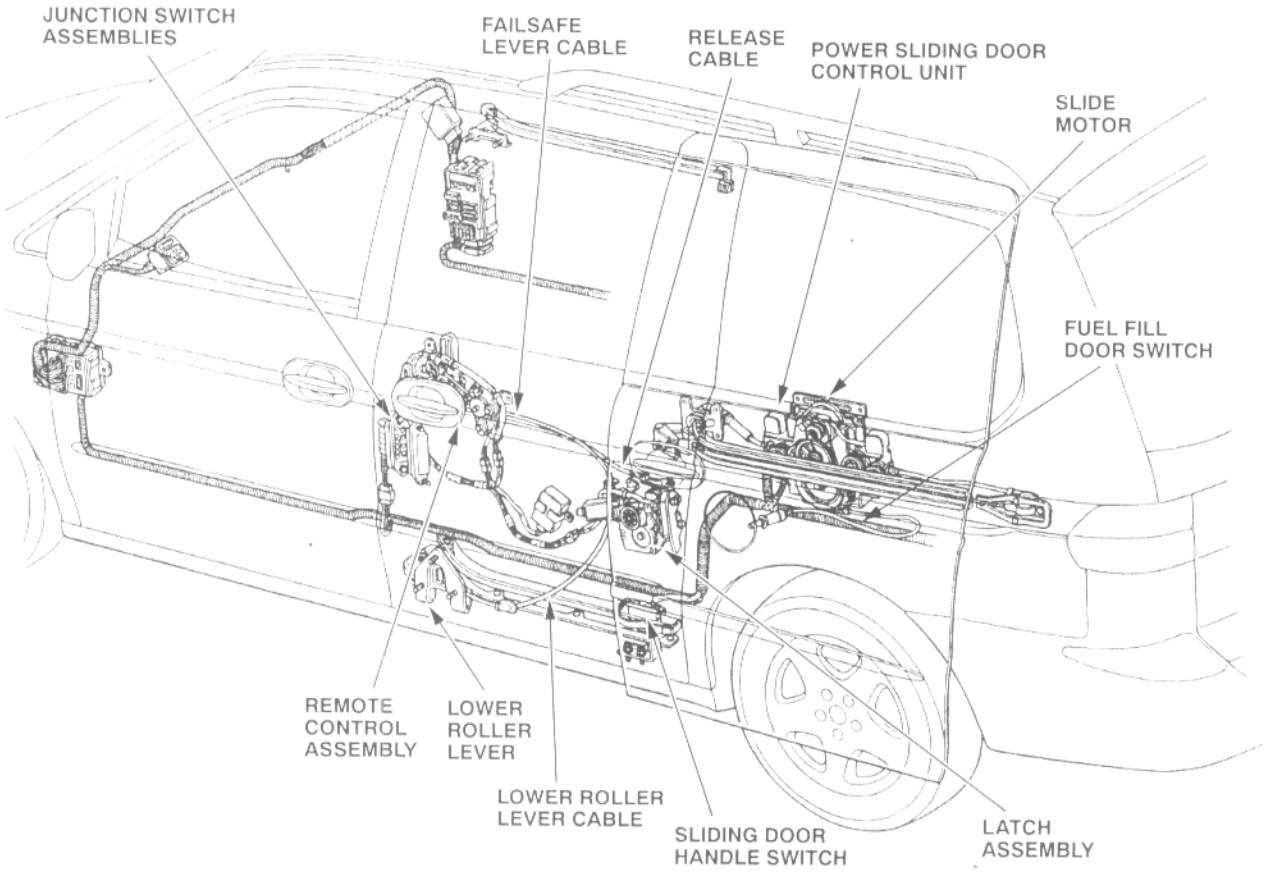


Release Cable – This cable is routed between the remote control assembly and the latch assembly. It releases the latch to open the door. It is moved by the remote control assembly.

Failsafe Lever Cable – This cable is routed between the remote control assembly and the latch assembly. It activates the failsafe lever.

Lower Roller Lever Cable – This cable is routed between the latch assembly and the lower roller lever. It is moved by the failsafe lever.





Lower Roller Lever – This lever is moved by the lower roller lever cable. The lever contacts the sliding door handle switch.

Sliding Door Handle Switch – This switch works only when the door is fully open. It is activated by the lower roller lever, and signals the power sliding door control unit that someone has moved either the inside or outside door handle to close the door.

Junction Switch Assemblies – These are located in the front of each door and in the B pillars. They are the only electrical connection between the components in the door and the power sliding door control unit when the door is closed. There is no electrical connection when the door is open.

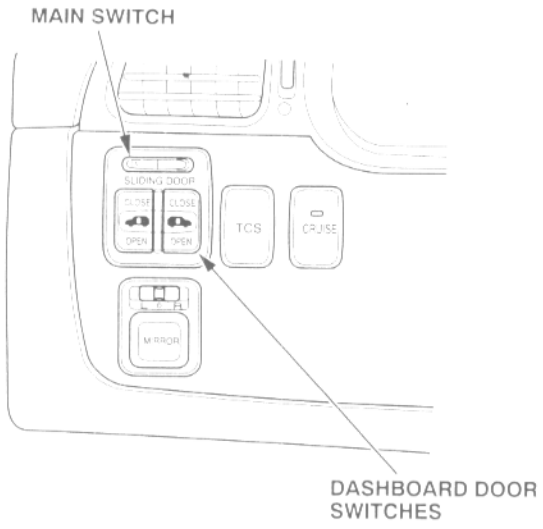
Keyless Receiver Unit – This unit is to the right of the glove box. It receives the door lock/unlock and sliding door activation signals from the remote transmitters. When either the left sliding door or right sliding door button is pushed on the remote transmitter, the receiver unit sends a signal to the appropriate power sliding door control unit.

NOTE: The doors will not operate with the remote transmitter when the key is in the ignition switch.

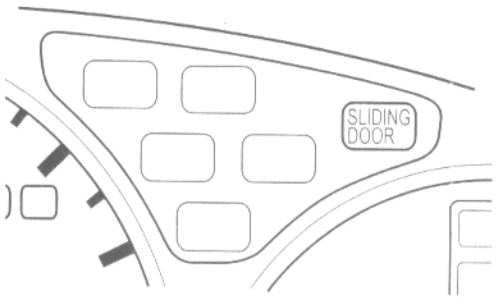
SWITCHES AND INDICATORS

Main Switch – This switch, when it is OFF, turns off all the electrical controls to the doors, and disables the sliding door beeper. The doors can only be opened and closed manually.

Dashboard Door Switches – There is one rocker switch for each door. Each switch signals its respective power sliding door control unit that the driver wants to open or close that door.



Sliding Door Indicator – This indicator normally lights for about 2 seconds when the ignition switch is turned to ON (II). If it comes on at any other time, it is signaling the driver that there is a problem with the power sliding door system. The door with the problem will no longer operate electrically, only manually. The technician can use this indicator to read out trouble codes stored in the power sliding door system.



Sliding Door Beeper – This beeper signals the driver that a door is not properly closed and latched, or that the door has run into an obstacle while it is opening or closing. The beeper is located on the left slide motor assembly. It is controlled by both sliding door control units. The beeper is disabled when the Main switch is off.

THEORY OF OPERATION

Opening a Door With the Dashboard Door Switch or the Remote Transmitter

To open a door electrically, the Main switch on the dashboard must be ON, the shift lever must be in Park, the door must be unlocked, and the fuel fill door must be closed (left door only).

1. If the dashboard door switch is used, the switch sends a signal to the power sliding door control unit for that door. If the remote transmitter is used, the keyless receiver unit (behind the glove box) sends a signal to the power sliding door control unit for that door.
2. The power sliding door control unit sends a signal through the junction switch to the release motor to unlatch the door.
3. The release motor pulls the release cable, which is connected to the latch assembly. This mechanically unlatches the door.
4. After about a one-half second delay, the power sliding door control unit starts the slide motor. The slide motor moves the cables that move the door.
5. The revolution sensor senses the movement of the slide motor, and sends pulses to the power sliding door control unit. The control unit uses these pulses to judge the speed and position of the door.
6. When the power sliding door control unit judges that the door is fully open, it turns off the slide motor.

Opening a Door With the Inside or Outside Handle

1. The inside and outside door handles are mechanically linked to the remote control assembly. Pulling a door handle pulls the release cable, which is connected to the latch assembly. This unlatches the door.
2. The remote control switch senses the movement of the door handle, and sends a signal through the junction switch to the power sliding door control unit.
3. The power sliding door control unit sends a signal through the junction switch to the release motor. The release motor pulls the release cable to keep the door unlatched.
4. After about a one-half second delay, the power sliding door control unit starts the slide motor. The slide motor moves the cables that move the door.
5. From this point, the door opening operation is the same as steps 5 and 6 in the previous description.

Closing a Door With the Dashboard Door Switch or the Remote Transmitter

To close a door electrically, the Main Switch must be ON. The transmission does not have to be in Park. If it is not, the buzzer will sound either until the door is fully closed or the shift lever is moved to Park.

1. If the dashboard door switch is used, the switch sends a signal to the power sliding door control unit for that door. If the remote transmitter is used, the keyless receiver unit sends a signal to the power sliding door control unit for that door.
2. The power sliding door control unit starts the slide motor to move the door. The revolution sensor sends pulses to the power sliding door control unit.
3. The power sliding door control unit uses the pulses to keep track of the speed and position of the door. When the door gets near the fully closed position, the control unit slows down the slide motor.
4. As the door closes, the junction switch contacts come into contact with each other. Shortly thereafter, the half-latch switch sends a signal through the junction switch to the power sliding door control unit that the door is half-latched.
5. The power sliding door control unit sends a signal through the junction switch to start the closer motor.
6. The closer motor pulls the door to the fully latched position.
7. When the door is fully latched, the full-latch switch sends a signal through the junction switch to the power sliding door control unit. The control unit stops the slide motor, stops the closer motor, and returns the closer motor to its start position.

Closing a Door With the Inside or Outside Handle

Because there is no electrical connection between the door and the body when the door is open, the door can be closed with the door handles only when it is fully open. The lower roller lever in the door can then contact the sliding door handle switch in the door sill.

1. When either the inside or outside door handle is moved, it causes the remote control assembly to pull on the failsafe lever cable.
2. The failsafe lever cable moves the failsafe lever. The lever pulls on the lower roller lever cable, which moves the lower roller lever.
3. The lower roller lever contacts the sliding door handle switch. This switch sends a signal to the power sliding door control unit to close the door.
4. From this point, the door closing operation is the same as steps 2 thru 7 in the previous description.

Opening or Closing a Door Without Power – The door electronics are disabled if the Main switch is OFF, or if there is a problem with the door that has turned on the sliding door indicator. In those cases, the door can be opened and closed by moving it manually. Manually opening and closing must be done carefully. Moving the door too fast in either direction can damage the slider motor and possibly the body. The door will not latch fully if it is closed too slowly. If the door does not latch, push on the window glass, not on the door sheetmetal, to latch the door.

Trap Detection Operation

Trap Detection is the feature that detects an obstacle in the door's path as it opens or closes. This detection is disabled when the door is closing and reaches the half-latched position.

1. As stated previously, the power sliding door control unit monitors the pulses from the revolution sensor as the door moves.
2. If, from these pulses, the control unit detects that the door has slowed down (a sudden decrease in pulse frequency), the control unit stops the slide motor.
3. The sliding door beeper sounds three times.
4. The control unit reverses the slide motor's direction, and moves the door to its previous position (open or closed). If, for some reason, the shift lever is not in Park, the door will stop and not return to its previous position.

NOTE: The sensing and door reversal operation is not immediate (like an elevator door, for example). The door could bruise someone who is in the way.

Emergency Stop Operation

The Emergency Stop feature allows the operator to stop the door for any reason when it is opening or closing. It can be activated at any time with the door switch on the dashboard, or with the remote transmitter. It can also be activated by either door handle only if the door is closed far enough that the junction switches are making contact. Turning the Main switch OFF also stops door movement.

1. If, while the door is moving, the power sliding door control unit receives an open or close signal from the door switch or the remote transmitter, or a signal through the junction switch from the remote control switch, it immediately stops the slide motor.
2. The sliding door beeper sounds three times (if the Main switch was not used to stop door movement).
3. If the remote transmitter is used to move the door after it has stopped, the door will move in the opposite direction. If the dashboard door switch is used, the door will move in the direction selected on the switch.

Failsafe Emergency Stop Operation

The Failsafe Emergency Stop feature works only when the closer motor is moving the door from half-latched to fully latched. It can be activated by the dashboard door switch, the remote transmitter, or either of the door handles.

1. The power sliding door control unit receives an open or close signal from the door switch or the remote transmitter (through the keyless receiver unit)

   or

   the remote control switch sends a signal through the junction switch that a door handle has been pulled.
2. If a door handle was used, the linkage pulls the failsafe lever cable. If the door switch or remote transmitter was used, the power sliding door control unit sends a signal through the junction switch to the remote control unit to pull the failsafe lever cable.
3. The failsafe lever cable raises the failsafe lever, which disengages the closer motor from the latch.
4. The beeper sounds three times.
5. The power sliding door control unit stops and reverses the slide motor. If the door opening signal came from the dashboard door switch or the remote transmitter, the door is opened about 9 inches. If the door opening signal came from a door handle, the door is opened all the way.

Fuel Fill Door Operation

The left door locks automatically when the fuel fill door is opened.

1. When the fuel fill door is opened (using the release lever next to the driver's seat), the fuel fill door switch closes. This energizes the fuel fill door relay.
2. The relay sends a signal through the junction switch to the sliding door lock control unit. This assembly locks the door.

The door does not unlock automatically when the fuel fill door is closed. It must be unlocked with the lock knob on the inside of the door, the power door locks, or the remote transmitter.

If you attempt to unlock the left door while the fuel fill door is open, it will lock again. You can override this automatic lock by pushing the lock knob to the unlock position and holding it there for several seconds. The door can now operate in its normal automatic modes. You can cause serious damage to the door or the fuel fill door by opening the sliding door.

SLIDING DOOR BEEPER LOGIC

The sliding door beeper informs the driver that there has been a problem with a door's normal operation. It can also, in some cases, be a help in diagnosing a problem.

Solid Tone – A solid, continuous tone means that the door is open, not moving, and the shift lever is not in Park. This is caused by the power sliding door control unit not receiving a signal from the full-latch switch through the junction switch, no Park signal, and the unit is not moving the door.

Since both power sliding door control units use the same beeper, it may be hard to determine which door is at fault. With the beeper sounding, push each dashboard door switch to the CLOSE position. The beeper will stop when you press the switch for the door with the problem.

Continuous Beep – The beeper beeps continuously when the shift lever is moved out of Park and the door is closing. It should stop when the door is fully latched.

Three Beeps, Door Stops – See Emergency Stop Operation.

Three Beeps, Door Reverses Direction – See Trap Detection Operation and Failsafe Emergency Stop Operation.

Five Beeps – Diagnosis should show that the door is half latched but not fully latched. The power sliding door control unit did not receive a signal from the half-latch switch, so it did not power the closer motor. See the Symptom Troubleshooting Chart at the end of this service bulletin.

RETRIEVING DIAGNOSTIC TROUBLE CODES

The sliding door indicator can be used to read out diagnostic trouble codes stored in the power sliding door system.

1. Turn the ignition switch to ON (II).
2. Turn the Main switch off.
3. Press and hold the OPEN or CLOSE side of the dashboard door switch for the door that is not working.
4. While still holding the door switch, turn the Main switch on for less than a second, then turn it off.
5. Immediately release the door switch. The sliding door indicator will begin flashing DTCs in the order they were set. Refer to the service manual for DTC definitions.

REHOMING THE DOORS

Once a door problem has been repaired, the doors must be rehomed before they will work properly. The power sliding door control unit must relearn the door's home position so it can use the revolution sensor to keep track of the door's position when it is moving.

1. Erase the sliding door DTCs by removing the No. 13 (7.5 A) fuse from the passenger's under-dash fuse box for 10 seconds. Then reinstall the fuse.
2. Turn off the Main switch for the doors. Make sure the ignition switch is in LOCK (0).
3. Manually open the sliding door. Make sure it is fully open.
4. Turn the ignition switch to ON (II). Turn on the Main switch.
5. Push and hold the CLOSE side of the dashboard door switch for that door until the door is fully closed.
6. Test the door operation with the dashboard door switch, the remote transmitter, and the door handles.

SYMPTOM TROUBLESHOOTING CHART

This information does not cover all of the possible problems that could occur in the power sliding door system. It does cover the most common problems reported to Tech Line.

S/M = The current Odyssey service manual
ETM = The current Odyssey Electrical Troubleshooting Manual
S/B = Service Bulletin (current version)

Symptom	Inspection	Probable Cause/Related Publications
The door will not open with either the inside or outside door handle.	The door unlatches when you pull the handle, but the slide motor does not start powering the door until you manually open the door about halfway. The door works OK with the dashboard door switch and the remote transmitter.	The remote control switch or circuit: • S/B 99-072 • S/M Release Motor and Remote Control Switch Test • S/M Sliding Door Junction Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors
The door will not open with the inside door handle.	The door will not unlatch either electrically or manually with the inside door handle.	Child Safety Lock: • See the Owner's Manual.
The door will not open with the dashboard door switch or with any of the remote transmitters. The door may not open if you pull and release a door handle too quickly.	The release motor does not operate, and the door does not unlatch. The slide motor tries to open the door, but the door does not move. The beeper sounds three times. If you pull and hold either door handle, the door will open normally.	The release motor or circuit: • S/B 99-072 • S/M Release Motor and Remote Control Switch Test • S/M Sliding Door Junction Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors • Inspect the cable between the remote control assembly and the latch assembly.
The left door will not open with the dashboard door switch, either door handle, or with any remote transmitter.	The door does not unlatch. The slide motor tries to operate, but the door does not move. The beeper sounds three times. The door lock knob will not stay in the unlocked position unless it is held there for several seconds.	The fuel fill door switch or circuit: • S/B 99-081 • S/M Sliding Door Lock Control Unit Input Test • ETM Power Door Locks
The door will not operate from the remote transmitters.	The door operates normally when activated by the dashboard door switch or either door handle, but not by the remote transmitters.	The keyless receiver unit or circuit: • S/M Keyless Receiver Unit Input Test • S/M Control Unit Input Test • ETM Power Sliding Doors • ETM Power Door Locks
The door stops just before the half-latch position or The door stops just before the half-latch position, then reopens or The door reaches half-latch, but will not fully latch.	The door stops and the beeper sounds three times just before it reaches the half-latch position, then it may reopen. The beeper may sound three times when the door reaches the fully open position. The door may not close when either door handle is used to close the door. If the door reaches half-latch, the closer motor operates, but it does not pull the door to full-latch.	Bound linkage or cables: • Remote control assembly linkage • Latch assembly linkage (failsafe lever) • Cables between components: – Release cable – Failsafe lever cable – Lower roller lever cable • S/B 99-054 • S/B 99-072 • S/B 00-047
The door does not operate. The sliding door indicator is on.	The door will not operate from any source (door handles, dashboard door switch, or remote transmitter), but it can be operated manually. A DTC 25 is stored in the affected door's control unit.	The control unit, the slide motor, or the control unit grounds or circuit: • S/B 99-028 • S/M Control Unit Input Test • S/M Slide Motor Test • ETM Power Sliding Door

Symptom	Inspection	Probable Cause/Related Publications
The door does not operate. The sliding door indicator is not on.	The door will not operate from any source (door handles, dashboard door switch, or remote transmitter), but it can be operated manually. No DTCs are stored.	The Main switch, control unit, or circuit: • S/M Power Sliding Door Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors
The door unlatches, but it does not slide open.	The release motor operates to unlatch the door, but the slide motor does not operate. The sliding door indicator is off, no DTCs are stored, and the beeper does not sound.	The control unit or circuit (logic, power or ground): • S/B 99-028 • S/M Control Unit Input Test • ETM Power Sliding Doors
The door reaches half-latch, but will not fully latch.	The beeper sounds five or six times when the door reaches half-latch. The closer motor does not operate. If the open side of the dashboard door switch is pushed, the release motor operates and the door opens about 9 inches.	The half-latch switch, junction switch, control unit, or circuit: • S/B 01-020 • S/B 99-072 • S/M Closer Motor Latch Switch Position Switch Test • S/M Sliding Door Junction Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors
The door reaches half-latch, but will not fully latch.	The closer motor does not operate. The slide motor continues to hum for 5 to 8 seconds after the door reaches half-latch.	The closer motor, junction switch, control unit, or circuit: • S/B 01-020 • S/B 99-072 • S/M Closer Motor Latch Switch Position Switch Test • S/M Sliding Door Junction Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors
The sliding door beeper sounds a continuous tone when the shift lever is moved out of Park. (This may happen only intermittently.)	The door is fully latched, yet the beeper sounds continuously when the shift lever is not in Park.	The full-latch switch, junction switch, door adjustment, control unit, or circuit: • S/B 99-072 • S/M Closer Motor Latch Switch Position Switch Test • S/M Sliding Door Junction Switch Test • S/M Control Unit Input Test • ETM Power Sliding Doors