

Wheel Bearing Adjustment

ALFA ROMEO

All Models — While rotating hub, tighten spindle nut to 18 ft. lbs. Loosen nut, then retighten to 7 ft. lbs. Back off on nut $\frac{1}{4}$ turn and install cotter key. If slot in spindle nut does not align with hole in spindle, tighten nut until it is possible to insert cotter key. After cotter key is installed, ensure that bearing retainer plate can be easily rotated by inserting a screwdriver in plate holes.

AUDI

NOTE — The following procedure can only be performed using special tools indicated.

Model 100 (Front) — 1) Raise and support front of vehicle. Remove lower wheel bolt and replace with special wheel bolt adapter (V-104) and special dial indicator (G-43). By means of retaining screw on special tool (V-104), adjust dial indicator to pretensioned position of 1 millimeter.

2) Grasp wheel at front and rear. First push inward on front while pulling outward on rear, record dial indicator reading. Reverse this procedure and record dial indicator reading. Difference between these two readings is wheel bearing play. If play exceeds .04-.07 mm, adjustment will be necessary.

3) Remove cotter pin and castle nut. If there was too much play, tighten spindle nut until play is within specifications. If there was insufficient play, remove wheel, spindle nut and its shim. Replace and tighten spindle nut. Using 1 millimeter feeler gauge, loosen spindle nut until it is possible to insert feeler gauge between spindle nut and wheel hub. Attach special hub puller (V-26) and withdraw hub until it is firmly in contact with spindle nut. Remove puller and retighten spindle nut until it is within specifications.

Model 100 (Rear) — Raise and support rear of vehicle. Remove grease cup and one wheel bolt. Attach special dial indicator (30-43), using wheel bolt adapter (40-104) and attachment (10-22). Dial indicator actuator foot should be pretensioned to 1 millimeter against the stub axle. Grasp wheel at front and rear. Move wheel on horizontal axis. If reading on dial indicator is not .02-.04 mm, adjustment will be necessary. Adjust by loosening or tightening spindle nut.

NOTE— Fox front wheel bearing is not adjustable. Torque stub axle nut to 13 ft. lbs.

Fox (Rear) — Remove grease cup, cotter pin and castle nut. Tighten spindle nut and loosen for adjustment. Adjust by lightly tightening spindle nut until plain washer (beneath spindle nut) can just be moved from side to side, using screwdriver. This adjustment will correspond to .0012-.0027" (.03-.06 mm) wheel bearing play.

AUSTIN

Austin Marina — Raise and support vehicle so that front wheel is not touching ground. Remove grease cup and attach suitable magnetic base dial indicator with base on brake drum and actuating foot touching spindle. Bearing wobble should be from .001-.005". If adjustment is required, remove cotter pin and slacken castle nut. Torque castle nut to 5 ft. lb., while spinning wheel. Stop wheel, slacken castle nut, and retighten castle nut, finger tight only. Reinstall cotter pin. *NOTE* — At minimum end-float figure given, a considerable amount of movement will be felt in the front wheel. Do not reduce end-float below .001".

BMW

2002 Models — While rotating wheel hub, tighten castle nut to 22-24 ft. lbs., then rotate hub at least two more times. Loosen castle nut until bearing end play is noticed. Tighten castle nut to a maximum of 2.2 ft. lbs., then loosen nut to nearest hole and install cotter key. *NOTE* — After adjustment, slotted washer should move easily, without noticeable resistance.

3.0 Si & 530 i Models — While rotating wheel hub, tighten castle nut to 7 ft. lbs. Loosen castle nut approximately $\frac{1}{4}$ turn. Insert screwdriver in recess of bearing retainer washer and ensure washer can be rotated easily. Install suitable gauge holder (BMW 00 2 500) on wheel hub and install dial indicator with tip touching front axle stub. Move wheel hub back and forth several times and check bearing end play. Adjust castle nut until bearing end play is .0008-.0024". *NOTE* — Set bearing end play as close to lowest limit as possible. Install cotter key.

CAPRI

All Models — Rotate wheel, hub, and drum assembly while turning adjusting nut to 17-25 ft. lbs. Back off nut one-half turn. Retighten adjusting nut to 10-15 INCH lbs. Reinstall cotter pin and check front wheel rotation.

COLT

All Models — Tighten adjusting nut to 14.5 ft. lbs. After seating bearing components, loosen nut to 0 ft. lbs. Now make final adjustment to 3.6 ft. lbs. After installing lock cap, insert cotter pin. *NOTE* — Do not loosen adjusting nut more than 15 degrees to align spindle holes.

COURIER

All Models — While rotating wheel, hub and drum assembly, tighten adjusting nut to 17-25 ft. lbs. Back adjusting nut off $\frac{1}{2}$ turn and retighten nut to 6-8 ft. lbs. Install new cotter key and check wheel rotation.

DATSUN

All Models — Tighten spindle nut to torque specifications in following table. Spin wheel and retorque spindle nut. Loosen nut according to specifications in following table and then tighten to align cotter key hole. Insert cotter pin.

Wheel Bearing Adjustment

| Application | Torque (Ft. Lbs.) | Loosen |
|-----------------|-------------------|--------|
| B210 | 22-25 | 90° |
| Pickup | 22-25 | 40-70° |
| All Other | 18-22 | 60° |

FIAT

Model 124 & 131 — While rotating hub, torque spindle nut to 14.5 ft. lbs. Completely loosen nut and retighten to 5 ft. lbs. 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". *NOTE* — When ever spindle nut has been removed it must be replaced with a new nut.

FIAT (Cont.)

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

HONDA

All Models (Front) — Front wheel bearings are not adjustable. Torque front spindle nut to 87-130 ft. lbs. (Civic) or 109 ft. lbs. (Civic CVCC).

All Models (Rear) — Rear wheel bearings are not adjustable. Torque rear spindle nut to 72-94 ft. lbs. (Civic) or 83 ft. lbs. (Civic CVCC).

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 — While rotating wheel, tighten spindle nut to 22 ft. lbs. Turn hub through two or three turns and loosen nut until just finger tight. Check free play. Using a pull scale attached to wheel stud, measure turning torque; adjust nut until pull recorded on scale is 1.1-2.6 lbs. when wheel begins to rotate.

MAZDA

All Models — With vehicle raised and supported under lower control arms, measure amount of bearing preload using a pull scale hooked on hub bolt. Preload should be 1.3-2.4 lbs. (B1600) or .9-2.2 lbs. (all other models). If not to specifications, adjust by tightening spindle nut until correct bearing preload is obtained. Align slot of spindle nut with hole in spindle and install new cotter key.

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". 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" remove rotor and reposition on hub. Torque spindle nut to 46 ft. lbs. and recheck runout.

MG

MGB & MGB/GT — Raise front of vehicle and remove front wheels. Using suitable dial indicator, measure hub end play. Correct end play is .002-.004". 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 40-70 ft. lbs.

OPEL

All Models — Raise and support front of vehicle. While rotating wheel, torque spindle nut to 18 ft. lbs. Back off spindle nut ¼ turn. If slot in spindle nut and hole in spindle do not align, back off nut until they are aligned and insert cotter pin. Properly adjusted wheel bearing will exhibit small amount of end play.

PEUGEOT

All Models — While turning wheel, tighten spindle nut to 22 ft. lbs. Loosen and retorque nut to 7 ft. lbs. Lock nut in this position, by staking nut collar into slot of spindle.

PORSCHE

All Models — Turn wheel and tighten clamping nut just enough to seat roller bearings. Loosen until tab washer can be easily moved in a lateral direction (by means of a screwdriver) and no perceptible bearing play is felt when hub is moved axially. Tighten screw on clamping nut to specified torque and recheck adjustment.

RENAULT

All Models (Front) — Front wheel bearings are not adjustable. Torque spindle nut to 115 ft. lbs., while holding hub-disc assembly.

All Models (Rear) — Tighten rear spindle nut to 25 ft. lbs., while rotating the disc or drum. Loosen nut ¼ turn and check end play using a dial indicator. End play should be .001-.002". Adjust spindle nut until end play is set to specifications, then install a new cotter key.

SAAB

All Models (Front) — Front wheel bearings are not adjustable. Torque front spindle nut to 145 ft. lbs.

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 to 174 ft. lbs.

4WD Station Wagon (Rear) — Rear wheel bearings are not adjustable. Tighten spindle lock nut to 145-181 ft. lbs.