INSPECTION

Periodically inspect in accordance with the specified maintenance schedule.

SUSPENSION PARTS

1. Check wheel bearings. If any axial end-play is present, adjust bearings to specifications. Replace worn or damaged bearings as described under "Front Axle".

ADJUSTMENT

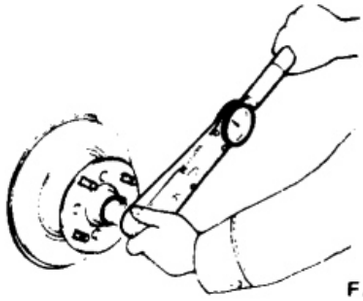
WHEEL BEARING

Improper adjustment of wheel bearings causes abnormal wear and score on the bearings and knuckle spindle.

To obtain proper preload on wheel bearings, proceed as follows:

Note: **In order to assure correct bearing preload and to extend service life of wheel bearings, be sure to prevent dirt and foreign particles from getting in bearings, grease seal and spindle nut.**

1. Jack up and support car with stands. See the section GI.
2. Remove pad. Refer to section BR for "Pad Replacement".
3. Tighten wheel bearing lock nut to 2.5 to 3.0 kg-m (18 to 22 ft-lb) torque. See Figure FA-2.

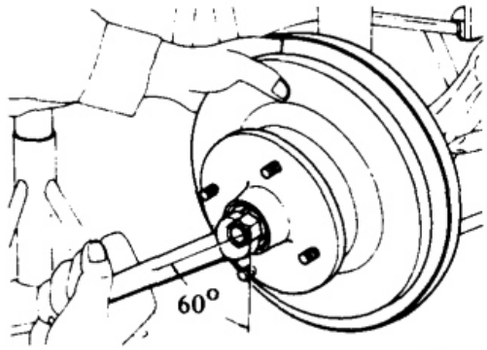


FA263

Fig. FA-2 Tightening wheel bearing lock nut

4. Rotate wheel hub a few turns in both directions to seat wheel bearing correctly. Then, retighten spindle nut to the above torque.

5. Loosen wheel bearing lock nut 60 degrees. Install adjusting cap and align groove of nut with hole in spindle. If groove does not align with hole, relocate adjusting cap. If the hole and groove still do not come into alignment, loosen wheel bearing lock nut as much as 15 degrees more.



FA456

Fig. FA-3 Loosen wheel bearing lock nut 60°

CAUTION:
Do not overtighten wheel bearing nuts, as this can cause wheel bearing seizure.

6. Again spin wheel hub several turns in both directions to see if it rotates freely. Then, measure bearing preload using a spring balance as follows:

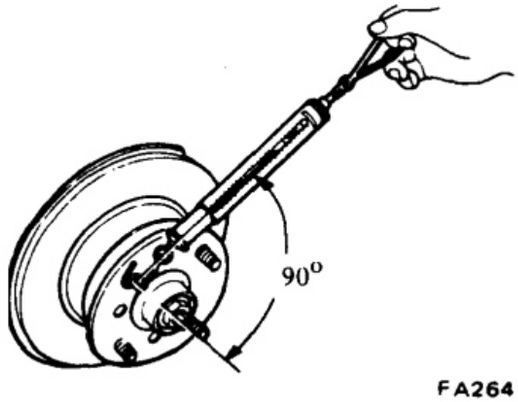
Wheel bearing rotation starting torque:

New parts: 4.0 to 8.5 kg-cm (3.5 to 7.4 in-lb)

As measured at wheel hub bolt: 0.7 to 1.5 kg (1.5 to 3.3 lb)

Adjustment with old parts: 1.0 to 4.5 kg-cm (0.9 to 3.9 in-lb)

As measured at wheel hub bolt with old parts: 0.2 to 0.8 kg (0.4 to 1.8 lb)



FA264

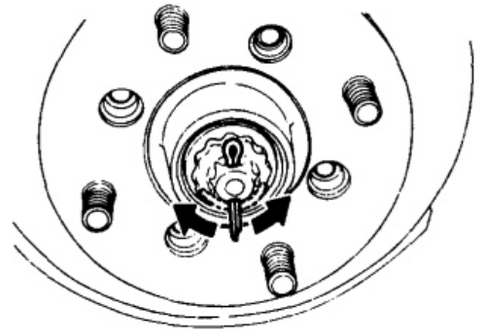
Fig. FA-4 Measuring wheel bearing rotation starting torque

Repeat above procedures until correct preload is obtained.

Note:

a. **To measure bearing preload, attach a spring balance to hub bolt and pull it at right angle to a line drawn through center of bearing and hub bolt to which it is attached.**
b. **The slightest shaft play cannot be tolerated here.**

7. Insert a new cotter pin with the legs through adjusting cap and spindle, and spread legs away from each other against sides of adjusting cap to secure the installation. See Figure FA-5.



FA457

Fig. FA-5 Installing cotter pin

8. Install hub cap.

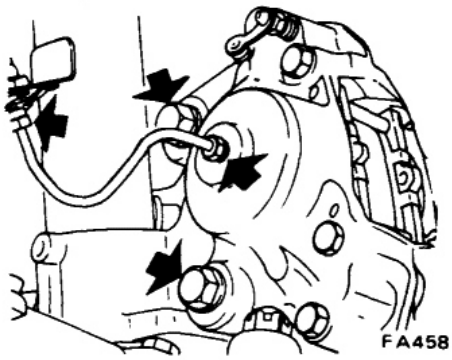
FRONT AXLE

REMOVAL

1. Jack up car until wheel drops to full down position.

Remove wheels and disconnect brake tube. See Figure FA-10.

2. Remove bolts retaining brake caliper and take out caliper assembly. See Figure FA-10.



Tightening torque:

Brake tube flare nut
1.5 to 1.8 kg-m (11 to 13 ft-lb)
Caliper fixing bolt
7.3 to 9.9 kg-m (53 to 72 ft-lb)

Fig. FA-10 Removing brake tube and caliper fixing bolts

3. Work off hub cap from end of spindle using two screwdrivers or any other suitable tool as shown in Figure FA-11. If necessary, tap around it with a soft hammer while removing cap.

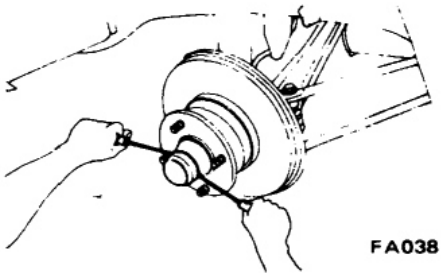


Fig. FA-11 Removing hub cap

Note: During this operation, use caution to avoid damaging O-ring.

4. Pry off cotter pin; take out adjusting cap and wheel bearing lock nut.
5. Remove wheel hub from spindle with bearing installed.
6. Wheel hub may be removed together with disc rotor.

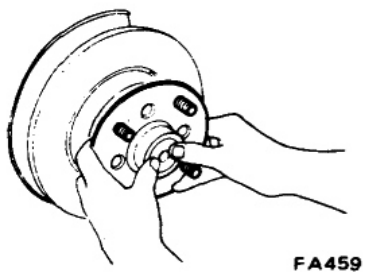


Fig. FA-12 Removing wheel hub

7. Utilizing two grooves inside hub, drive out wheel bearing outer race from hub with a brass drift.

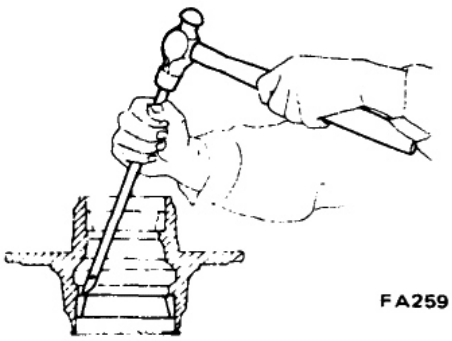
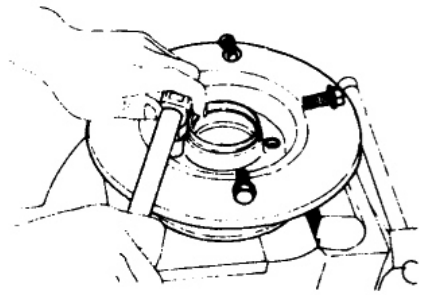


Fig. FA-13 Removing wheel bearing outer race

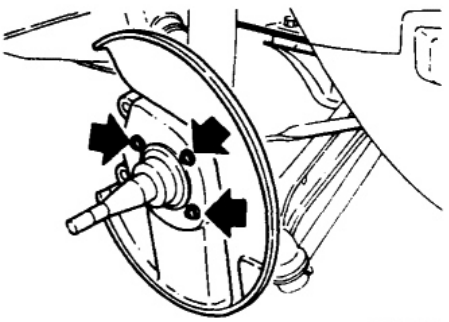
8. Loosen four bolts securing brake disc in position; remove disc brake rotor from wheel hub assembly.



Tightening torque:
3.9 to 5.3 kg-m (28 to 38 ft-lb)

Fig. FA-14 Removing disc brake rotor

9. Loosen screws securing baffle plate in position; take out baffle plate.



Tightening torque:
0.32 to 0.44 kg-m (2.3 to 3.2 ft-lb)

Fig. FA-15 Removing baffle plate screws

INSPECTION

Wheel hub

Check hub for cracks by means of a magnetic exploration or dyeing test, and replace if cracked.

Grease seal

Replace grease seal every disassembly even if it appears good.

Wheel bearing

Thoroughly clean grease and dirt from wheel bearing with cleaning solvent, and dry with compressed air free of moisture. Check wheel bearing to see that it rolls freely and is free from noise, crack, pitting, or wear. Also, check condition of outer race. Removal of outer race from hub is not necessary.

INSTALLATION

Install front axle in the reverse order of removal, noting the following:

1. Install baffle plate to knuckle spindle, tighten screws to 0.32 to 0.44 kg-m (2.3 to 3.2 ft-lb).
2. Install disc brake rotor to wheel hub, tighten to 3.9 to 5.3 kg-m (28 to 38 ft-lb).
3. Install bearing outer race with Front Wheel Bearing Drift ST35300000.

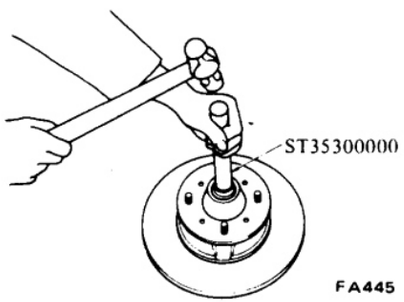


Fig. FA-16 Installing wheel bearing outer race

4. Pack the inside of hub and hub cap with recommended multi-purpose grease to the specified level. See Figure FA-17.

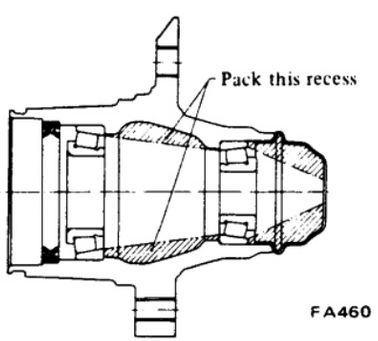


Fig. FA-17 Lubricating points of wheel hub

5. Pack cavities of each bearing cone and grease seal lip pocket with grease.

Fig. FA-18 Filling bearing cone with grease

Fig. FA-19 Filling grease seal lip pocket with grease

6. Put inner bearing cone in hub and install a new grease seal. Be sure to lubricate sealing lips of the grease seal before installation.
7. Put hub assembly on spindle and then install outer bearing cone.
8. Apply sparingly grease to washer and threaded parts of spindle and spindle nut. Then, install washer and spindle nut. Adjust the installation as outlined under "Wheel Bearing Adjustment".

Note:

a. In order to assure correct bearing preload and to extend service life of wheel bearings, be sure to avoid dirt and foreign particles getting in bearings, grease seal, washer and spindle nut.

b. Grease should be changed at each disassembly and in accordence with Periodic Maintenance Schedule.

9. Install caliper and connect brake tube.
10. After lowering car to the ground, tighten wheel nut, bleed brake system.

Tightening torque

Front axle	kg-m (ft-lb)
Brake disc rotor and hub assembly tightening bolt	3.9 to 5.3 (28 to 38)
Brake tube installation nut	1.5 to 1.8 (11 to 13)
Wheel bearing lock nut	2.5 to 3.0 (18 to 22)
Disc brake caliper fixing bolt	7.3 to 9.9 (53 to 72)
Baffle plate installation screw	0.32 to 0.44 (2.3 to 3.2)

Strut assembly

Damping force at piston speed 0.3 m (1.0 ft)/sec. Expansion/Compression	kg (lb)/kg (lb)	55 (121)/30 (66)
Front wheel bearing rotation starting torque		
New parts	kg-cm (in-lb)	4.0 to 8.5 (3.5 to 7.4)
As measured at wheel hub bolt	kg (lb)	0.7 to 1.5 (1.5 to 3.3)
Adjustment with old parts	kg-cm (in-lb)	1.0 to 4.5 (0.9 to 3.9)
As measured at wheel hub bolt	kg (lb)	0.2 to 0.8 (0.4 to 1.8)