Proper wheel bearing removal and installation is essential in avoiding premature damage to bearings and surrounding components. The following are the steps for replacing tapered single-row wheel bearings in passenger cars and light trucks.

1. **Wheel end disassembly**

   Follow the vehicle manufacturer’s recommended procedure to remove the tire and wheel assembly, disk brake caliper, dust cap, cotter pin, adjusting nut and washers.

2. **Clean and inspect hubs and spindles**

   Remove all old lubricant from the rotor/hub assembly and spindle, then clean the rotor/hub assembly and spindle with kerosene or mineral oil. Inspect the spindle for wear. Use a fine file, wire brush, emery cloth or honing stone as appropriate to remove any debris, nicks or burrs.

   Follow the vehicle manufacturer’s recommendation for permissible spindle wear. A light grease coating on the cone seats will make installation easier and prevent fretting.
**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.

**WARNING** Failure to follow these warnings could create a risk of serious injury.

- Proper maintenance and handling procedures are critical. Always follow installation instructions and maintain proper lubrication.
- Never spin a bearing with compressed air. The rollers may be forcibly expelled.
- Failure to back off the adjusting nut may cause the bearing to run hot and be damaged, which could cause wheel to lock or come off during operation.

**CAUTION** Failure to follow this caution could create a risk of injury.

- If a hammer and bar are used for installation or removal of a part, use a mild steel bar (e.g., 1010 or 1020 grade). Mild steel bars are less likely to cause release of high speed fragments from the hammer or bar or the part being removed.

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**3 Install cups**

Use a cup driver or mild steel bar to press or drive the new inner cup and outer cup into the hub/rotor assembly until they are solidly seated against the hub shoulders. Be careful not to damage the cup surfaces. Never use a bearing cone assembly to drive a cup.

**4 Lubricate**

Pack the inner bearing cone assembly with grease. A mechanical grease packer is recommended.

Place the bearing cone assembly, small end down, into the grease packer funnel. Plug the bore of the large end of the bearing cone assembly with the conical retainer. Firmly press down on the conical retainer. This enables the grease to be forced between the rollers, cage and cone. Smear excess grease on the outside of the bearing cone assembly.

Pack grease in the hub cavity between the inner and outer cups. Also, liberally coat the hub cap inner wall with grease; this layer combats moisture and retains the grease in the inner and outer bearing cone assemblies.

**5 Install grease seal**

The grease seal must be replaced when it leaks or when bearings are being repacked or replaced. Install the inner bearing cone assembly in the hub, then the new seal. Make sure the seal lips are pointed in the right direction following the vehicle manufacturer’s specification. Use the proper seal installation tool.

**6 Install rotor/hub assembly**

Slide the rotor/hub assembly back over the spindle, being careful not to damage the seal against the spindle. Pack the outer bearing cone assembly with grease following the procedure outlined in the first paragraph of Step 4. Install the outer bearing cone assembly, washer and adjusting nut on the spindle.

**7 Bearing adjustment**

Use a torque wrench to tighten the adjusting nut to 50 ft. lbs. while turning the rotor. Back off the adjusting nut 1 full turn. Then retorque the nut to 10 ft. lbs. while turning the rotor. Next, back off the adjusting nut ¼ turn. Lock the nut with a new cotter pin.

**8 Check bearing adjustment**

Use a dial indicator to measure end play. Mount the indicator base as close to the center of the hub/rotor as possible. With the indicator tip against the end of the spindle, set the indicator at zero. Grasp the rotor at three o’clock and nine o’clock. Push the rotor in while oscillating and read the dial indicator. Then pull the rotor out while oscillating and read the dial indicator again. The bearing end-play is equal to the total indicator movement, which should be between 0.001” and 0.007”. If not, repeat steps 7 and 8. Reinstall all components as the vehicle manufacturer recommends.