FREIGHTLINER LLC

A DaimlerChrysler Company

Nasser Zamani
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July 18, 2007

Dan Smith
Associate Administrator for Vehicle Safety
National Highway Traffic Safety Administration
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

Re: Defect Information Report (FL-494), NHTSA 07V-169, Supplemental No.: 1
Four Piece Spindle Nut Adjustment with Non-preset Front Hubs

Mr. Smith:

In accordance with Part 573 of Title 49 of the Code of Federal Regulations, Freightliner LLC herewith submits supplemental defect information.

(c)(3) Total number of vehicles potentially affected: 219

(c) (10) Communications sent to dealers (attached): posted June 23, 2007
Communications sent to owners (attached): mailed June 28, 2007

Please contact me if you have any questions.

Sincerely yours,

Nasser Zamani

Cc: Michael Mason, CAL-OSHA
Certified Mail# 7004 2890 0004 1202 1260

FREIGHTLINER LLC
A DaimlerChrysler Company

Recall Campaign

June 2007
FL494A
NHTSA #07V-169
REVISED NOTICE

Subject: Front Axle Spindle Nut Adjustment

Models Affected: Specific Freightliner Argosy, Business Class M2, and Columbia vehicles manufactured between June 9, 2005, and December 14, 2006, with front axles assembled at certain ArvinMeritor facilities.

General Information

Freightliner LLC, on behalf of its Freightliner Trucks Division, has decided that a defect which relates to motor vehicle safety exists on the vehicles mentioned above.

There are approximately 300 vehicles involved in this campaign.

Certain front axles with four-piece spindle nut sets (and a small group with Pro-Torq retaining nuts) and non-preset hubs may have been assembled with an incorrect wheel bearing adjustment. The front spindle nut may be over tightened, leading to premature bearing wear. If rapid bearing wear is allowed to progress, the front wheel assembly may separate from the vehicle, resulting in a possible vehicle crash without prior warning.

The front wheel bearings will be replaced.

REVISION: The torque and back off instructions for installing Pro-Torq nuts after replacing the front wheel bearings have been changed. Please see step 30 of the Work Instructions.

Additional Repairs

Dealers must complete all outstanding recall and field service campaigns prior to the sale or delivery of a vehicle. A Dealer will be liable for any progressive damage that results from its failure to complete campaigns before sale or delivery of a vehicle.

Owners may be liable for any progressive damage that results from its failure to complete campaigns within a reasonable time after receiving notification.

Work Instructions

Please refer to the attached work instructions. Prior to performing the campaign, check the vehicle for a completion sticker (Form WAR260).

Replacement Parts

Replacement kits will not be used for this campaign. Please use the appropriate bearings, oil seals, hub cap gaskets, and oil (up to one quart per side) for the specific vehicle. When the Recall is finished, write the recall number on a blank, red completion sticker and attach it to the base completion label.

If our records show your dealership has ordered any vehicles involved in campaign number FL494A, a list of the customers and vehicle identification numbers will be available on AccessFreightliner.com. Please refer to this list when ordering parts for this recall.

Removed Parts

Please follow Warranty Failed Parts Tracking shipping instructions for the disposition of all removed parts.

Recall Campaign

FREIGHTLINER® LLC
A DaimlerChrysler Company

June 2007
FL494A
NHTSA #07V-169
REVISED NOTICE

Labor Allowance

Table 1 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Damage Code
FL494A	Remove and replace front wheel bearings – vehicles with air brakes	1.7	996-0713A	000-Modifiedx
	Remove and replace front wheel bearings – vehicles with hydraulic brakes	2.3	996-0713B	000-Modifiedx

Table 1

IMPORTANT: When the recall has been completed, locate the base completion label in the appropriate location on the vehicle, and attach the red completion sticker provided in the recall kit (Form WAR260). If the vehicle does not have a base completion label, clean a spot on the appropriate location of the vehicle and first attach the base completion label (Form WAR259). If a recall kit is not required or there is no completion sticker in the kit, write the recall number on a blank sticker and attach it to the base completion label.

Claims for Credit

You will be reimbursed for your parts, labor, and handling by submitting your claim through the Warranty system within 30 days of completing this campaign. Please reference the following information in QuickClaim®:

- Claim type is **Recall**.
- In the FTL Authorization field, enter the campaign number and appropriate condition code (**FL494A**).
- In the Primary Failed Part Number field, enter **25-FL494-000**.
- Replacement kits will not be used for this campaign. In the Parts field, enter the appropriate bearings, seals, gaskets, and oil (up to one quart per side) for the specific vehicle.

  If a hub replacement is necessary, see the "Warning" on page 10, submit an inquiry to the Warranty Campagins Department (include the Recall number, vehicle serial number, and reason a replacement is needed). An authorization number is required to include hubs on a claim.
- In the Labor field, first enter the appropriate SRT from the Labor Allowance Table. For administrative time, enter SRT 939-0010A for 0.3 hours.

IMPORTANT: ServicePro® must be viewed prior to performing the recall to ensure the vehicle is involved and the campaign has not been previously completed. Also, check for a completion sticker prior to beginning work.

Contact the Warranty Campaigns Department at (800) 547-0712, from 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, Web inquiry at AccessFreightliner.com / Support / Submit an Inquiry, or the Customer Assistance Center at (800) 385-4357, after normal business hours, if you have any questions or need additional information.

To return excess kit inventory related to this campaign, U.S. dealers must submit a Parts Authorization Return (PAR) to the Memphis PDC. Canadian dealers must submit a PAR to their facing PDC. All kits must be in resalable condition. PAR requests must include the original purchase invoice number.

The letter notifying vehicle owners is included for your reference.

Please note that the National Traffic and Motor Vehicle Safety Act, as amended (Title 49, United States Code, Chapter 301), requires the owner's vehicle(s) be corrected within a reasonable time after parts are available to you. The Act states that failure to repair a vehicle within 60 days after tender for repair shall be prima facie evidence of an unreasonable time. However, circumstances of a particular situation may reduce the 60 day period. Failure to repair a vehicle within a reasonable time can result in either the obligation to (a) replace the vehicle with an identical or reasonably equivalent vehicle, without charge, or (b) refund the purchase price in full, less a reasonable allowance for depreciation. The Act further prohibits dealers from selling a vehicle unless all outstanding recalls are performed. Also, any lessor is required to send a copy of the recall notification to the lessee.

FREIGHTLINER LLC
A DaimlerChrysler Company

Recall Campaign

June 2007
FL494A
NHTSA #07V-169
REVISED NOTICE

Copy of Letter to Owner

Subject: Front Axle Spindle Nut Adjustment

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. This notice is also sent in accordance with the Canadian Motor Vehicles Safety Act.

Freightliner LLC, on behalf of Freightliner Trucks Division, has decided that a defect which relates to motor vehicle safety exists on specific Freightliner Argosy, Business Class M2, and Columbia vehicles manufactured between June 9, 2005, and December 14, 2006, with front axles assembled at certain ArvinMeritor facilities.

Certain front axles with four-piece spindle nut sets (and a small group with Pro-Torq retaining nuts) and non-preset hubs may have been assembled with an incorrect wheel bearing adjustment. The front spindle nut may be over tightened, leading to premature bearing wear. If rapid bearing wear is allowed to progress, the front wheel assembly may separate from the vehicle, resulting in a possible vehicle crash without prior warning.

The front wheel bearings will be replaced.

Parts are now available for authorized dealers to order. Contact your authorized dealer to arrange to have your vehicle(s) modified and to assure that parts are available at the dealer. To locate a dealer, search online at www.FreightlinerTrucks.com or contact the Warranty Campaigns Department for assistance.

When you contact your dealer, refer to campaign number **FL494A**. Once kit(s) are received at the dealership, the Recall will take approximately two to three hours, depending on the type of brakes, and will be performed at no charge to you.

IMPORTANT: When the Recall has been completed, please ensure that a label has been affixed to your vehicle referencing **FL494A**.

If you do not own the vehicle that corresponds to the identification number(s) which appears on the Recall Notification, please return the notification to the Warranty Campaigns Department with any information you can furnish that will assist us in locating the present owner. If you have leased this vehicle, Federal law requires that you forward this notice to the lessee within 10 days.

If you are not able to have the defect remedied without charge and within a reasonable time, which is not longer than 60 days after you tender the vehicle for repair, please contact the Warranty Campaigns Department at (800) 547-0712, 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, e-mail address WarrantyCampaigns@freightliner.com, or the Customer Assistance Center at (800) FTL-HELP or (800) STL-HELP, after normal business hours. You may also wish to submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; or call the Vehicle Safety Hotline at (888) 327-4236 (TTY: 800-424-9153); or to http://www.safercar.gov. If your vehicle is involved in the Canadian portion, you may wish to notify Transport Canada, ASFAD, Place de Ville Tower C, 330 Sparks Street, Ottawa, ON K1A 0N5, or phone (800) 333-0510.

We regret any inconvenience this action may cause but feel certain you understand our interest in motor vehicle safety.

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

Recall Campaign

June 2007
FL494A
NHTSA #07V-169
REVISED NOTICE

Work Instructions

Subject: Front Axle Spindle Nut Adjustment

Models Affected: Specific Freightliner Argosy, Business Class M2, and Columbia vehicles manufactured between June 9, 2005, and December 14, 2006, with front axles assembled at certain ArvinMeritor facilities.

IMPORTANT: Replacement kits will not be used for this campaign. Please use the appropriate bearings, oil seals, hub cap gaskets, and oil (up to one quart per side) for the specific vehicle. When the Recall is finished, write the recall number on a blank, red completion sticker and attach it to the base completion label.

NOTE: A small number of vehicles have Pro-Torq retaining nuts. Instructions are also included for this hardware.

Front Wheel Bearing Replacement

1. Check the base label (Form WAR259) for a completion sticker for FL494 (Form WAR260) indicating this work has been done. The base label is usually located on the passenger-side door about 12 inches (30 cm) below the door latch. If a completion sticker is present, no further work is needed. If there is no completion sticker, go to the next step.
2. Shut down the engine, set the parking brake, and chock the rear tires.
3. Raise the front of the vehicle just enough to take the weight from the wheels, but with the tires still touching the ground.
4. Loosen the wheel nuts.

⚠ WARNING

Use safety stands to support the vehicle. Never work under a vehicle that is supported only by jacks. Jacks can slip, causing the vehicle to fall, which could result in serious injury or death.

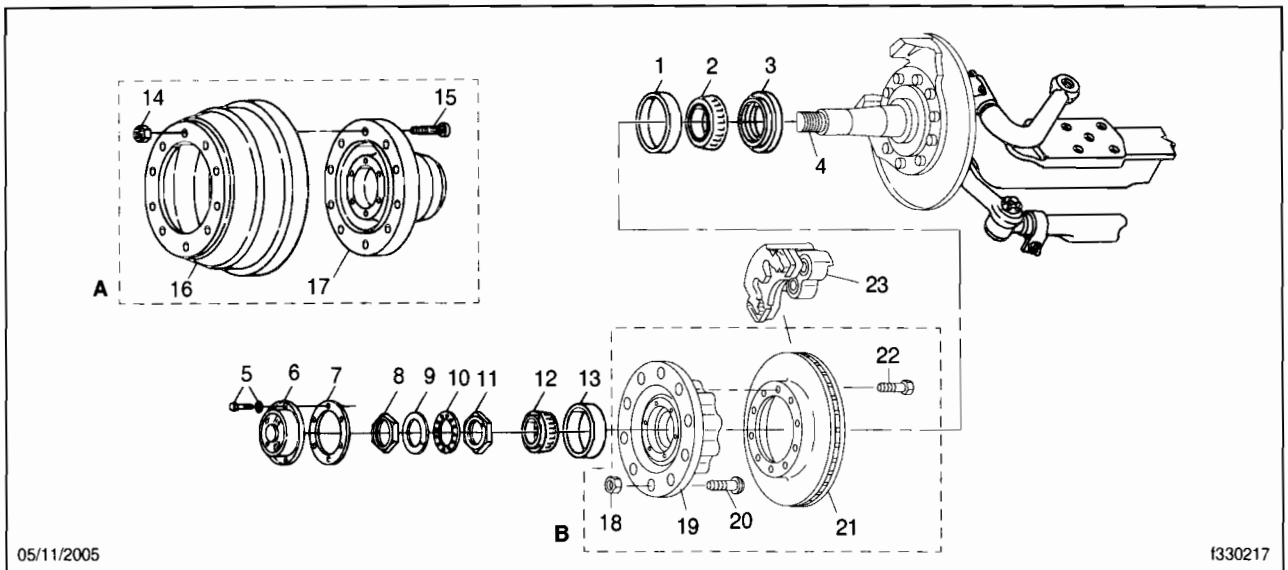
5. Raise the vehicle until the tires clear the ground and support it with safety stands.
6. Remove the tire-and-wheel assemblies from the vehicle.

⚠ WARNING

Wear a respirator at all times when working around the brakes. Breathing brake lining dust (asbestos or non-asbestos) could cause lung cancer or lung disease. OSHA has set maximum levels of exposure and requires workers to wear an air purifying respirator approved by MSHA or NIOSH.

7. On one side of the vehicle, remove the brake drum (air brakes) or brake caliper (hydraulic brakes). For instructions, see **Group 42** of the applicable vehicle workshop manual. See **Fig. 1**.

   To minimize the possibility of creating airborne brake lining dust, clean the dust from the brake drum, brake backing plate, and brake assembly using an industrial-type vacuum cleaner equipped with a high-efficiency filter system. Using a rag soaked in water and wrung until nearly dry, remove any remaining dust. Do not use compressed air or dry brushing to clean the brake assembly.
8. Drain the hub oil.
9. Remove the hub cap.



A. Disc Wheel, Hub, and Outboard-Mounted Drum Assembly
B. Disc Brake Assembly

1. Inner Wheel Bearing Cup
2. Inner Wheel Bearing
3. Oil Seal
4. Axle Spindle (Steering Knuckle)
5. Hub Cap Capscrew and Washer
6. Hub Cap
7. Hub Cap Gasket
8. Jam Nut
9. Lockwasher
10. Lockring
11. Wheel-Bearing Adjusting Nut
12. Outer Wheel Bearing
13. Outer Wheel Bearing Cup
14. Wheel Nut
15. Wheel Stud
16. Brake Drum, Outboard-Mounted
17. Wheel Hub
18. Wheel Nut
19. Wheel Hub
20. Wheel Stud
21. Brake Rotor
22. Rotor Bolt
23. Brake Caliper

Fig. 1, Typical Front Axle Assembly

10. Remove the hub.

    If equipped with a Pro-Torq retaining nut, compress the lockring, then remove the Pro-Torq retaining nut. See **Fig. 2**. Go to the next step.

    If equipped with a four-piece wheel-bearing retaining system, do the following.

    10.1 Remove the jam nut, lock washer, and lockring. See **Fig. 3**.

    10.2 Back off the wheel-bearing adjusting nut about two turns or enough to allow the weight of the hub to be lifted from the wheel bearings.

11. Lift the hub until all weight is removed from the wheel bearings and remove the adjusting nut.
12. Wrap the axle-spindle threads with friction tape to protect them.
13. Move the hub about 1/2 inch (13 mm) to jar loose the outer wheel bearing (allow the hub-only assembly to rest on the axle spindle; be careful not to damage the axle spindle threads).
14. Remove and discard the outer wheel bearing.

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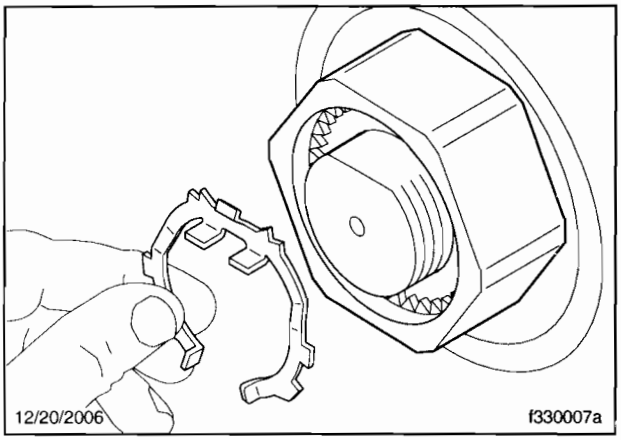
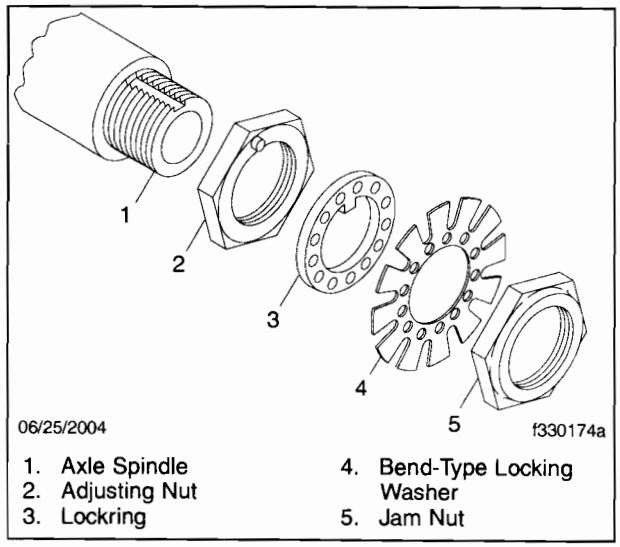


Fig. 2, Lockring and Pro-Torq Retaining Nut



1. Axle Spindle
2. Adjusting Nut
3. Lockring
4. Bend-Type Locking Washer
5. Jam Nut

Fig. 3, Four-Piece Wheel-Bearing Retaining System

⚠ CAUTION

On vehicles equipped with WABCO ABS, use care when handling the hubs. The ABS tone wheel is permanently pressed onto the hub and cannot be repaired. The tone wheel and the hub must be replaced as a unit if either is damaged. To prevent damage to the tone wheel, do not drop the hub or lay it down in a way that would damage the tone wheel.

15. Remove the hub from the axle spindle. Be careful not to damage the axle-spindle threads as the assembly is removed.
16. Remove the oil seal from the hub or the axle spindle, as applicable, and discard it.
17. Remove the inner wheel bearing.
18. Inspect the hub chamfer and bore for burrs, nicks, roughness, deep scratches, and other imperfections. Clean any imperfections with an emery cloth. Wipe the surface clean.

⚠ WARNING

Wear a respirator at all times when working around the brakes, continuing through installation of the wheels. Breathing brake lining dust (asbestos or non-asbestos) could cause lung cancer or lung disease. OSHA has set maximum levels of exposure and requires workers to wear an air purifying respirator approved by MSHA or NIOSH.

19. Inspect and clean the axle components following the instructions in **Group 33** of the applicable vehicle workshop manual.

⚠ CAUTION

When coating the bearing assemblies with oil, do not use old oil, which could be contaminated with dirt or water. Both are corrosives and could damage the wheel bearings and hub.

20. Coat the new bearings with fresh oil. For lubricant specifications, see **Table 2**.

Lubricant Type	Condition	Lubricant SAE Viscosity Grade
Synthetic Drive Axle Lubricants or Equivalent with Military Specification MIL-L-2105D	Over the Road Service	75W-90

Table 2, Lubricant Specifications

21. Install the new inner wheel bearing in the hub.
22. Wipe a film of axle oil on the axle spindle to prevent rust from forming behind the inner wheel bearing.
23. Install the new oil seal. For instructions, see **Group 33** in the applicable vehicle workshop manual.

⚠ CAUTION

On vehicles equipped with WABCO ABS, use care when installing the hubs. The ABS tone wheel is permanently pressed onto the hub and cannot be repaired. The tone wheel and the hub must be replaced as a unit if either is damaged. To prevent damage to the tone wheel, do not drop the hub or lay it down in a way that would damage the tone wheel.

24. Fill the hub bore with about 6 oz. (175 ml) of approved oil. See **Table 2** for lubricant specifications.
25. Carefully mount the hub onto the axle spindle. Be careful not to unseat the inner wheel bearing or oil seal.
26. Install the new outer wheel bearing. Handle the bearing assembly with clean, dry hands. Use care not to damage the bearing while seating it in the cup. Remove the friction tape from the axle spindle threads.
27. If equipped with a Pro-Torq retaining nut, go to step 30.

    NOTE: Eight (8) vehicles have Pro-Torq nuts.

    If equipped with a four-piece retaining system, install the wheel-bearing adjusting nut. See **Fig. 3**. Finger-tighten the nut. Adjust the bearings.

⚠ WARNING

Follow the wheel-bearing adjustment and checking instructions exactly, including the use of a dial indicator to measure wheel-bearing end play. If the wheel-bearing end play is not correct, the wheel bearings could fail. This could cause the loss of the wheel and hub assembly, resulting in an accident causing serious injury or property damage.

IMPORTANT: For vehicles with air brakes, be sure there is sufficient clearance between the brake shoe and the brake drum, so brake shoe drag will not interfere with bearing adjustment.

27.1 After the wheel hub and bearings are assembled on the spindle, tighten the inner (adjusting) nut 100 lbf·ft (136 N·m) while rotating the wheel hub assembly.

27.2 Loosen the nut completely and then tighten it 20 lbf·ft (27 N·m).

27.3 Back off the inner nut 135 degrees to 145 degrees, or about 1/3 turn.

27.4 Install the locking device (bend-type locking washer and a lockring) and the jam nut. See **Fig. 3**.

Tighten the jam nut 200 to 300 lbf·ft (271 to 407 N·m).

IMPORTANT: Do not adjust the wheel bearings with the wheel mounted on the hub. Bearing end play cannot be accurately adjusted or measured with the wheel mounted on the hub. *You must use a dial indicator to measure the end play.*

27.5 With the jam nut installed and tightened, *attach a dial indicator to the hub* and set the point of the indicator in line with the end of the axle spindle. See **Fig. 4**.

NOTE: If equipped with aluminum hubs and air brakes, it may be necessary to install the brake drum onto the hub to provide a steel base for the magnet of the dial indicator. Mount the drum on the hub's drum pilot. Adjust the brake or have someone apply the brakes to hold the drum secure. Secure the drum using the stud at the 12 o'clock position. Then secure the studs at about the 4 o'clock and 8 o'clock positions.

If using a stud-piloted hub and a steel drum, install 1-1/4 inch washers between the nuts and the drum.

27.6 If the brakes were used to hold the drum during installation, release them.

Grip the sides of the hub at the 3 o'clock and 9 o'clock positions. Push the hub (and drum, if applicable) to seat the inboard bearing set. Zero the dial indicator.

Grip the sides of the hub at the 3 o'clock and 9 o'clock positions. Pull the hub (and drum, if applicable). Read the dial indicator and note the end play.

Push the hub back in to confirm that the needle of the dial indicator returns to zero.

IMPORTANT: The end play must be between 0.001 and 0.005 inch (0.025 and 0.127 mm). *Use the dial indicator to measure this.* Correct end play is crucial to the life of the wheel bearings.

28. If the wheel-bearing end play is correct, go to the next step.

If the end play is not within the correct range, remove the jam nut and locking device and back off or tighten the inner (adjusting) nut to adjust the end play.

IMPORTANT: Keep the following in mind:

Turning the inner nut one lockring hole will change the end play by about 0.005 inch (0.127 mm). If you take the lockring off and reverse it, then turn the inner nut to the next hole, this will change the end play by about 0.0025 inch (0.0635 mm).

Install the locking device and jam nut as described earlier and measure the end play, using the dial indicator.

If the end play does not measure between 0.001 and 0.005 inch (0.025 and 0.127 mm), readjust the inner (adjusting) nut.

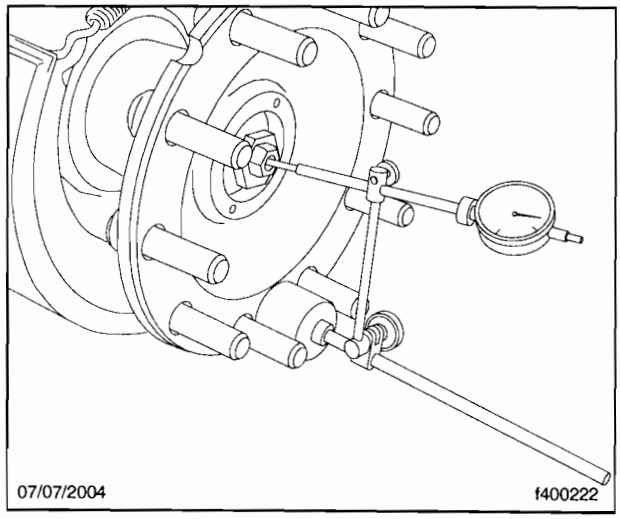


Fig. 4, Using the Dial Indicator

29. When the dial indicator shows the correct wheel-bearing end play, bend the bend-type locking washer as applicable to lock the jam nut and/or adjusting nut in place. Go to step 31.
30. If equipped with a Pro-Torq retaining nut, do the following.
    - 30.1 Install the Pro-Torq nut and tighten it to 90 to 110 lbf·ft (120 to 150 N·m) using a properly calibrated torque wrench.
    - 30.2 Back off the Pro-Torq nut 1/4 turn.
    - 30.3 Hold the lockring with the keeper projections facing outboard. See **Fig. 2**.
    - 30.4 Insert the keeper tab in the undercut groove of the Pro-Torq nut, while pressing the keyway tabs on the flat surface of the axle spindle, engaging the mating teeth.

⚠ CAUTION

Do not use pliers or similar devices on the keeper projections to compress the lockring. This could result in damage or breakage of the lockring.

- 30.5 Insert a screwdriver, or similar tool, in the undercut groove of the nut, between the keeper arms. See **Fig. 5**. Using the tool, compress the lockring to lock in place.

  Using the screwdriver, press around the edges of the lockring to be sure it is locked in place. See **Fig. 6**.

31. Rotate the hub in both directions. It should turn freely with no dragging or binding.
32. Place the hub cap and a new gasket in position and install the washers and capscrews. Tighten the capscrews 20 to 30 lbf·ft (27 to 41 N·m).

⚠ WARNING

Failure to add oil to the wheel hub after the hub has been serviced will cause the wheel bearings to overheat and seize during vehicle operation. Seized bearing rollers can cause sudden damage to the tire or axle, possibly resulting in personal injury due to loss of vehicle control.

33. Repeat the entire wheel-bearing and oil-seal-replacement procedure on the other side of the vehicle.

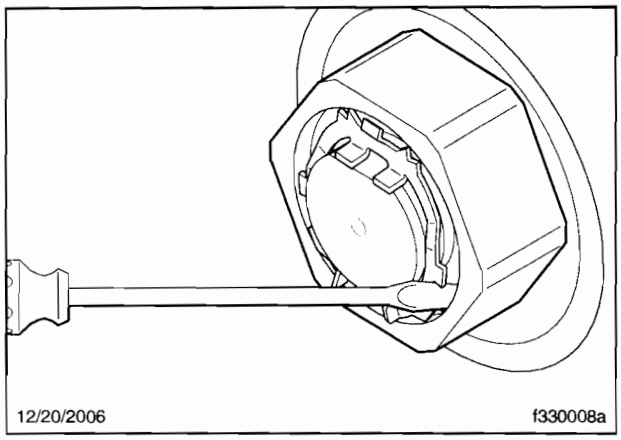


Fig. 5, Compressing the Lockring

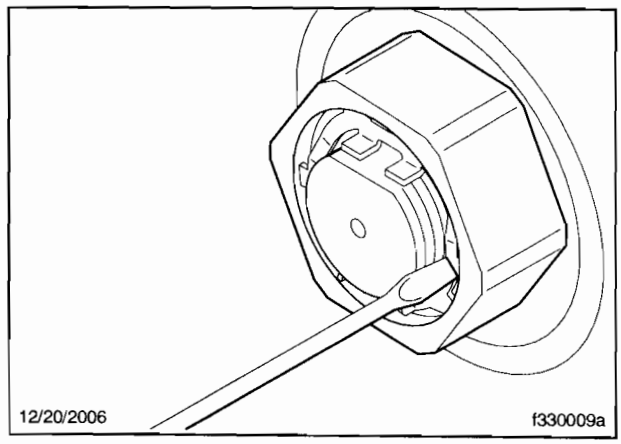


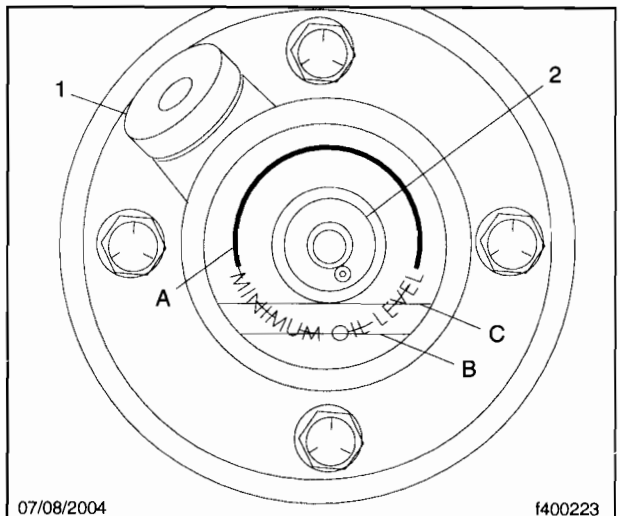
Fig. 6, Making Sure the Lockring is Locked

34. Fill the hub cavities with approved oil. See **Table 2** for approved lubricants.
    - 34.1 On one side of the vehicle, turn the hub until the drain/fill plug on the hub cap is at the top of the hub.
    - 34.2 Remove the drain/fill plug and put a funnel into the hole.
    - 34.3 Add enough oil (about 2 oz or 60 ml) to the hub to bring the level up to the bottom of the vent cap. See **Fig. 7**.
    - 34.4 Install the drain/fill plug and rotate the hub several times to distribute the oil.
    - 34.5 Once the oil level has stabilized in the hub cap, check the level in the window and if needed, add enough oil to bring the level up to the bottom of the vent plug. See **Fig. 7**.
    - 34.6 Repeat the procedure for the other hub.
    - 34.7 Let the hubs sit for about 30 minutes then check the oil level again. Add oil as needed.
35. Install the brake drums or calipers onto the wheel hubs. See **Group 42** of the applicable vehicle workshop manual for instructions.
36. Install the wheel-and-tire assemblies. See **Group 40** in the applicable vehicle workshop manual for instructions.

⚠ WARNING

If the wheel nuts cannot be tightened to minimum torque values, the wheel studs have lost their locking action, and the wheel hub flange is probably damaged. In this case, replace it with a new wheel hub assembly. Failure to replace the wheel hub assembly when these conditions exist could result in the loss of a wheel or loss of vehicle control and possible personal injury and property damage.

If a hub replacement is necessary, submit an inquiry to the Warranty Campagins Department (include the Recall number, vehicle serial number, and reason a replacement is needed). An authorization number is required to include hubs on a claim.



A. Minimum Oil Level Line
B. Minimum Oil Level
C. Normal Oil Level

1. Drain/Fill Plug
2. Vent Plug

Fig. 7, Hub Oil Levels

37. Adjust the front axle brakes. For instructions, see **Group 42** in the applicable vehicle workshop manual for instructions.
38. Raise the vehicle, remove the safety stands, then lower the vehicle.
39. Clean a spot on the base label (Form WAR259), write the recall number on a blank, red completion sticker (From WAR260), and attach it to the base label.
40. Remove the chocks.