

TIMKEN

SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY

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TECHTIPS

WELCOME TO TECHTIPS. Maximizing bearing performance and life remains an objective throughout The Timken Company, from design teams to manufacturing associates to our field sales team and distributors. TechTips helps you install and maintain Timken® bearings, seals and components to maximize the life and performance of your bearings and the systems in which they operate. For more information regarding Timken automotive products and services, visit www.timken.com or contact your local Timken distributor.

WHEEL BEARING REPLACEMENT

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 wheel bearings for passenger cars and light trucks.



cotter pin, adjusting nut and washers.

Pull rotor toward you to loosen outer bearing cone, then remove the outer bearing cone. Pull the rotor and assembly off the spindle; the inner bearing cup and seal will come with it.

To remove the inner cone, use a seal puller or pull out the inner seal. Discard the seal after removal. Remove the cups from the housing with a steel bar.



Clean and inspect hubs and spindles

Remove all old lubricant from rotor/hub assembly and spindle, then clean them with kerosene or

mineral oil. Inspect spindle for scoring, bending, thread or other damage. File off nicks and burrs.

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



Install cup

Use a cup driver or mild steel bar to press or drive the new cup into the hub until it is solidly seated against the hub shoulder.

Be careful not to damage the cup surfaces. Never use a cone to drive a cup.



Lubricate

Pack cones fresh from carton. A pressure grease packer is recommended. To hand pack cones, force grease under the cage

between the rollers from the large end of the rollers until it shows at the small end.

Fill the hub with grease to the inside diameter of the outer races and fill hub grease cap. This layer combats moisture and retains grease in cones.

WARNING: Failure to correctly lubricate bearing and maintain proper lubrication may result in damage that could cause wheel to lock or come off during operation, creating a risk of serious bodily harm.



5 Install grease seal

Grease seals must be replaced when they leak or when bearings are being repacked or replaced. Install inner

cone in hub, then the seal. Make sure the seal lips are pointed in the right direction. 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. Insert the

grease-packed outer cone, washer and adjusting nut.



7 Adjust bearing

Use a 12" wrench to tighten the adjusting nut while turning the rotor. When the rotor binds slightly, all the bearing

parts are seated properly. Back off the nut 1/6 to 1/4

turn or sufficiently to allow 0.001" to 0.007" end play. Then lock the nut with a new cotter pin.

WARNING: 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, creating a risk of serious bodily harm.



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 endplay is equal to the total indicator movement. Reinstall all components as manufacturer recommends.

Warning: Failure to follow recommended procedure for removal and installation may cause damage resulting in wheel locking or coming off during operation, creating a risk of serious bodily harm.

WARNING: Proper maintenance and handling practices are critical. Failure to follow installation instructions and maintain proper lubrication can result in equipment failure, creating a risk of serious bodily harm.

Never spin a bearing with compressed air. The rollers may be forcefully expelled, creating a risk of serious bodily harm. Never mix lubricants! Mixing of lubricants may result in reduced service life.



"Educating the consumer about the benefits of regular vehicle care, maintenance and repair."

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