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To fit: Mazda CX-5 equipped with electric parking brake

Brake Caliper with parking brake motor

Problem

Vehicles equipped with an Electric Parking Brake (EPB) system may exhibit rear brake caliper drag, resulting in brake noise and accelerated or uneven wear of the outer brake pad. The vehicle may also momentarily roll to one side when starting from a standstill with the EPB applied. The EPB is failing to automatically release both wheels at the same time.

Cause

The symptoms described above are caused by the EPB not being completely released. The EPB control module determines that the parking brake is fully released when the motor current falls below the specified threshold as the spindle's rotating torque decreases. The spindle may momentarily spin freely during the EPB release process, this causes its rotating torque to drop to the threshold level before the parking brake is fully released.

Solution

Carry out the following steps to verify that the EPB is automatically released on both sides at the same time when starting the vehicle from a standstill with the EPB ON.

- Ensure the driver's door is closed and the driver's seat belt is fastened otherwise the automatic release function of the EPB may not work properly.
- Depress the brake pedal firmly, turn on the EPB switch and release the brake pedal.
- Start the vehicle, pull away slowly from a standstill and check if the vehicle is held and rolls to one side.
- If the vehicle rolls for more than 0.2 seconds, the caliper on the side that the vehicle rolls to requires replacement.
- If the vehicle does not roll, the EPB is automatically released correctly at this moment.
- Drive the vehicle at low speeds and check if the rear brake dragging noise is heard.
- If yes, the caliper on the side producing the noise is defective. NOTE: If it is difficult to detect which side the noise comes from, raise the vehicle and turn the wheels to verify that the brake disc rotates by hand when the EPB is off.
- Raise the vehicle and remove the rear wheels. Depress the brake pedal firmly and turn ON the EPB switch. Release the brake pedal. Depress the brake pedal and turn OFF the EPB. Then, verify that the brake disc rotates by hand.
- If the brake disc does not rotate then that caliper is defective.
- If both brake discs rotate easily, check the brake disc and pads for damage or discoloration caused by brake dragging.
- If one or more of the conditions specified are found, it indicates brake dragging and that the caliper on the affected side is defective.
- Replace the affected side with a new brake caliper as well as new brake discs and pads. Bleed the brake system and retest.

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