

The Importance of Torqueing Lug Nuts

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Vehicles Involved: All

Condition: Pedal Pulsation Caused by Excessive Rotor Runout

When installing the wheels on a vehicle after servicing, it is important to torque the lug nuts properly. Lug nuts that are not tightened correctly can ruin wheels, affect rotor runout and can be deadly if the wheel comes off or studs snap.

Over-torqueing the lug nuts does not affect runout immediately. However, as the rotor heats up, the uneven clamping force of the lug nuts causes the rotor to expand unevenly. This will eventually lead to pedal pulsation caused by the excessive runout.

Repair Procedure:

How do you torque lug nuts down evenly and to specifications? There are two tools you can use.

Torque Sticks

Torque limiting sticks (see Image 1) act like a torsion bar. The spring steel starts flexing at the intended value and can only be used with an impact gun. They cannot be used with a breaker bar or ratchet.



Image 1

Torque limiting sticks can be very accurate if the impact gun is adjusted properly. This can be done by comparing the torque limiting stick to an accurate torque wrench. Keep adjusting the impact gun until it equals the reading of the torque wrench. Once adjusted, that impact should be dedicated for installing wheels.

Torque Wrench

Torque wrenches are very accurate and a great way to tighten lug nuts evenly and to specifications. However, you must make sure to check and calibrate the wrench occasionally.

Tightening Lug Nuts

When tightening lug nuts, use the star pattern. Start at any lug, then go to the farthest nut and so on. This will assure the wheel is drawn down evenly and all the nuts equally torqued.

The manufacturers torque specifications for your vehicle can be found online, in spec guides and even the owner's manuals in many cases.