

ELECTRIC PARKING BRAKE MOTOR GEAR UNIT

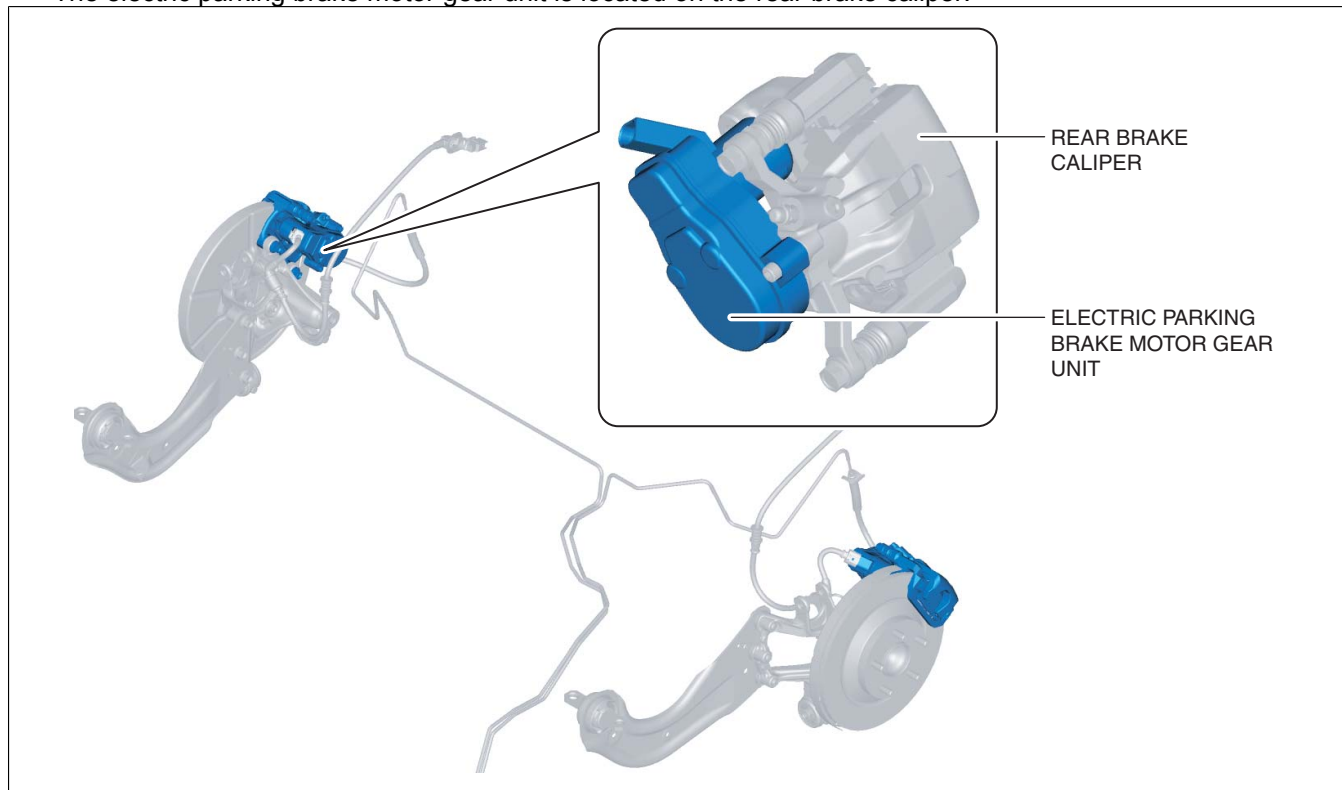
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Purpose/Function

- The electric parking brake motor unit operates the built-in motor to press out the disc pads using the torque increased by the gear reduction to maintain the rear disc plate in a clamped condition. When the electric parking brake is released, the motor rotates in the opposite direction.

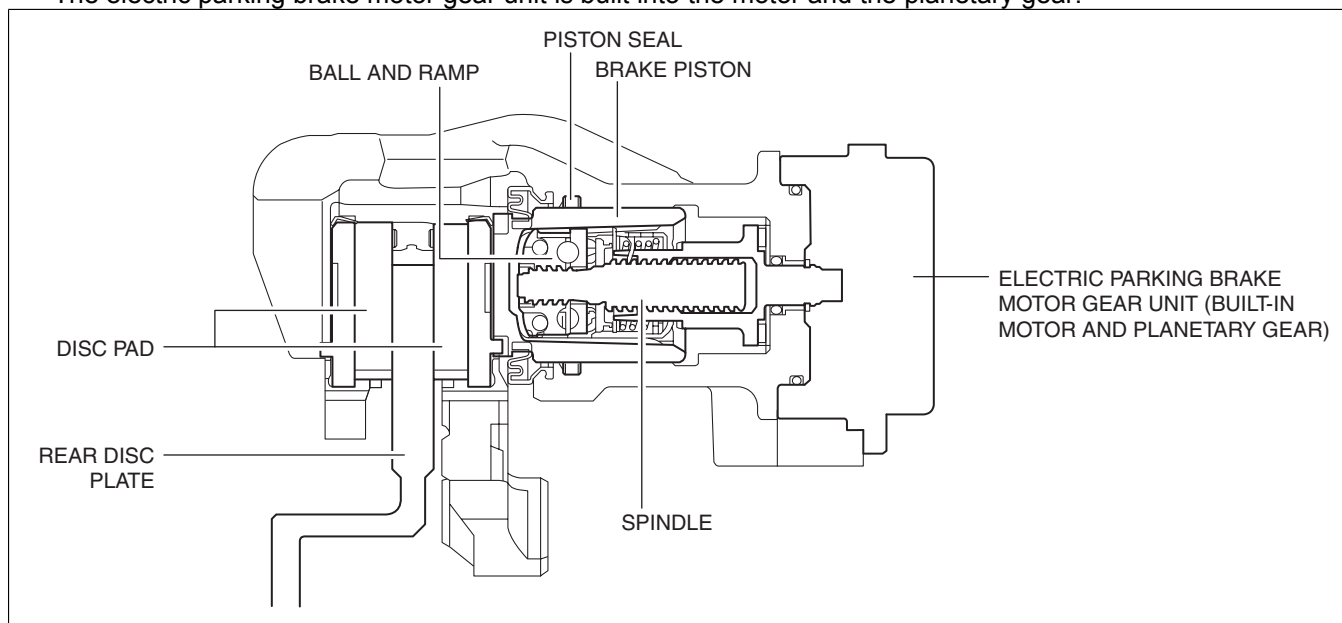
Construction

- The electric parking brake motor gear unit is located on the rear brake caliper.



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- The electric parking brake motor gear unit is built into the motor and the planetary gear.



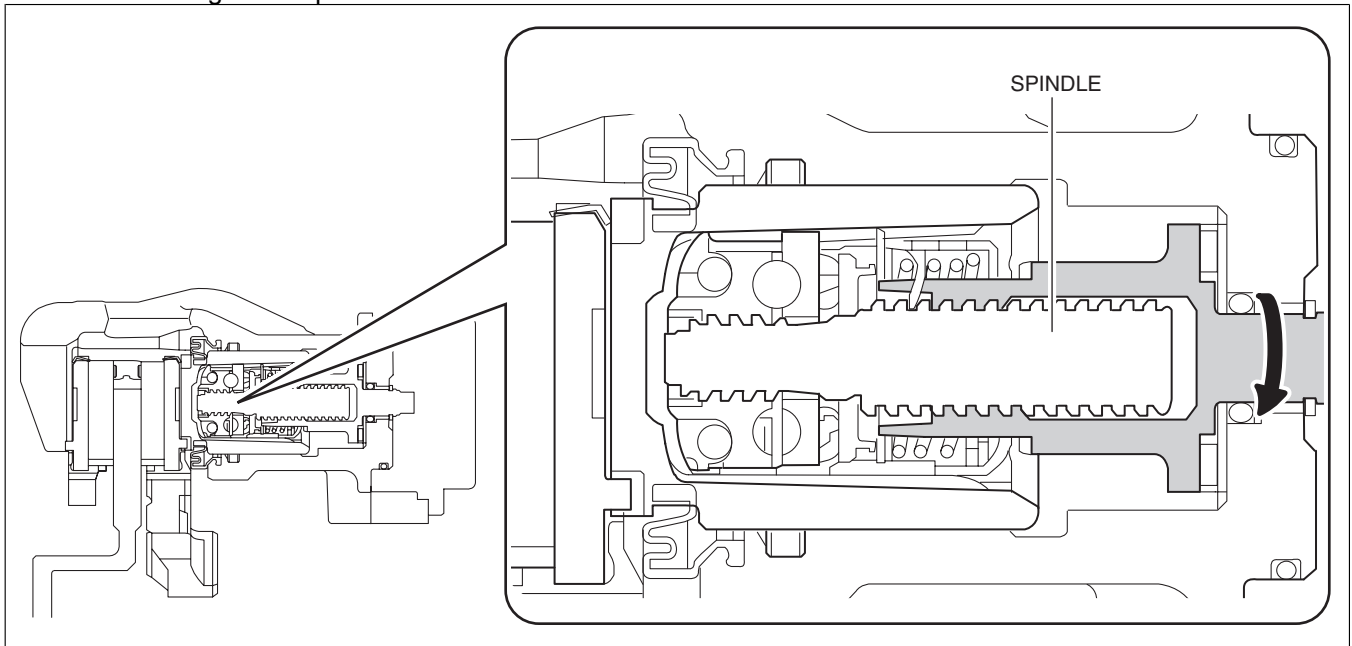
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Operation

When operating electric parking brake

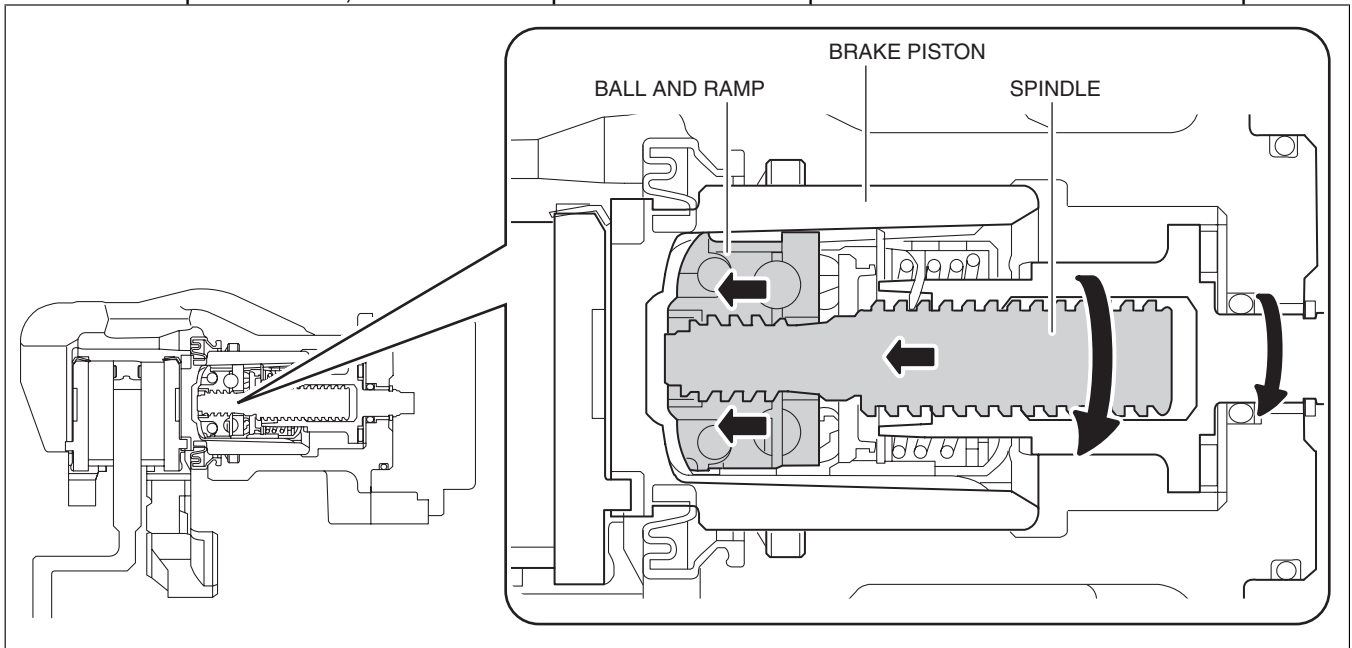
1. When motor operation current flows from the electric parking brake control module, the electric parking brake motor gear unit operates the built-in motor.

2. The motor speed/torque is transmitted to the spindle by decelerating the speed using the built-in planetary gear and increasing the torque.



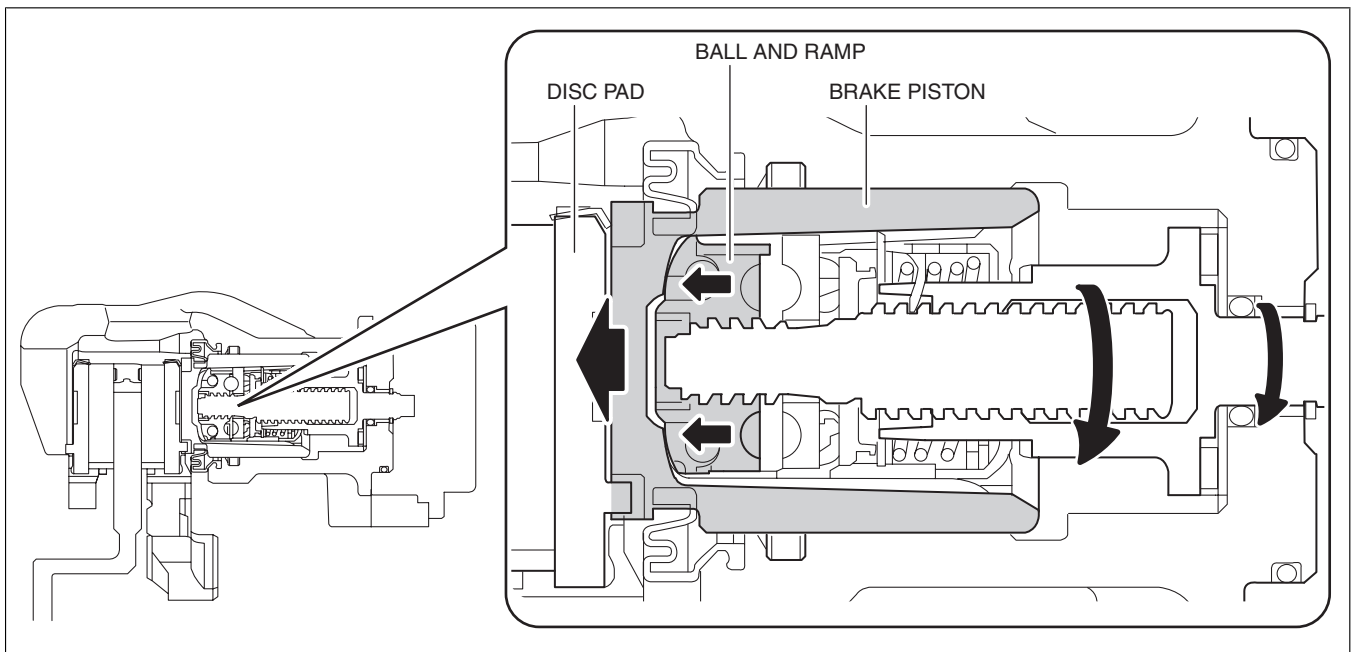
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3. When the spindle rotates, the ball and ramp moves to the brake piston side and it contacts the brake piston.



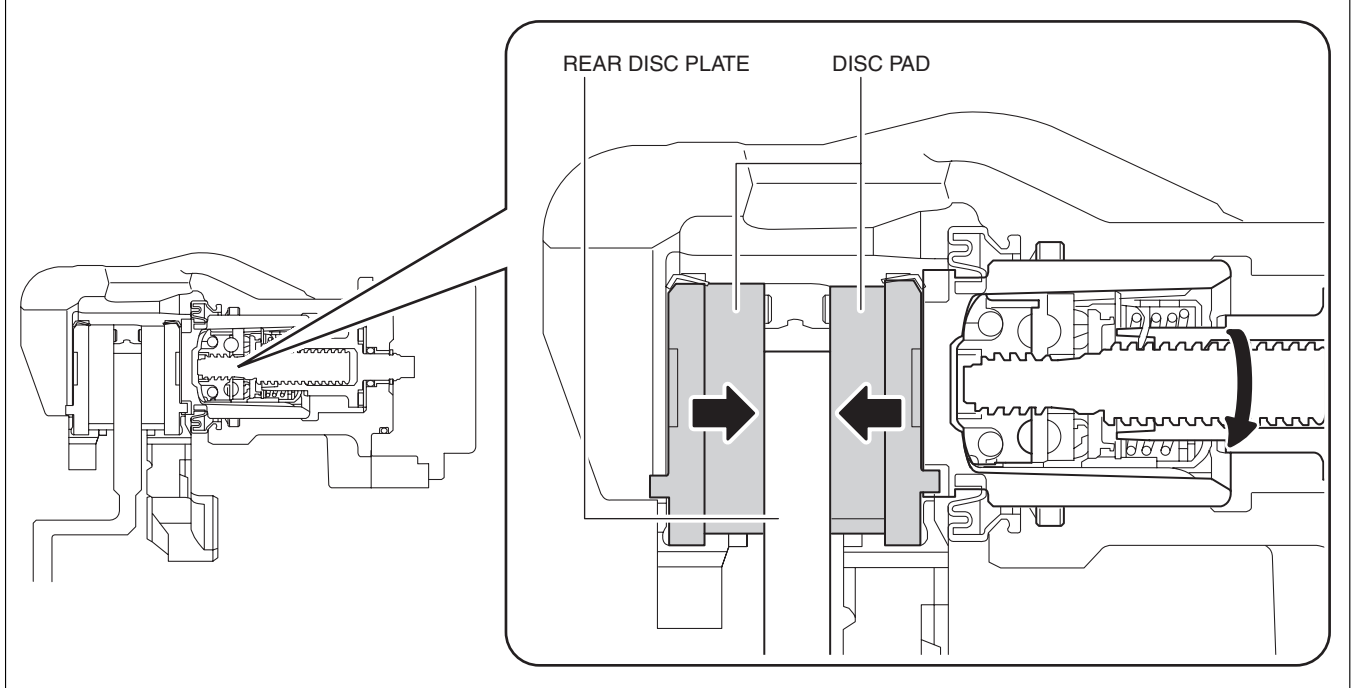
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4. The contacted ball and ramp moves the brake piston to the disc pad side and the brake piston is pressed against the disc pad.



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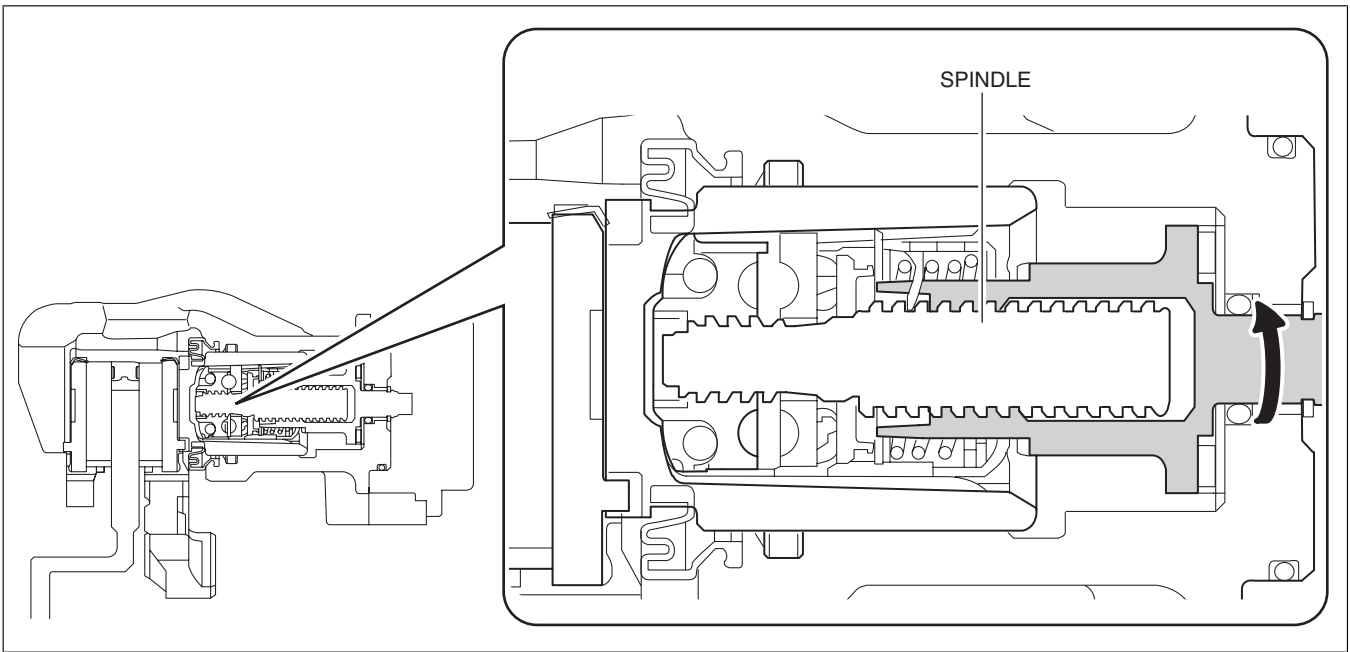
5. The disc pads are pressed against the rear disc plate and the rear disc plate is held engaged.



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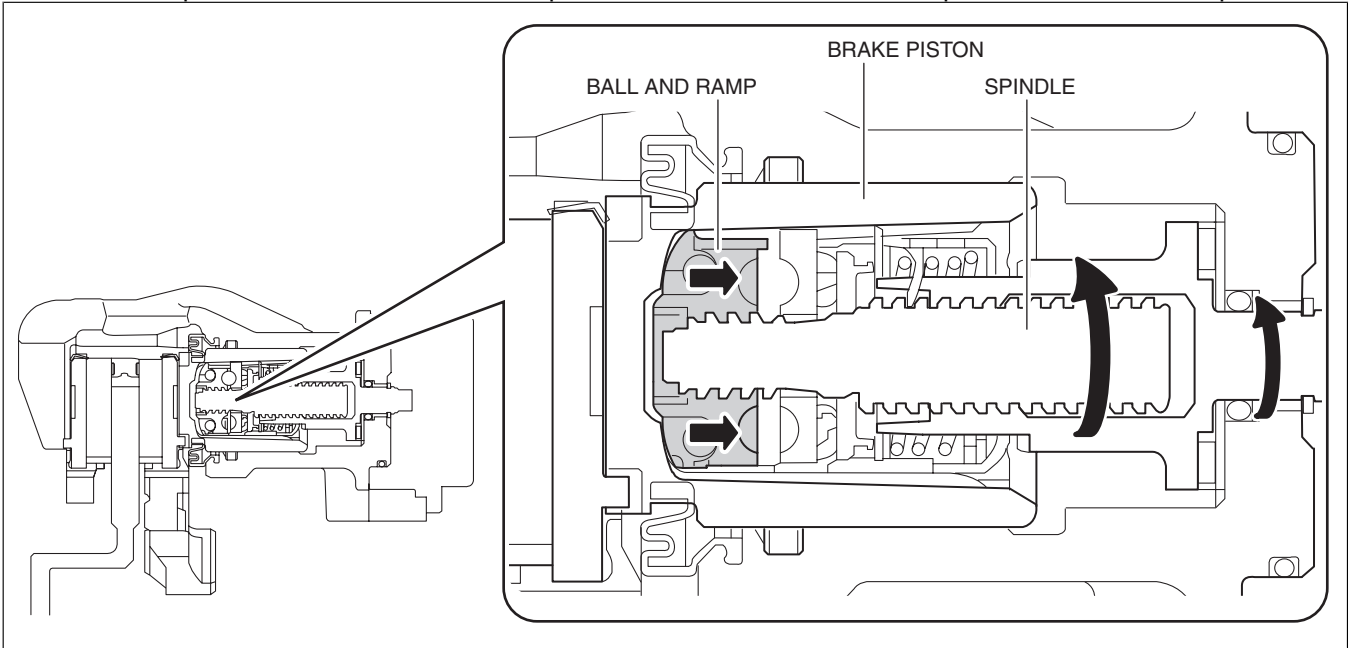
When releasing electric parking brake

1. When motor operation current flows from the electric parking brake control module, the electric parking brake motor gear unit operates the built-in motor.
2. The motor rotates in the opposite direction of the electric parking brake operation.
3. The motor speed/torque is transmitted to the spindle by decelerating the speed using the built-in planetary gear and increasing the torque.

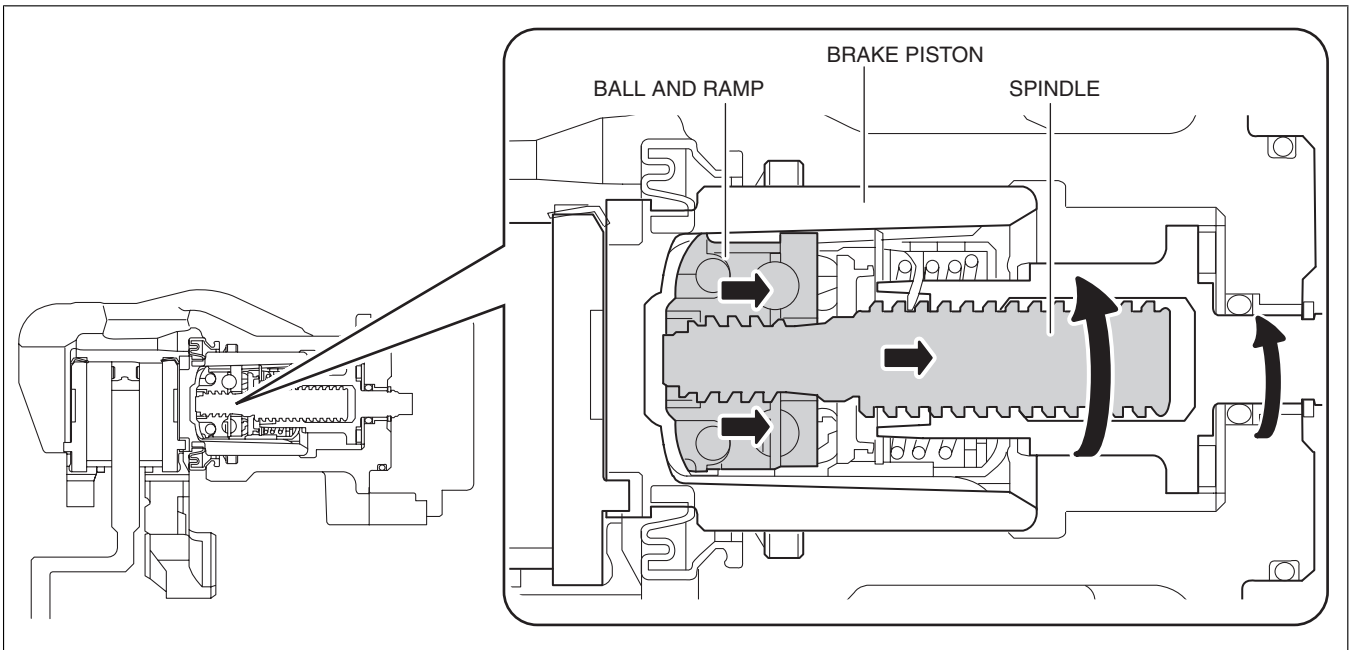


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4. When the spindle rotates, the ball and ramp moves to the motor side and separates from the brake piston.

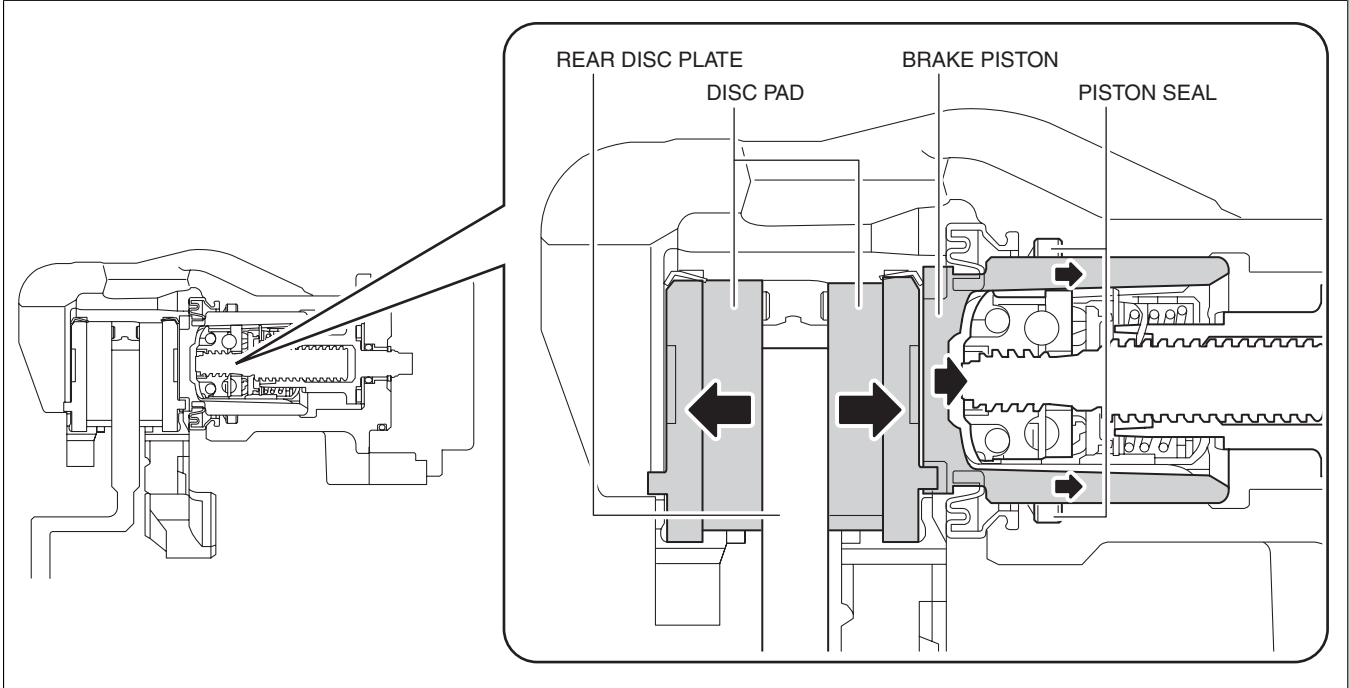


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5. The brake piston separates from the disc pad by the piston seal force to release the engaged the rear disc plate.



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Fail-safe

- Not applicable.