

Recall Campaign



July 2007
FL507A-C
NHTSA #07V-333

Copy of Letter to Owner Subject: Axilok Rear Wheel Spindle Nuts

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 Vehicle Safety Act.

Freightliner LLC, on behalf of its wholly owned subsidiary, Sterling Truck Corporation, has decided that a defect that relates to motor vehicle safety exists on specific Sterling A/L-Line and Acterra vehicles manufactured between April 2, 2007, and June 20, 2007, at the St. Thomas, Ontario, Truck Manufacturing Plant.

Some Axilok rear wheel spindle nuts on rear drive axles may have been improperly installed, with one or both locking clip tabs not properly engaged or damaged. This may reduce the nut's ability to resist rotation, potentially allowing the nut to back off and the dual wheel set to separate from the vehicle, resulting in a possible vehicle crash without prior warning.

The Axilok nuts will be inspected for locking clip engagement or damage. They will be adjusted or replaced if necessary.

Parts are now available for authorized dealers to order. Contact your authorized dealer to arrange to have the Recall performed and to assure that parts are available at the dealer. To locate a dealer, search online at www.SterlingTrucks.com or contact the Warranty Campaigns Department for assistance.

When you contact your dealer, refer to campaign number **FL507A-C**. The Recall will take approximately one to three hours, depending on the work needed, 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 **FL507A-C**.

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

Work Instructions

Subject: Axilok Rear Wheel Spindle Nuts

Models Affected: Specific Sterling A/L-Line and Acterra vehicles manufactured between April 2, 2007, and June 20, 2007, at the St. Thomas, Ontario, Truck Manufacturing Plant.

IMPORTANT: Given the limited need for replacement parts, formal kits will not be used for this campaign. Please see Replacement Parts, **Table 1**, for Axilok nut and axle gasket part numbers. In addition, up to one quart of oil per axle end may be claimed as needed. You must claim one SRT from **Table 2** on all claims (for the inspection). If any Axilok nuts require replacement, you must also claim one SRT from **Table 3**. If no Axilok nuts require replacement, do not claim an SRT from **Table 3**.

Axilok Nut Inspection

See the list below for the number of affected axles for each group of vehicles.

- FL507A – Two rear drive axles
- FL507B – One rear drive axle
- FL507C – Three rear drive axles

1. Check the base label (Form WAR259) for a completion sticker for FL507 (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 sticker for FL507 is present, nothing further needs to be done. If no sticker is present, go to the next step.
2. Shut down the engine, and chock the front tires, then release the parking brakes.

IMPORTANT: Oil will spill as the drive axle shaft and the wheel hub are removed. Place a suitable container under the drive axle flange to catch any spilled oil. Dispose of the oil properly.

3. Remove the drive axle stud nuts and washers.
4. Using a hammer and a soft drift, such as one made of brass, sharply tap the center portion of the drive axle flange. The shaft will usually spring slightly outward after the seal has broken. Remove the drive axle shaft.

CAUTION

When tapping the drive axle flange, avoid striking the drive axle studs. If struck, the studs may bend or break, or the stud threads can be damaged. Replace damaged studs.

NOTE: Even if the drive axle shaft doesn't spring outward, the seal may have loosened enough to allow the shaft to be pulled from the axle housing. If the seal has not broken, repeat the step above.

5. Remove and discard the gasket.
6. Inspect the Axilok nut to verify whether either locking clip is bent, broken, or damaged. See **Fig. 1**. Repeat these steps for all affected axles.
7. If all locking clips are engaged and none of the locking clips are bent, broken, or damaged, go to the "Component Installation" procedure and install the removed components.

If a locking clip is not engaged and both clips on the nut are otherwise undamaged, reset it using the appropriate 6-point socket described in the "Axilok Nut Replacement" procedure. Install the Axilok nut by hand, rotating the

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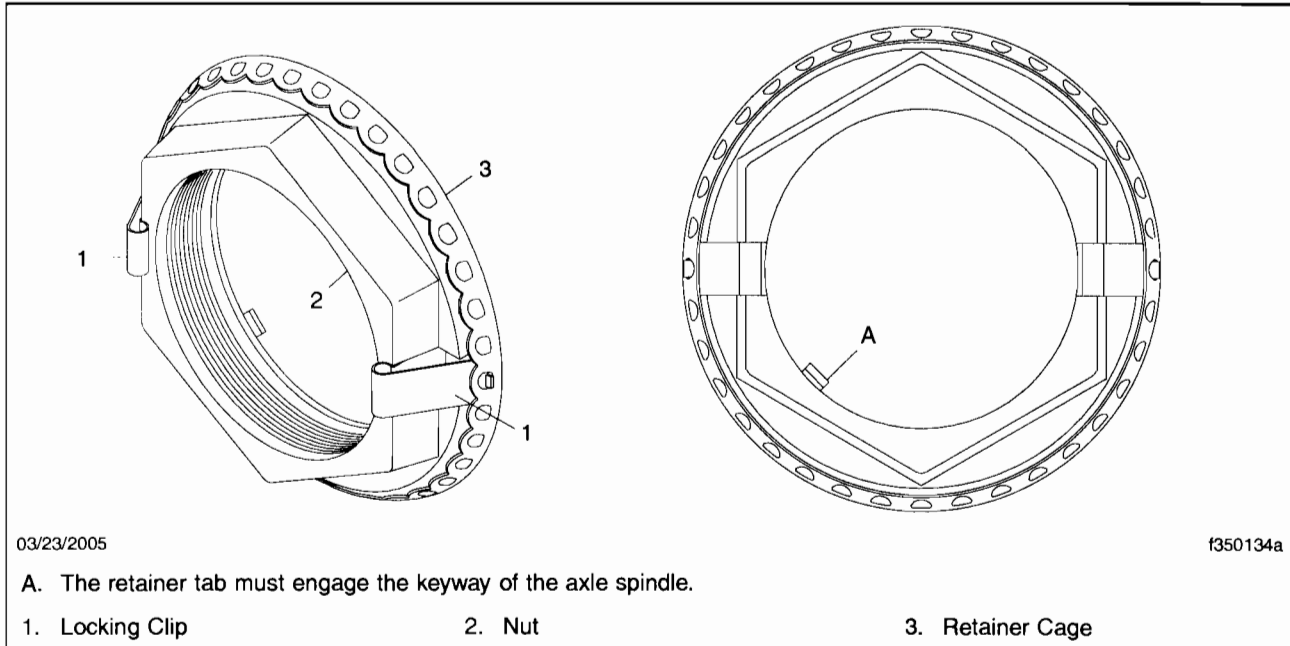


Fig. 1, Axilok Nut

socket clockwise until the Axilok contacts the bearing. Then, using a properly calibrated torque wrench, tighten it 250 lbf-ft (339 N-m). The nut should lock in place when you remove the wrench. If it does not, advance the nut until it does. **Do not back it off.** Then go to the "Component Installation" procedure and install the removed components.

If any locking clip is bent, broken, or damaged, go to the "Axilok Nut Replacement" procedure and replace the damaged Axilok nut. Then go to the "Component Installation" procedure and install the removed components.

Axilok Nut Replacement



CAUTION

Be careful not to let the outer wheel bearing drop from the axle spindle. Dropping the bearing can warp the cage or damage the rollers, ruining the bearing.

1. Raise the rear of the vehicle until the tires clear the ground. Then place safety stands under the axle.
2. Back off the slack adjuster to release the rear axle brake shoes.
3. Remove both wheel and tire assemblies. For instructions, see **Group 40** in the applicable workshop manual.
4. Install a 6-point socket, sized according to the markings stamped on the face of the Axilok, completely over the hexagonal nut. Ensure that both of the locking clips disengage completely from the retainer cage, permitting free rotation. Remove the Axilok nut by turning it counterclockwise.

NOTE: If the Axilok nut does not move freely, ensure that the socket is fully engaged on the Axilok nut and that the locking clips are fully retracted from the retainer cage slots. If the nut still will not turn freely, tighten it slightly, and then loosen it again. The nut should rotate counterclockwise freely.

5. Apply a few drops of oil through one of the holes in the Axilok retainer cage to reduce friction between the retainer cage and nut.

6. To ensure the Axilok nut and socket are compatible, turn an appropriately sized, 6-point socket upside down, and insert the nut completely into it. The locking clips should compress and allow the retainer cage to spin freely. See **Fig. 2**.

If the locking clip tabs interfere with rotation of the retainer cage, the socket is not fully compressing the locking clips. Replace the socket and check its compatibility with the Axilok nut.

IMPORTANT: Axilok nuts can be damaged if they are not installed correctly. Use the following guidelines:

- Use only the correct size, *6-point* socket to install Axilok spindle nuts. Do not use a worn or loose-fitting socket. *Do not use a 12-point socket.*
 - Do not use hammers, chisels, pliers, wrenches, or power tools to install or remove Axilok nuts.
 - If the locking clips on an Axilok nut are damaged or missing, or if the retainer cage tab or D-flat is damaged or missing, do not use it.
 - Always start an Axilok installation by hand.
7. Install the Axilok nut by hand, rotating the socket clockwise until the Axilok contacts the bearing. Then, using a properly calibrated torque wrench, tighten it 250 lbf-ft (339 N-m). The nut should lock in place when you remove the wrench. If it does not, advance the nut until it does. **Do not back it off.**
8. Ensure that both locking clips are present and engaged in the retainer cage. See **Fig. 2**. If the locking clips are not engaged, the nut is not locked in position and can rotate freely.
9. Go to the "Component Intallation" procedure and install the removed components.

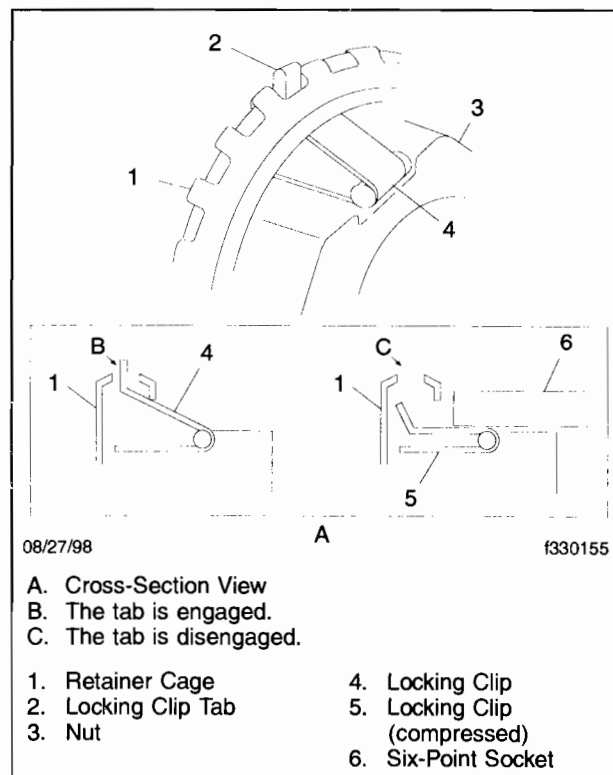


Fig. 2, Axilok Nut, Checking the Position of the Locking Clip

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Component Installation

NOTE: This procedure will follow the inspection or replacement procedure as appropriate.

1. Install a new gasket on the drive axle studs.
2. Install the drive axle shaft. The splined end of the axle shaft must seat before the drive axle flange will fit over the studs.

WARNING

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

3. Install the inner and outer wheel and tire assemblies. For instructions, see **Group 40** in the applicable workshop manual.

WARNING

Add oil to the axle housing bowl or the wheel hub after the drive axle shaft and wheel hub have been serviced. Failure to add oil will damage the wheel bearings and cause them to seize during vehicle operation. Seized bearing rollers can cause sudden damage to the tire or axle, possibly resulting in personal injury.

4. For drive axles, pour the recommended drive axle lubricant through the axle housing filler hole.
On Dana® Spicer® axles, tighten the oil filler plug 40 to 60 lbf-ft (54 to 81 N·m).
On Meritor axles, tighten the oil filler plug 35 lbf-ft (47 N·m).
5. Tilt the axle to the left and right, by jacking the opposite side. Hold the tilted position for one minute on each side, to allow oil to run into the wheel end. Return the axle to a level position, and add oil through the axle housing filler hole. About two extra pints (1 liter) of lubricant will be needed to bring the oil level even with the base of the filler hole.

NOTE: Drive axle wheel bearings are lubricated by oil drawn from the axle housing bowl section. This method ensures good exchange of heat, prevents stagnation, and minimizes the maintenance required on bearings and hub assemblies.

6. Turn the wheels, and check the lubricant level.
7. Adjust the rear wheel brakes. For instructions, see **Group 42** in the applicable workshop manual.
8. Remove the safety stands from under the axle, then lower the vehicle.
9. Clean a spot on the base label (Form WAR259), write the Recall number, FL507, on a blank, red completion sticker (Form WAR260), and attach it to the base label.
10. Apply the parking brakes, then remove the chocks from the front tires.