

Wheel Bearing Adjustment

EXAMPLE — Determine required spacer thickness as follows:

Dial Indicator Reading094" (2.38 mm)
Thickness Stamped on Shaft203" (5.16 mm)

EQUALS

Required Spacer Thickness297" (7.54 mm)

4) Select required spacer. Spacers are available in 18 sizes, ranging from .291-.293" (7.38-7.44 mm) to .331-.333" (8.408-8.460 mm) in .002" (.06 mm) increments. For size identification, spacers are numbered "05" (smallest size) through "20" (largest size).

5) Pack grease seals and bearings with suitable bearing grease. Install outer grease seal and press outer bearing onto stub axle. Install rotor on stub axle. Place knuckle in position on stub axle, install spacer and press inner bearing onto stub axle and knuckle assembly until it just bottoms. Install inner seal, then reinstall knuckle and wheel to vehicle.

FIAT

Brava & Spider 2000 — While rotating hub, torque spindle nut to 14.5 ft. lbs. (2 mkg). Completely loosen nut and retighten to 5 ft. lbs. (.7 mkg). Loosen nut 30° and stake collar of spindle nut into machined slot on spindle. Attach dial indicator with magnetic base on brake drum and actuating foot on spindle. Hub end play should not exceed .004" (.1 mm).

NOTE — Whenever spindle nut has been removed it must be replaced with a new nut.

X1/9 & 128 — Tighten front and rear spindle nuts to 112 ft. lbs. (15.5 mkg). When spindle nuts are properly tightened, stake collar of spindle nut into machined slot on spindle.

Strada — Tighten front and rear spindle nuts to 159 ft. lbs. (22 mkg), then stake collar of spindle nut to spindle.

FIESTA

Front — No adjustment is required. Tighten front spindle nut to 180-200 ft. lbs. (24.8-27.7 mkg).

Rear — Adjust rear bearing by tightening nut to 15-18 ft. lbs. (2.1-2.5 mkg) while rotating drum. Loosen nut ½ turn and fit nut retainer with cotter pin.

HONDA

All Models (Front) — Front wheel bearings are not adjustable. Torque front spindle nut to 84-130 ft. lbs. (11.6-18 mkg) on Civic and Accord or 109 ft. lbs. (15.1 mkg) on CVCC and Prelude.

All Except Accord and Prelude (Rear) — Rear wheel bearings are not adjustable. Torque rear spindle nut to 72-94 ft. lbs. (10.2-13 mkg) on Civic or 83 ft. lbs. (11.5 mkg) on CVCC.

Accord and Prelude (Rear) — Tighten spindle nut to 18 ft. lbs. (2.5 mkg) and rotate drum several times. Loosen lock nut. Tighten spindle nut to 2-4 ft. lbs. (.3-.6 mkg) on Accord or 3-6 ft. lbs. (.4-.83 mkg) on Prelude.

JAGUAR

All Models — While rotating hub, tighten nut until no end play is evident. Loosen nut 1 or 2 flats to line up cotter key and install cotter key. End play should be measured with a dial indicator and should be .002-.006". If not within specifications, adjust axle nut to correct end play.

LUV

All Models — On 4x4, place transfer case in "2H" and free wheeling hub in "FREE", then remove hub cover, snap ring, shims, free wheeling hub body and lock washer. On all models, rotate wheel or hub and tighten nut. On 4x4, tighten nut until wheel locks. On 2 wheel drive, torque nut to 22 ft. lbs. (3 mkg). Loosen nut until it can be turned by fingers, then tighten nut with fingers. No play should be felt at this point. Using an accurate spring tension gauge, adjust nut so starting force is 2.6-4 lbs. (1.2-1.8 kg) on 4x4 or 1.1-2.6 lbs. (.5-1.2 kg) on 2 wheel drive models.

MAZDA

GLC — Tighten adjustment nut to 14-18 ft. lbs. (2.0-2.5 mkg). Rotate brake discs several times in both directions. Loosen adjustment nut. Using a spring pull scale, set bearing preload (using adjustment nut) to .33-1.32 lbs. (.15-.60 kg).

All Models (Except GLC) — With vehicle raised and supported under lower control arms, remove wheel. Torque wheel nut to 14-18 ft. lbs. (2-2.5 mkg). Rotate hub to seat bearings. Loosen nut, then using spring tension gauge, tighten nut until correct starting force is obtained. Starting force should be .77-1.92 lbs. (.35-.87 kg) on 626, .99-1.43 lbs. (.45-.65 kg) on RX7, or 1.3-2.4 lbs. (.59-1.1 kg) on pickup.

MERCEDES-BENZ

All Models — While rotating hub, tighten clamping nut until hub can just be turned. Loosen clamping nut and release bearing tension by striking steering knuckle spindle with plastic hammer. Using a suitable dial indicator, check wheel bearing end play. End play should be .0004-.0008" (.01-.02 mm). Adjust clamping nut until end play is within limits. Tighten socket bolt of clamping nut. Washer between outer bearing and clamping nut should rotate with light pressure applied to it.

MG

Midget — Raise front of vehicle and remove each wheel. Remove caliper assembly, but do not disconnect hydraulic brake hose. Support caliper to prevent damage to hose. Attach suitable dial indicator and measure runout of hub at outer edge of brake rotor. If runout exceeds .006, (.015 mm), remove rotor and reposition on hub. Torque spindle nut to 46 ft. lbs. (6.4 mkg) and recheck runout.

MGB — Raise front of vehicle and remove front wheels. Using suitable dial indicator, measure hub end play. Correct end play is .002-.004" (.05-.10 mm). If not within specifications, remove spindle nut, washer, and outer bearing. Add or remove shims behind outer bearing until correct end play is obtained with spindle nut torqued to 40 ft. lbs. (5.5 mkg)

OPEL

All Models — Raise and support front of vehicle. While rotating wheel, torque spindle nut to 21 ft. lbs. (2.9 mkg). Back off spindle nut completely. Now turn the nut all the way in using fingers only. If slot and hole are not aligned, only tighten enough to align then install cotter pin.

PEUGEOT

All Models — Raise and support front of vehicle. While rotating wheel or hub, tighten spindle nut to 22 ft. lbs. (3 mkg) on 504 models or to 29 ft. lbs. (4 mkg) on 604 models. Loosen spindle nut and retighten to 7.2 ft. lbs. (1 mkg).

PORSCHE

All Models (Front) — Tighten adjusting nut while turning hub. Loosen adjusting nut until thrust washer can just be moved by exerting hand pressure with a screwdriver. Tighten socket head bolt (pinch bolt).

Turbo (Rear) — Torque axle nut to 217 ft. lbs. (30 mkg) and check axial play. Adjust axle nut in small steps until axial play is about .001" (.04 mm); torque may be increased to 325 ft. lbs. (45 mkg), during this procedure. Loosen axle nut, then retorquer to 217 ft. lbs. (30 mkg) and insert cotter pin.

RENAULT

LeCar (Front) — Torque stub axle nut to 90 ft. lbs. (12.4 mkg).

LeCar (Rear) — Tighten stub axle nut to 25 ft. lbs. (3.5 mkg). Loosen nut about 1/4 turn. Check bearing end play, it should be between .0004-.002" (.01-.05 mm). Adjust stub axle as necessary. Fit lock plate and cotter pin. Refill hub dust cover cap with 1/3 oz. of grease.

SAAB

All Models (Front) — Front wheel bearings are not adjustable. Torque front spindle nut to 246-261 ft. lbs. (34-36 mkg).

All Models (Rear) — Install washer and lock nut. Tighten lock nut to 36 ft. lbs. (5 mkg) to seat bearings. Loosen lock nut completely, then tighten nut to 1.4-2.9 ft. lbs. (.2-.4 mkg) and lock nut in place by bending flange into slot of lock nut.

SUBARU

All Models (Front) — Front wheel bearing is not adjustable. Tighten spindle nut (axle shaft nut) to 145 ft. lbs. (20 mkg). If cotter pin hole is not aligned, tighten further a maximum of 30° to align hole.

4WD (Rear) — No adjustment required. Tighten axle nut to 145 ft. lbs. (20 mkg). If cotter pin hole is not aligned, tighten further a maximum of 30° to align hole.

All Other Models (Rear) — While rotating brake drum, tighten nut to 36 ft. lbs. (5 mkg). Rotate drum several times then back nut off approximately 1/8 turn. Measure rotating force at a wheel stud. Force should be 1.9-3.2 lbs. (.85-1.45 kg).

TOYOTA

Land Cruiser (Front) — Tighten spindle shaft nut snugly using appropriate tool (SST 09607-60020). Back off nut approximately 1/8 turn then install outer lock nut and tighten to 11-16 ft. lbs. (1.5-2.2 mkg).

Land Cruiser (Rear) — Rotate drum and tighten adjustment nut to 43 ft. lbs. (6 mkg). This will seat bearings. Loosen adjustment nut about 1/8 turn. Install washer and lock nut, then tighten to 58-72 ft. lbs. (8-10 mkg).

Pickup (Exc. 4WD) — Tighten spindle nut to 22 ft. lbs. (3 mkg) a couple of times to make sure bearings are seated. Retighten nut to 22 ft. lbs. (3 mkg), then back off nut until nut can just be turned by hand. Install socket (without handle) and tighten nut as tight as possible by hand. Measure rotating torque with spring gauge. Torque should be 1.1-3.7 lbs. (.55-1.7 kg). Install cotter pin. If hole does not line up, tighten nut as little as possible until hole lines up.

Pickup (4WD) — Tighten nut to 43 ft. lbs. (6 mkg) a couple of times to make sure bearings are seated. Tighten nut to 2.9-5 ft. lbs. (.4-.7 mkg). Measure rotating torque. Torque should be 6.2-12.6 lbs. (2.8-5.7 kg). Lock nut in place by bending lock washer tab inward.

All Other Models — Tighten nut to 19-23 ft. lbs. (2.6-3.2 mkg) while turning brake rotor to seat bearing. Loosen nut until it can be turned with fingers. Tighten nut finger tight using a socket without the handle. If not aligned for cotter pin installation, tighten until installation is possible. Preload at hub (while turning) should be within specifications.

Bearing Preload Specifications

Application	Preload Lbs. (kg)
Celica, Corolla	.7-1.5 (.3- .7)
Corona	.8-1.9 (.35- .87)
Cressida	.9-2.2 (.4-1)

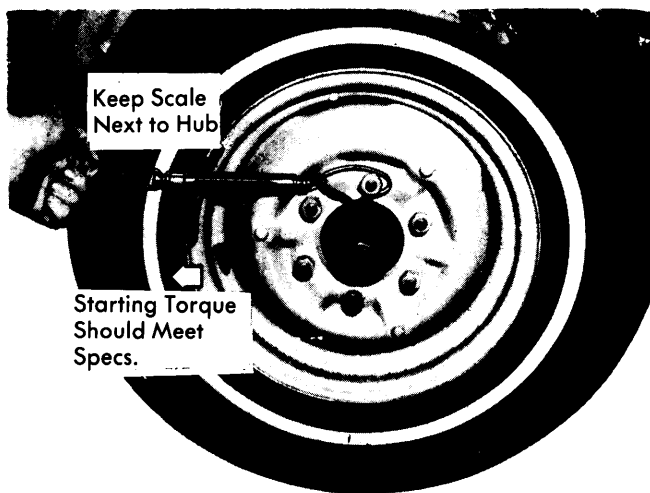


Fig. 1 Using a Pull Scale to Measure Wheel Bearing Starting Torque

TRIUMPH

TR7 — Raise and support front of vehicle, then remove wheel and tire. Check hub for excessive end play. If adjustment is