Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2006 CHEVROLET Avalanche OEM Service and Repair Workshop Manual

Go to manual page

Category	Description	Typical Frequency Range	Condition of Occurrence	Area of Focus
			Vehicle Speed Sensitive Affected by steering input	Go to Vibration Analysis - Hub and/or Axle Input
			Engine Speed Sensitive	Go to Vibration Analysis - Engine
Howl	Similar to the sound of the wind howling.	120–300 Hz	Vehicle Speed Sensitive Affected by torque/load	Go to Vibration Analysis - Driveline
			Vehicle Speed Sensitive Affected by steering input	Go to Vibration Analysis - Hub and/or Axle Input
			Engine Speed Sensitive	Go to Vibration Analysis - Engine
Whine	Similar to the sound of mosquitoes, turbine engines, or vacuum cleaners.	300–500 Hz	Vehicle Speed Sensitive Affected by torque/load – 2WD mode	Go to Transmission diagnostic information

YOUR CURRENT VEHICLE

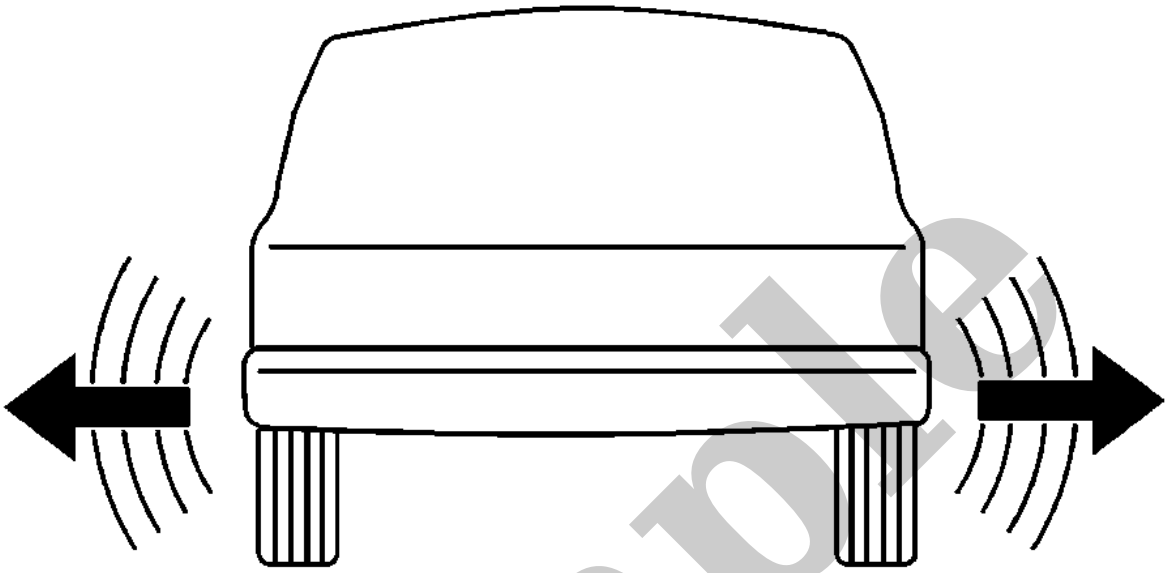
Tire and Wheel Assembly Isolation Test

Tire and Wheel Assembly Isolation Test

Force Variation

Force variation refers to a radial or lateral movement of the tire and wheel assembly which acts much like runout, however, force variation has to do with variations in the construction of the tire. These variations in tire construction may actually cause vibration in a vehicle, even though the tire and wheel assembly runout and balance may be within specifications.

Radial Force Variation



Lateral force variation refers to the difference in the stiffness or conformity of the belts within a tire as the tire rotates and contacts the road. Tire belts may have some stiffness or conformity differences, but these differences do not cause a problem unless the force variation is excessive. These variations in the belts of the tire can deflect the vehicle sideways or laterally. A shifted belt inside a tire may cause lateral force variation.

In most cases where excessive lateral force variation exists, the vehicle will display a wobble or waddle at low speeds, 8–40 km/h (5–25 mph), on a smooth road surface.

Isolation Test Procedure

Perform the following test in order to determine if force variation is present in the vehicle.

1. Substitute a set of KNOWN GOOD, pre-tested tire and wheel assemblies of the same size and type for the suspected original assemblies. Refer to Tire and Wheel Removal and Installation.

YOUR CURRENT VEHICLE

Tire and Wheel Assembly Runout Measurement - Off Vehicle

Tire and Wheel Assembly Runout Measurement - Off Vehicle

1. Raise and support the vehicle.
2. Mark the location of the wheels to the wheel studs and mark the specific vehicle position on each tire and wheel – LF, LR, RF, RR.
3. Remove the tire and wheel assemblies from the vehicle. Tire and Wheel Removal and Installation
4. Closely inspect each tire for proper and even bead seating.
5. If any of the tire beads were not properly or evenly seated, reseat the tire bead, then proceed to step 6. Tire Dismounting and Mounting
6. Mount a tire and wheel assembly on a spin-type wheel balancer. Follow the tire balancing machine manufacture installation instructions.