

## Removing and Installing a Hub Unit 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.