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Supporting Today's Vehicle Technician



Brake Lock-up Nissan Quest and Mercury Villager (10-2637 & 13-2637)

Application Caliper equipped vehicles

Problem

What are the most common problems technicians face during caliper replacement?
What are the precautions and corrections that ensure a successful caliper installation?

The tips and hints below address the root causes of common caliper problems. This is “back-to-basics” information that is often overlooked or forgotten, however, disregarding it often results in come-backs.

Solution

1. **Explore all possible reasons for failure:** While high mileage and normal use eventually cause calipers to wear out, most failures result from an external cause. The inspection points and symptoms below are a good starting point for your diagnosis.

INSPECTION POINTS:

2. **Inspect the entire brake system:** Failures such as seal leaks, damaged castings or worn-out hardware will automatically be corrected by the replacement caliper. However, also check for worn vehicle mountings or suspension components, as they will cause the replacement caliper to fail if they are not replaced or repaired. Always replace suspension components damaged by misuse or an accident.
3. **Inspect pads and linings for fluid, oil or grease contamination.** Correct the problem by replacing hoses, wheel seals or fittings that may have caused contamination.
4. **Check the brake fluid:** Is it correct for the vehicle; what is its condition? Thoroughly flush the system and use the correct OEM-recommended fluid from a sealed container.
5. **Check for corrosion on cast-iron calipers and caliper brackets:** Corrosion occurs when the caliper is exposed to road de-icing salt or salty sea air. This can degrade the integrity of the casting and cause premature piston failure.
6. **Check the mounting brackets for damage or wear:** Replace bracket as needed.

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SYMPTOMS:

- 7. Decreased brake performance:** Leaking fittings, defective flexible brake hoses, low brake fluid level and loose connections create an opportunity for moisture to enter the brake system due to the hygroscopic nature of brake fluid. When this occurs, braking performance could be drastically reduced. Inspect hoses and always use new sealing hardware.
- 8. Pulling or grabbing:** Over a prolonged period of time, caliper sliders, guide pins or mounting bushings can run out of lubricating grease, causing the unit to seize. The brake pads will often clamp-on or drag continuously on the rotor, causing the vehicle to pull even without applying the brakes. Always use OEM-specified lubricants.
- 9. Noisy operation:** Installing new hardware with the caliper eliminates brake noise due to bent or deformed pad clips or mounting hardware.
- 10. Leaking brake fluid:** Over time, rubber boots, seals and gaskets can become worn. These parts are susceptible to drying and cracking, which can lead to leaking and seized brackets.

Note

Please refer to your vehicle's service manual for specific diagnostic instructions. This ProTech® bulletin is supplied as technical information only and is not an authorization for repair.