Symptoms of a Worn Wheel Hub Bearing

Driving conditions and installation practices can damage a worn hub. The symptoms below often indicate wheel bearing damage:

Snapping, Clicking or Popping

This noise is typically heard when making sharp turns and can indicate excessive bearing endplay from inadequate clamping. It can also indicate a worn or damaged outer CV-joint.

Grinding When the Vehicle is in Motion

The noise is normally heard when turning or when there is a shift in load and can suggest a loss of integrity such as roller or raceway damage. It typically suggests mechanical damage in a wheel-end system.

Knocking or Clunking

This noise is normally heard when shifting - either when changing directions or transitioning from accelerating to coasting. This noise can signal excessive play in the CV-joints or U-joints or excessive backlash in the differential gears, a condition not generally associated with bearings.

Humming, Rumbling or Growling

These noises normally associate with tire, electrical or drivetrain components. If bearing-related, the noise or vibration presents when driving in a straight line, but intensifies when slightly turning the steering wheel. Typically, the side opposite the rumbling is the defective side.

Wheel Vibration and/or Wobble

This sensation associates with a damaged or worn tire, wheel or suspension component or severe chassis misalignment. When related to the hub or bearing, this can indicate a mechanically-damaged bearing, or improperly torqued lug nuts.

Shudder, Shimmy or Vibration at a Constant Speed

This sensation associates with worn or damaged suspension components or tires that are out-of balance or out-of-round. It is not normally indicative of hub or bearing damage.

Abnormal Side Pull When Brakes are Applied

Severe bearing looseness can cause excessive runout, making the brakes pulsate or pull. However, this usually indicates a defective caliper or equalizer and can also be a sign of worn brakes or rotors. The most common cause is a warped rotor due to the caliper not retracting.

Uneven Rotor or Brake Pad Wear

This normally indicates a bad caliper and/or a bad equalizer, which is not bearing-related. The most common cause is a warped rotor due to the caliper not retracting. Severe looseness related to a worn or damaged bearing can cause excessive runout, leading to uneven wear on the brake pads and/or rotor.

Abnormal or Uneven Tire Wear

The most common causes of abnormal tire wear include worn or damaged suspension components, misalignment and improper tire inflation or selection. Extreme bearing wear or looseness can cause abnormal tire wear, but it is typically related to other failure modes.

ABS Failure, Which Could Be Internal or External to the Bearing or Hub Bearing Assembly.

In extreme cases, too much end-play creates excessive movement that damages internal and external sensors. This indicates a lack or loss of bearing clamp, resulting from severe mechanical break up, external corrosion or damage.

⚠WARNING
Failure to observe the following warnings could create a risk of death or serious injury.

Never spin a bearing with compressed air. The components may be forcefully expelled.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

A bearing/component should not be put into service if its shelf life has been exceeded.

CAUTION
Failure to follow these cautions may result in property damage

Use of improper bearing fits may cause damage to equipment.

Do not use damaged bearings.

TechTips is not intended to substitute for the specific recommendations of your equipment suppliers.

Every reasonable effort has been made to ensure the accuracy of the information contained in this writing, but no liability is accepted for errors, omissions or for any other reason.

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