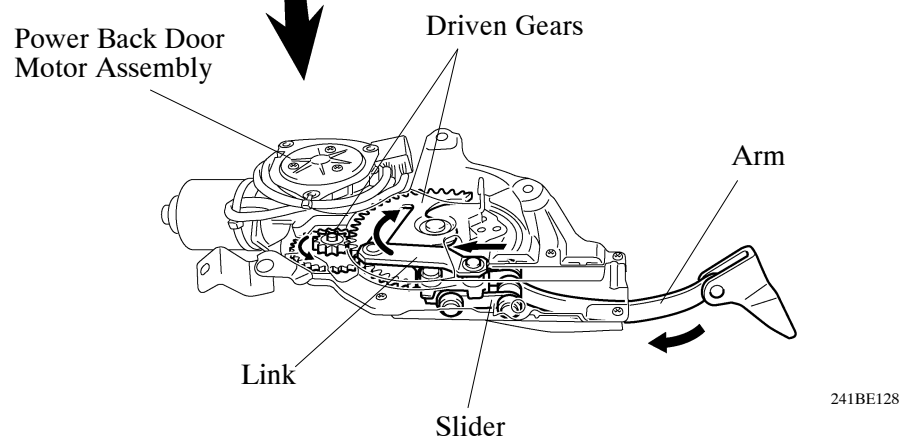
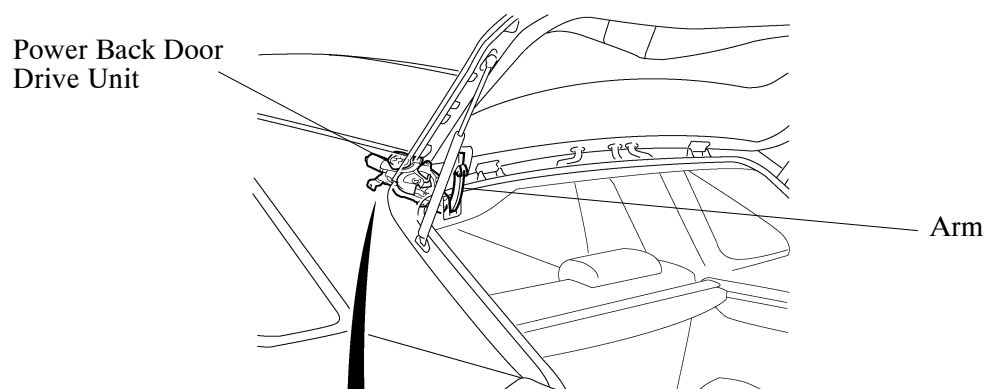


■ CONSTRUCTION AND OPERATION

1. Power Back Door Drive Unit

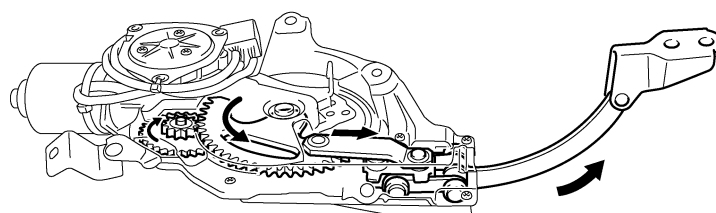
General

- The power back door drive unit comprises the power back door motor assembly, driven gear, link, slider and arm.
- Rotation of the power back door motor moves the arm forward and back via the driven gear, link mechanism and slider mechanism. The back door is opened and closed by movement of this arm.



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Back Door Close

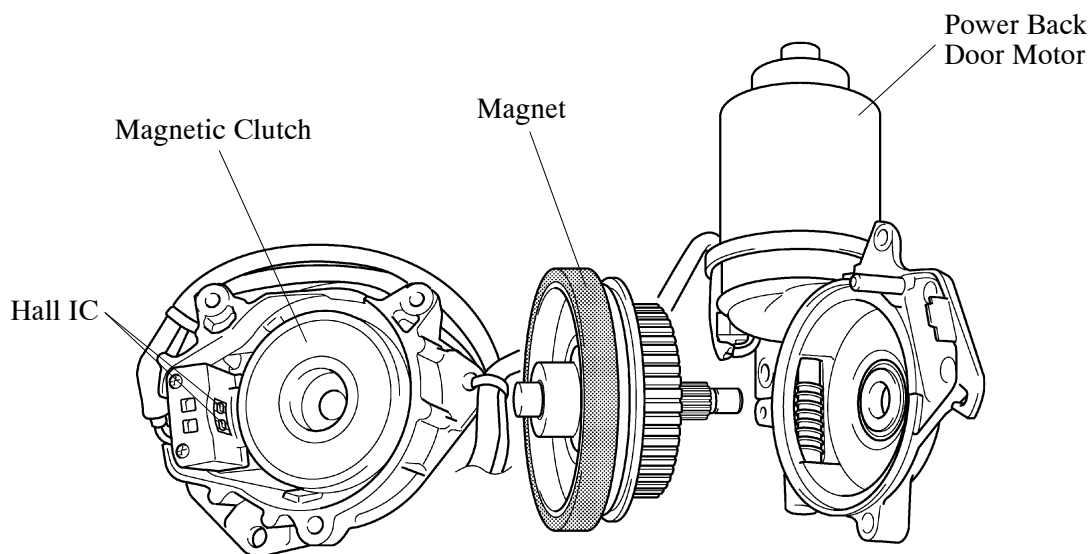


Back Door Open

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Power Back Door Motor Assembly

- The power back door motor assembly is mainly comprised of the power door motor, magnetic clutch and 2 Hall ICs.
- The magnetic clutch transmits the rotation of the power back door motor to the driven gear. Normally, the magnetic clutch is disengaged to enable a manual open or close operation of the power back door.
- The rotation of the magnet located on the perimeter of the magnetic clutch creates changes in the magnetic flux. The 2 Hall ICs convert these changes into pulse signals and output them to the power back door ECU. Based on these signals, the power back door ECU detects the position of the back door, as well as its opening or closing speed, which determines whether the back door is jammed.



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Service Tip

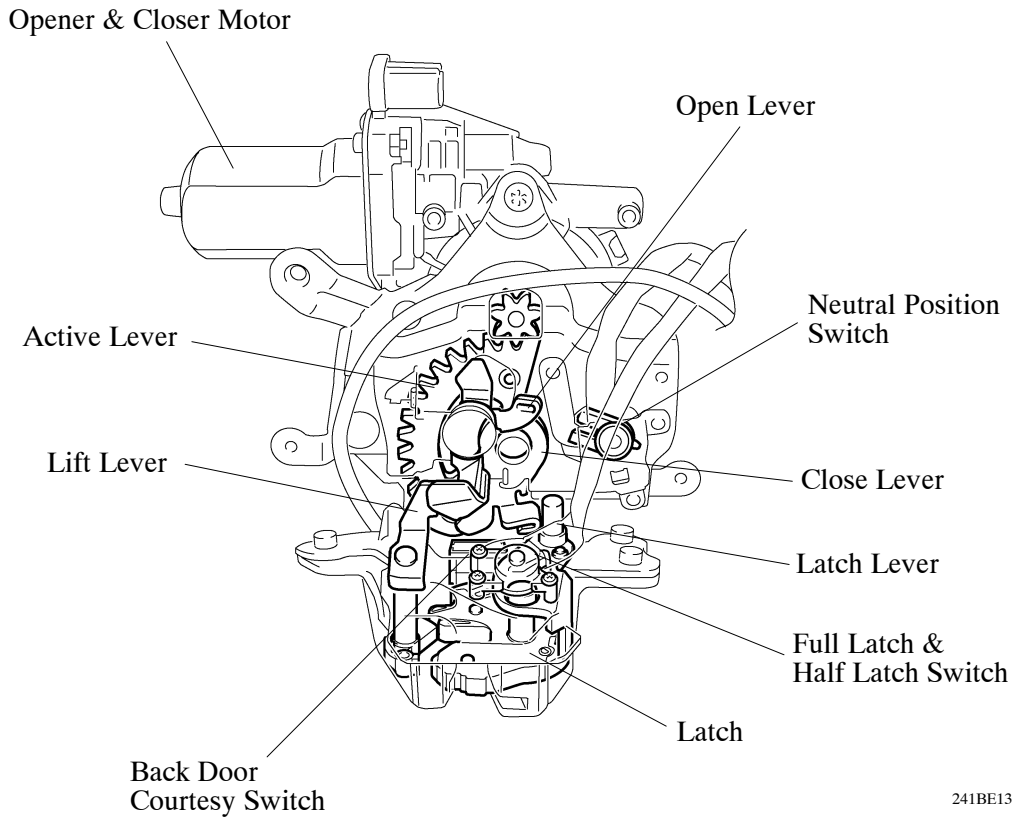
The power back door ECU memorizes the fully close and fully open positions of the back door. This data will be lost if a battery terminal, fuse, power back door ECU, or the power back door drive unit is removed and reinstalled.

For this reason, after the completion of any of the operations indicated above, turn the ignition switch ON and manually operate the back door once to the fully closed position. For details, refer to the LEXUS RX400h Repair Manual (Pub. No. RM1139E).

2. Back Door Lock Assembly

Construction

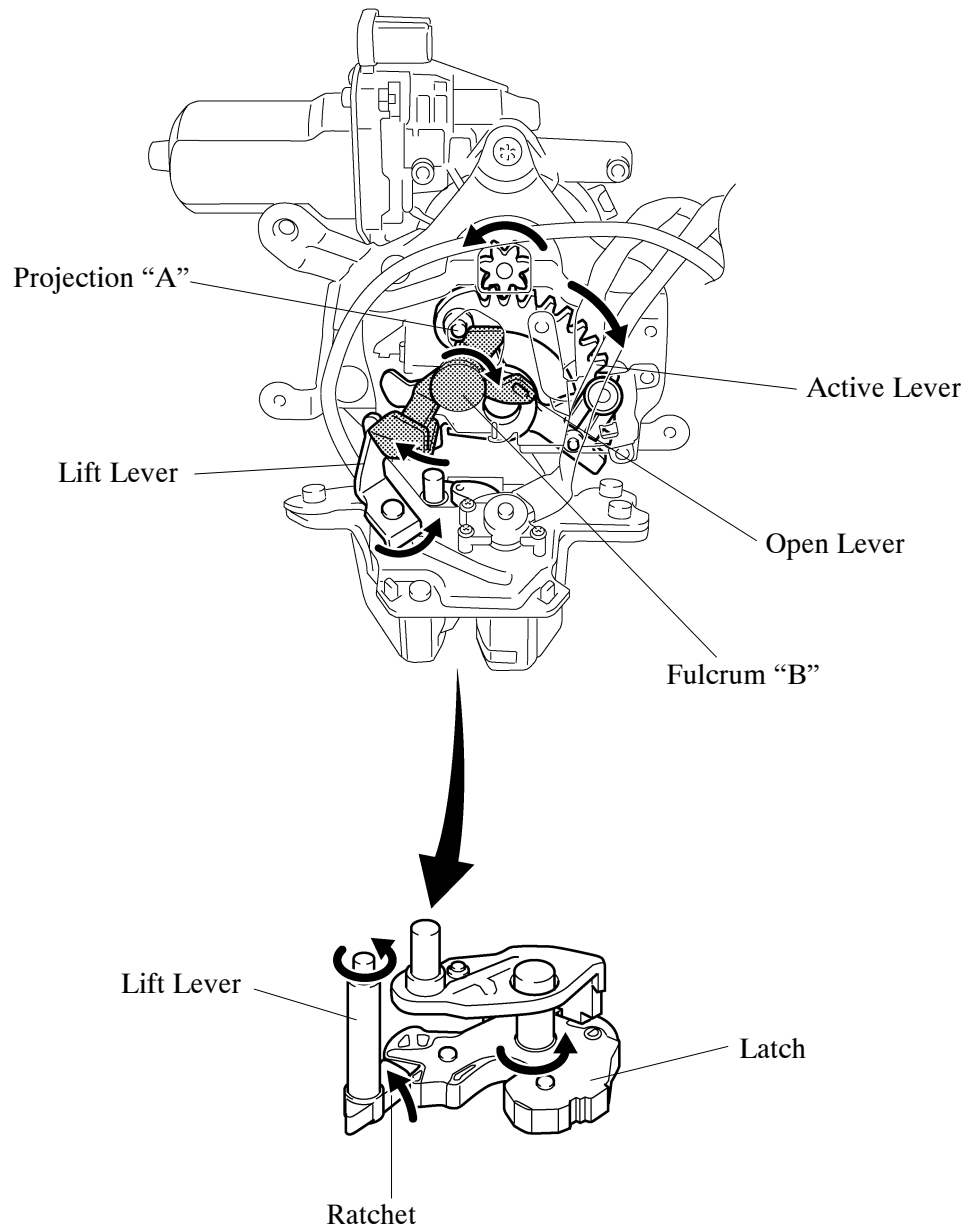
- The back door lock assembly consists of 4 position detection switches (full latch switch, half latch switch, neutral position switch and back door courtesy switch), 5 levers (active lever, open lever, close lever, lift lever and latch lever), latch, ratchet and opener & closer motor.
- The rotation of the opener & closer motor is transmitted to the close or open lever via the active lever. The operation of the open or close lever engages or releases the latch.
- When this system does not operate due to a discharged battery or other malfunctions, the back door can be opened by directly operating the open lever in the back door assembly.



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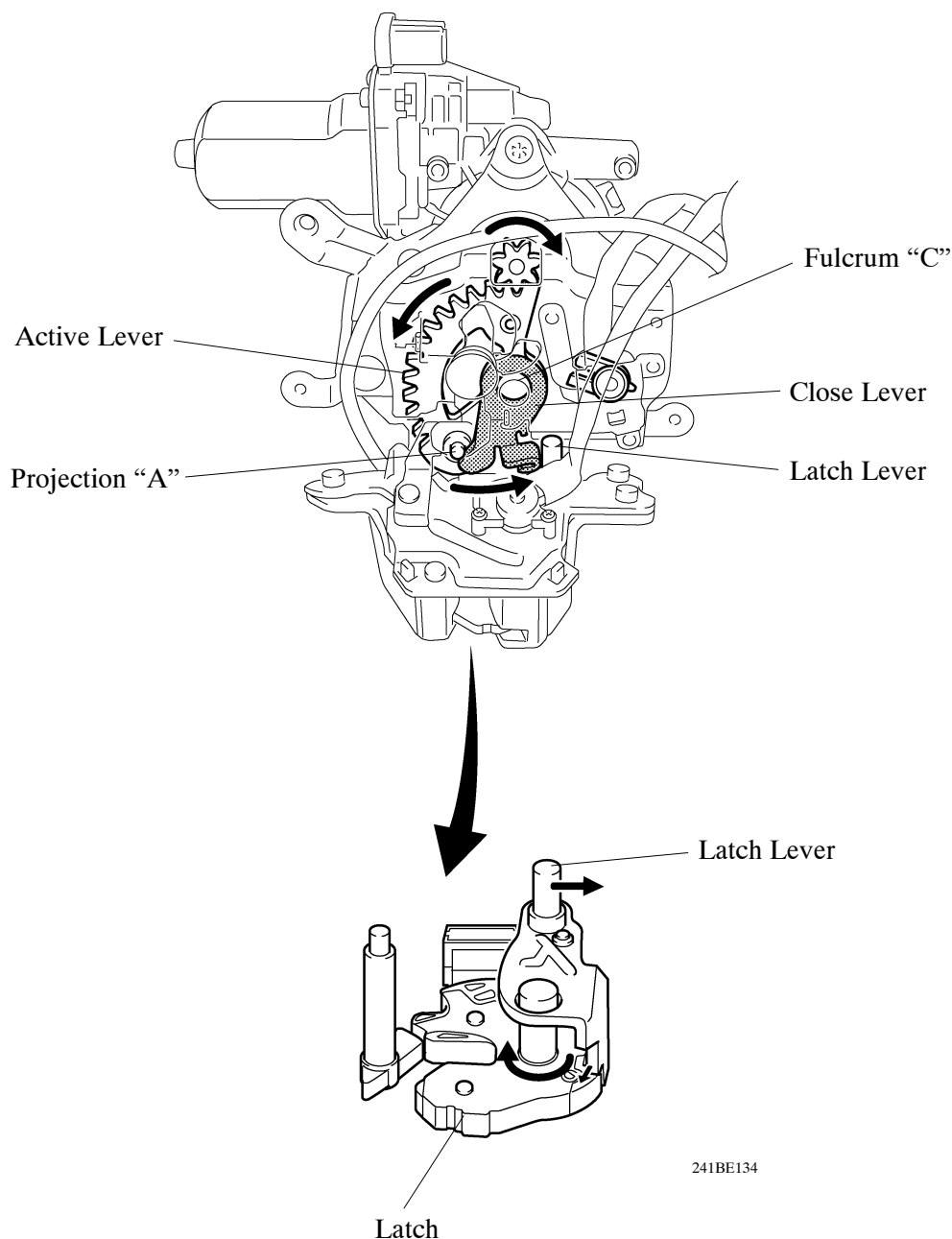
Opener Operation

- When the opener and closer motor rotates in reverse, the active lever coupled to the opener and closer motor through a gear is driven to the right. This pushes projection “A” on the active lever against the open lever, and the open lever rotates clockwise through fulcrum “B”.
- The open lever turns the lift lever counterclockwise, releasing the ratchet located on the same axis, thus releasing the latch.



Closer Operation

- When the opener and closer motor rotates forward, the active lever coupled to the opener and closer motor through a gear is driven to the left. This pushes projection “A” on the active lever against the close lever, and the close lever rotates counterclockwise through fulcrum “C”.
- The close lever moves the latch lever rightward. This causes the latch lever to move the latch in the close direction.



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3. Touch Sensor

While the back door is moving in the closing direction, if one of the touch sensors (right or left) located on each side of the back door becomes compressed due to the jamming of a foreign object, the built-in pieces of conductive rubber contact each other, causing the resistance of the sensor to change and a current to flow. Accordingly, the power back door ECU determines that the back door has jammed.

