

**Wheels:** Herman writes, “I have a 2000 Kia Sportage with a brake problem. The car has about 90,000 miles. When you apply the brakes, the car shakes really bad. I assumed the brakes needed replaced. I changed the front pads. There was not much left of the front brake pads. The car still shook when the brakes where applied. So I assumed the rear brakes needed replacing. The rear brakes are shoes. I took off the drums and found the shoes were not worn very much. So I’m puzzled as to what the problem is. A friend said the rear drums needed turned. I took the drums to get them turned and found out the drums were over the diameter to be turned. I talked to the auto parts guys to see if he could come up with a solution. His solution was to adjust the brakes to travel further out. My question is could the drums be too far out of tolerance, causing the shoe to not make contact with the drums? The steering wheel does not shake when the brakes are applied.”

**Halderman:** The shaking when the brakes are applied indicates one of several possible causes including:

1. If the front brake rotors were warped, then the steering wheel would shake, but because you indicated that this was not occurring, this fault can be eliminated.
2. If the front rotors had a variation in thickness, then the whole vehicle will shake when the brakes are applied. If the problem is most noticeable when braking at higher speeds, this is the most likely cause. While you could have the rotors machined, I would suggest simply replacing them, considering the high mileage and the possibility of rust damage.
3. If the entire vehicle shakes, the rear drums could be out-of-round. Again, replacement drums would be required in your case.

A quick and easy test to see if the problem is due to the front or rear wheel brakes is to drive on a road without traffic at highway speed and apply the parking brake. If the vehicle shakes, the rear brakes are the cause. If the vehicle does not shake, this test confirms that the front brakes (rotors) are the cause.

