SAFETY RECALL BULLETIN

AUTOCAR SAFETY RECALL A-0603
NHTSA RECALL 06V-167
May 2006

ATTENTION:	SERVICE MANAGERS / PARTS MANAGERS
SUBJECT:	Axilok Spindle Nut Tabs
VEHICLES AFFECTED:	Certain WX, WXR and WXLL 2006 model-year, heavy-duty Class 8 vehicles equipped with Hendrickson Lift Axles, shipped between November 9, 2004 and April 25, 2006 with serial numbers in the range 201463 through 203515.

SAFETY RECALL INFORMATION:

A defect that relating to motor vehicle safety may exist in certain WX, WXR and WXLL, heavy-duty Class 8 vehicles equipped with Hendrickson Lift Axles, shipped between November 9, 2004 and April 25, 2006 with serial numbers in the range 201463 through 203515.

On some of the affected vehicles, the tabs on some of the lift axle spindle nuts may have been broken during assembly. When in place, the tabs on the nuts prevent the nuts from loosening. When the tabs are broken, the possibility exists that the nut might spin off. If this happens, the wheel and wheel end assembly may separate from the axle. This separation could increase the risk of a crash.

NUMBER OF VEHICLES AFFECTED:

There are 250 affected vehicles.

NOTE: To determine whether a particular vehicle is affected by this recall (or any other recall), consult the Service/Warranty screen on www.autocartruck.com. Enter the VIN (Vehicle Identification Number) into the VIN Profile. Any open recalls for the vehicle will be displayed.

If a "Dealer Listing" is enclosed with this Bulletin, it identifies the affected vehicles that were sold or shipped to your dealership. Be sure to check the VIN Profile screen before performing the recall to verify that the recall is still open. If the recall has already been completed, the word “Completed” will be shown behind the recall number. The list of VINs on page 9 identifies the total suspect population of trucks.

REPAIR INSTRUCTIONS:

See detailed REPAIR PROCEDURE below.

TIME ALLOWANCE:

Inspection:	0.5 hours per wheel end
Replacement of Axilok spindle nuts:	1.0 hours per wheel end

RECALL PARTS:

Axilok nuts: AX-12-1500 (“D” Flat)

TOOLS REQUIRED:

- 6-point socket, sized according to the markings stamped on the face of the Axilok. Refer to Figure 1 and Table 1.
- Torque wrench
- Dial Indicator
- Breaker bar (for wheel nuts)
- 1 5/16 socket (wheel nuts)

CLAIMS FOR CREDIT:

The cost of this recall will be reimbursed based on the guidelines identified in this Bulletin. Submit a claim following the published instructions in the “Claim Preparation” section of the Service Operations Manual.

CLAIM CODING INFORMATION:

Authorization Number:	A-0603	
Inspection Labor code:	77318-0-04	1.0 hours
Repair Labor Code (LH hub):	77318-0-05	1.0 hours
Repair Labor Code (RH hub):	77318-0-06	1.0 hours

If associated wheel end components sustained damage due to the deformed tabs on the Axilok nut, standard Autocar repair procedures and repair times must be used to replace or repair the damaged components.

OWNER RECALL RESPONSE CARD:

The Owner Recall Response Card provides the vehicle owner with a convenient way to notify Autocar, LLC of changes in the ownership of the affected vehicles. The owner card is not intended for use by the dealer other than to assist you in the preparation of the repair orders necessary to perform the recall on the affected vehicle. Please do not use the card as a way to inform Autocar, LLC that the vehicle has been inspected or modified. Your claim on-line is sufficient.

DEALER RECALL RESPONSIBILITY:

Dealers must perform this recall on all affected vehicles at no charge to the owner regardless of mileage, age or ownership of such vehicles. If a vehicle affected by this recall is taken into or is in your vehicle inventory or at your dealership for service, you must perform this recall before the vehicle is sold or released to the owner.

NOTE: It is illegal to sell a vehicle from your inventory with any outstanding recalls.

REPAIR PROCEDURE:

⚠ WARNING

To prevent eye injury, always wear eye protection when performing vehicle maintenance, service or inspection.

⚠ DANGER

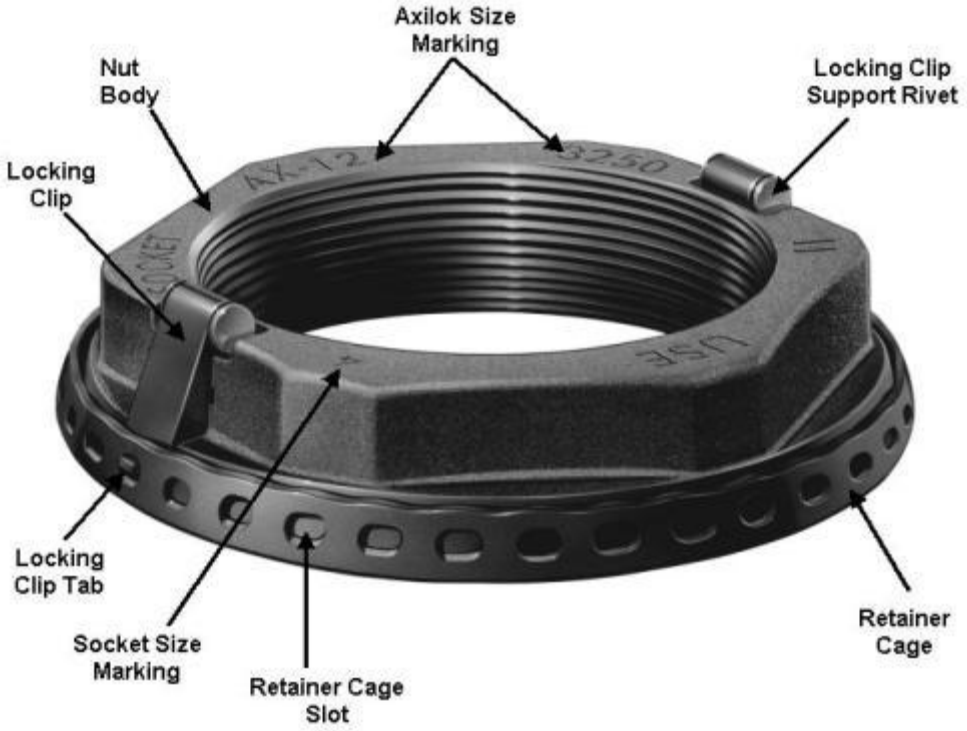
Before working on a vehicle, set the parking brake, place the transmission in neutral and block the wheels. Failure to do so can result in unexpected vehicle movement and can cause serious personal injury or death.

1. Turn the battery disconnect switch to the “OFF” position.
2. Follow this link for the Axilok installation instructions or see below
    a. http://www.mfmvs.com/axilok_inst.html

Axilok

Unitized Wheel Bearing Nut System

Removal and Installation Procedures



Axilok Component View
FIGURE 1.

Removal Procedure

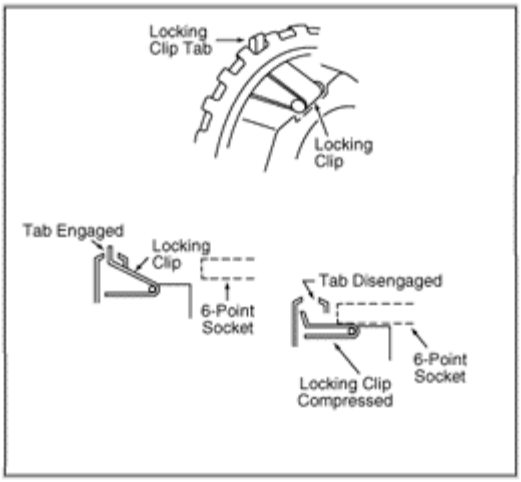
WARNING

Do not use chisel, hammer, or any power tool to remove the Axilok product.

Equipment Required

- 6-point socket, sized according to the markings stamped on the face of the Axilok. Refer to Figure 1 and Table 1.
- Torque wrench
- Dial Indicator

1. Install correct size 6-point socket completely over the hex of the Axilok. Be sure that both the locking clips are completely disengaged from the retainer cage, permitting free rotation. Refer to Figure 2.
2. Turn counterclockwise to remove Axilok. If Axilok does not move freely, stop removal. Check that the socket is completely and fully engaged on the Axilok and that the locking clips are fully retracted from the retainer cage slots. If Axilok still will not turn freely, rotate slightly clockwise, to tighten, and then loosen again. The nut should rotate counterclockwise freely.
3. Continue counterclockwise rotation until Axilok threads disengage from the spindle threads.



Checking Position of Locking Clip Tabs

FIGURE 2.

NOTE

Light burnishing of the retainer cage bearing surface after use is normal.

Pre-Installation Procedure

Before installing Axilok, check the following:

1. Inspect Axilok for two locking clips. Refer to Figure 1.

- Each locking clip should be securely fastened to the nut body and have a rivet that passes through the top of the locking clip body.
- Each locking clip should have a locking clip tab protruding completely through the retainer cage adjustment slot (when properly aligned and not compressed by a socket). Refer to Figures 2, 4 and 5.
- Locking clips should not be bent, cracked or broken.

2. Inspect Axilok retainer cage condition.

- There should be no cracks or other damage to the retainer cage.
- Retainer cage should be secured to the nut body and not fall off when the locking clips are compressed by the socket.
- The retainer cage tab or "D" flat should be free of damage, such as cracks, scarring, gouges, or distortion. Refer to Figure 7.

3. Inspect Axilok threads.

- The threads should show no signs of wear or damage.
- Wipe the threads to remove excess oil or debris.

4. If Axilok fails any of the checks above, the Axilok is unfit for use. DO NOT USE. Replace the unfit Axilok with a new Axilok, and repeat all checks.
5. Free Rotation Inspection. This test will check for nut and socket compatibility.

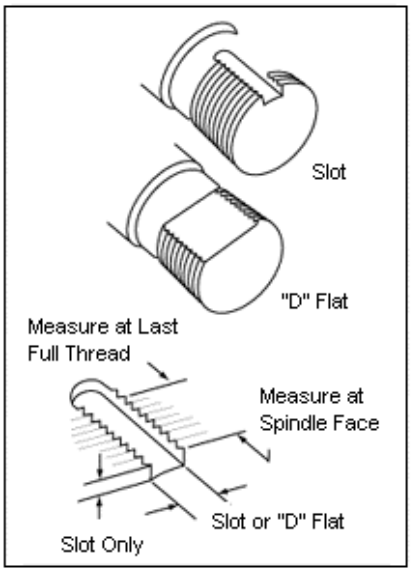
- With correct size 6-point socket turned upside down, insert Axilok completely into the socket, compressing locking clips.
- Retainer cage should spin freely with no interference between locking clip tabs and retainer cage.
- If locking clip tabs interfere with rotation of the retainer cage, the socket is not fully compressing the locking clips. This indicates that the socket is the incorrect size, worn, or out of specifications and must be replaced. Refer to Figure 2.

WARNING

Axilok may not be compatible with all axles currently in use. Do not use Axilok on an incompatible axle. Review appropriate manufacturer's bulletins for axles not compatible with Axilok. Inappropriate use could produce a "wheel off" condition, which may result in serious bodily injury and/or equipment failure. If Axilok has not been selected as standard equipment by the Original Equipment Manufacturer (OEM), do the following: Review axle manufacturer's bulletins to be sure axle is compatible with Axilok.

OR

Remove hub to fully expose spindle and its slot or "D" flat. Carefully measure the width and depth of the spindle slot or "D" flat at the outboard end of the spindle and at the last full thread of the slot or "D" flat. If the measurements are identical, Axilok may be used. If not, DO NOT use Axilok on this spindle. Use a conventional wheel nut retaining system. Refer to Figure 3.

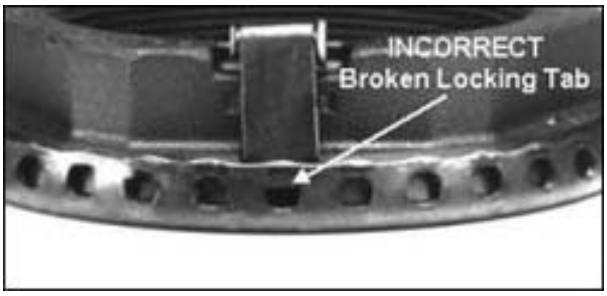


Measuring Spindle Slot or "D" Flat

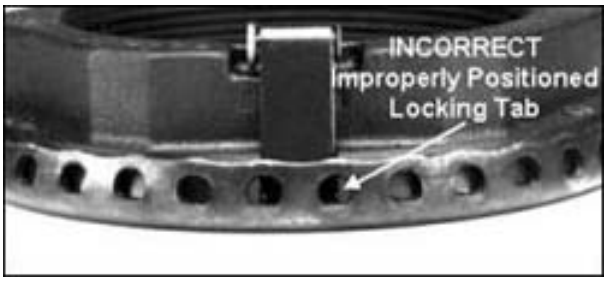
Figure 3

AXILOK	Socket Size 6-Point	Initial Torque (in foot-pounds)	Initial Backoff	Final Torque (in foot-pounds)	Final Backoff	Increments of Adjustment (Per slot)
AX-14-1000	21/8"	200	1/2 turn	75	1/8 turn	0.0032"
AX-12-1500D	2 1/8"	200	1/2 turn	75	1/8 turn	0.0038"
AX-18-1500	2 1/8"	200	1/2 turn	75	1/8 turn	0.0025"
AX-18-1500D	2 1/8"	200	1/2 turn	75	1/8 turn	0.0025"
AX-12-1750D	3 1/4"	200	1/2 turn	75	1/8 turn	0.0030"
AX-16-2500	3 1/4"	200	1/2 turn	75	1/8 turn	0.0022"
AX-12-2625	3 1/4"	200	1/2 turn	75	1/8 turn	0.0030"
AX-16-2625	3 1/4"	200	1/2 turn	75	1/8 turn	0.0022"
AX-12-3250	4"	200	1/2 turn	75	1/8 turn	0.0023"
AX-12-3480	4 1/8"	200	1/2 turn	75	1/8 turn	0.0023"
AX-12-3500	4 1/8"	200	1/2 turn	75	1/8 turn	0.0023"

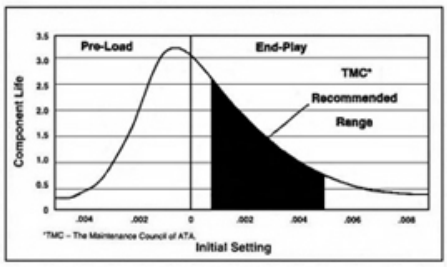
TABLE 1.



Locking clip tabs broken
Figure 4



Improperly positioned locking clip tabs
Figure 5



Recommended End Play Range

Figure 6

Installation Procedure

NOTE

If installing Axilok on vehicles purchased from an OEM, with Axilok as original equipment, follow the OEM's specific installation instructions.

1. Before installation, perform pre-installation checks:

- Be sure the spindle slot is clean and free of burrs and foreign material before installing Axilok.
- Be sure the thread size is the same on both components.
- Put a few drops of oil through one of the retainer cage holes. This will ensure friction-free movement.

2. Put Axilok in the correct size 6-point socket (refer to Table 1) and verify that the locking clips are compressed. Refer to Figure 2. Retainer cage should spin freely.
3. Align Axilok retainer cage tab or "D" flat with spindle slot or "D" flat. Be sure to start and run down the Axilok by hand. Do not use power tools. Rotate the socket clockwise until contacting bearing.

- Do not overtorque. Refer to Table 1 for specific torque values.
- Rotate the socket clockwise until contacting bearing.

4. Using a properly calibrated torque wrench, torque Axilok to the initial torque of 200 ft. lbs. while rotating hub.

- Back off 1/2 turn.
- Tighten to final torque while rotating hub. Refer to Table 1.
- Back off 1/8 turn. This will provide end play. Refer to Figure 6.

5. Remove socket and verify locking clip tabs have engaged the adjustment slots in the retainer cage. Refer to Figures, 2, 4 and 5.

WARNING

If locking clip tabs do not protrude through the adjustment slots, rotate Axilok slightly clockwise. Refer to Figures 2, 4 and 5. If locking clip(s) are broken, replace Axilok and repeat installation procedures.

6. Measure end play using a dial indicator. If correct end play is not achieved, adjust according to Adjustment Increments shown in Table 1.

- Rotate Axilok clockwise to reduce end play. (Example: from .004" to .002" end play.)
- Rotate Axilok counterclockwise to increase end play. (Example: from .001" to .003" end play.)
- This same procedure can be used to achieve a controlled pre-load condition. (Example: from .001" end play to .001" pre-load.)

7. After end play adjustment, make sure that both locking clip tabs are protruding through the slots in the retainer cage. Refer to Figures 2, 4 and 5.

3. After verifying that the locking tabs are in place, check the oil level in the hubs and fill to the required level. The Axilok repair is now complete.

SAFETY RECALL BULLETIN

AUTOCAR

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