

Wheel Bearing Adjustment

PEUGEOT

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

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 $\frac{1}{4}$ 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 $\frac{1}{3}$ 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.

4-WD (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 $\frac{1}{8}$ 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 $\frac{1}{8}$ 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 adjust-

ment nut about $\frac{1}{8}$ turn. Install washer and lock nut, then tighten to 58-72 ft. lbs. (8-10 mkg).

Pickup (Exc. 4-WD) — Tighten spindle nut to 22 ft. lbs. (3 mkg) and rotate hub a couple times to ensure bearings are seated. Back off nut until nut can just be turned by hand. Install a socket (without handle) and tighten not as tight as possible by hand. Measure rotating torque with spring gauge. Torque should be 1.1-2.7 lbs. (.55-1.7 kg). Install cotter pin. If hole does not line up, tighten nut as little as possible until holes align.

Pickup (4-WD) — Tighten spindle nut to 43 ft. lbs. (6 mkg) and rotate hub a couple times to ensure bearings are seated. Loosen nut until it can just be turned by hand. 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.

Tercel — 1) Raise and support vehicle, remove wheel and steering knuckle. Disassemble components. Determine required thickness of bearing spacer as follows: Install outer race in steering knuckle. Assemble inner bearing on wheel bearing adjusting tool (SST 09608-16040), insert original spacer and install assembly into steering knuckle.

2) Coat bearings with oil and install outer bearing to adjusting tool assembly. Tighten nut on adjusting tool to 90 ft. lbs. (12.5 mkg) and rotate adjusting tool in both directions to seat bearings. Using an INCH lb. torque wrench, measure preload while turning assembly in both directions. Preload should be 3.5-8.7 INCH lbs. (4-10 cmkg). Measure preload 3 or 4 times in each direction.

3) If preload is not within specifications, select and insert a thinner or thicker spacer. Spacers are available in 20 thicknesses, ranging from .32" (8.03 mm) to .35" (8.79 mm) in .002 (.04 mm) increments. Each spacer will change turning torque about 3-4 INCH lbs. (3-5 cmkg). Remove adjusting tool and wheel bearings.

4) Assemble hub and rotor assembly. Pack wheel bearings with grease and install outer bearing race, bearing and oil seal. Pack hub with grease. Insert selected spacer, inner wheel bearing and race into steering knuckle. Using press and arbor (SST 09636-20010), press steering knuckle into hub with a force of 2204.6 lbs. (1000 kg).

5) Turn steering knuckle to settle bearings. Measure fractional force at steering knuckle stopper with a spring tension gauge with pressure still applied. Frictional force should be .8-1.7 lbs. (.36-.77 kg). Increase pressure on steering knuckle to 7716 lbs. (3500 kg), turn steering knuckle to seat bearings and measure preload with spring tension gauge.

6) Preload at steering knuckle stopper (with force still applied) should be .8-2.5 lbs. (.36-1.13 kg). If not to specifications, replace spacer. If under specification, use a thinner spacer; if over, use a thicker spacer. Install oil seal so it is seated .157" (4 mm) below outer edge of steering knuckle. Complete installation of steering knuckle and tighten spindle nut to 73-108 ft. lbs. (10-15 mkg).

All Other Models — Tighten nut to 22 ft. lbs. on Celica, Cressida and Supra models or to 19-23 ft. lbs. for all other models while turning hub to seat bearings. 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 listed in Bearing Preload Specifications table.

Bearing Preload Specifications

Application	Preload Lbs. (kg)
Celica, Corolla & Supra.....	.7-1.5 (.3-.7)
Corona.....	.8-1.9 (.35-.87)
Cressida.....	.9-2.2 (4.1)

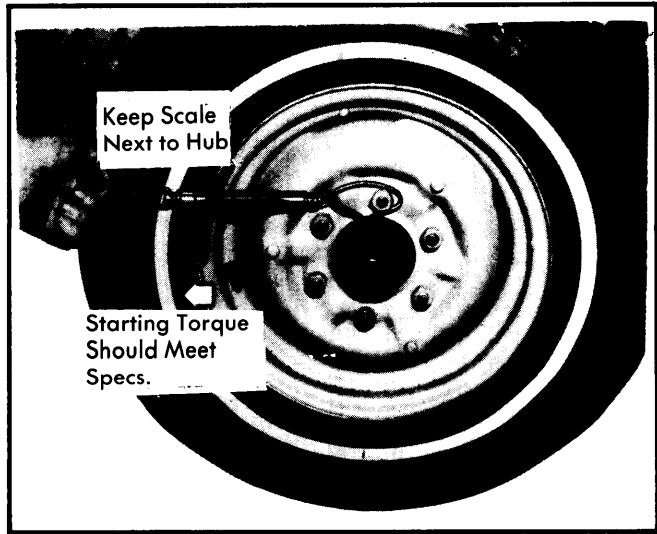


Fig. 2 Using a Pull Scale to Measure Toyota Wheel Bearing Starting Torque

TRIUMPH

Spitfire — Raise and support front of vehicle, then remove wheel and brake caliper. Attach a dial indicator and measure wheel bearing end play. If end play exceeds .003-.005" (.08-.13 mm), remove cotter key and loosen or tighten spindle nut until end play is within specifications. Install new cotter key.

NOTE — Do not exceed 5 ft. lbs. (.7 mkg) when torquing spindle nut.

TR7 & TR8 — Raise and support front of vehicle; remove tire and wheel. Check hub for excessive end play. If adjustment is necessary, remove grease cap and cotter pin. Tighten spindle nut to 5 ft. lbs. (.7 mkg), then back nut off 1 flat and install cotter pin.

VOLKSWAGEN

Vanagon (Front) — Tighten spindle nut firmly to seat bearings while turning hub. Back off nut. Wheel bearing is correctly adjusted when thrust washer can be moved slightly with a screwdriver and finger pressure. After adjustment, peen flange of spindle nut over spindle.

Vanagon (Rear) — No adjustment required. Tighten axle nut to 253 ft. lbs. (35 mkg) while rotating wheel to seat bearings. Always replace cotter pin.

All Others (Front) — Front wheel bearings are pressed into bearing housing and no adjustment is required. Tighten front axle nut on Dasher to 145 ft. lbs. (20 mkg) for M 18x1.5 nuts or 175 ft. lbs. (24 mkg) for M 20x1.5 nuts. For Rabbit and Scirocco models tighten nuts to 175 ft. lbs. (24 mkg).

All Others (Rear) — Wheel bearings are correctly adjusted if thrust washer can be moved slightly with a screwdriver. This will provide axial play of approximately .001-.003" (.025-.076 mm).

VOLVO

All Models — While rotating hub, torque nut to 50 ft. lbs. (6.9 mkg). Loosen nut 1/3 turn and check for hub rotating freely with no end play. If necessary to align cotter pin holes, loosen nut and install cotter pin.

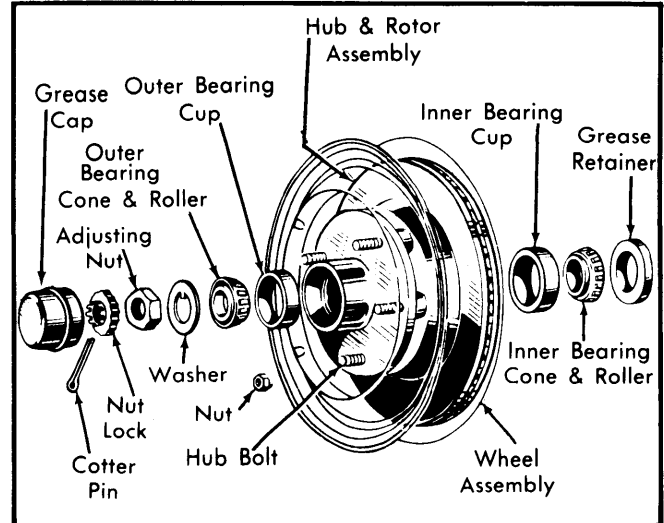


Fig. 3 Exploded View of Wheel Bearing Components With Disc Brakes