

August 2023

FL970 (D23R6) **REV1**

NHSTA #23V-238 (Non-School Bus)

NHTSA #23V-259 (School Bus)

Transport Canada #2023-206 (Non-School Bus)

Transport Canada #2023-219 (School Bus)

Subject: Steer Axle Castle Nut and Cotter Pin

Models Affected: 2, 3 & 5 DETROIT™ Front Steer Axles

General Information

Daimler Trucks North America LLC, on behalf of its DETROIT™ Powertrain Division is initiating Recall Campaign D23R6 to check the tie rod end castle nut torque on some model 2, 3 and 5 front steer axles built between December 15, 2020 and April 14, 2021.

Replacement parts from your facing Parts Distribution Center may now be ordered. Refer to “Table 1” for the applicable part or kit number. If our records show that your dealership has ordered any vehicle(s) involved in campaign D23R6, a list of the customers and vehicle identification numbers will be available on the DTNA Portal. Please refer to this list when ordering parts for this recall.

There are approximately 410 units affected by recall campaign - D23R6 in U.S. and Canada.

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 failure to complete campaigns within a reasonable time after receiving notification. Please contact Warranty Campaigns for consideration of additional charges prior to performing the repair.

Travel Time and Mileage

Due to the complexity of this safety-related repair and the tools required, this campaign does not qualify for travel time and mileage reimbursement. The repairs for this campaign need to be completed at an Authorized DTNA Service Facility.

Work Instructions

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

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Replacement Parts

Table 1 – Replacement Parts for D23R6 (FL970)

NOTE: Only 5% of replacement is expected. Do not overstock replacement parts.

NOTE: If part number is unavailable, follow supersession chain to currently available service replacement part number.

Campaign Group	Part Description	Part Number	Quantity
ALL Groups 95% of repairs will only use this part	PIN-COTTER, 1 3/4 X 1/8	23-00800-407	2
A	TIE ROD ASM	MBA 6803307903	1
B	TIE ROD ASM	MBA 6803306803	1
C	TIE ROD ASM	MBA 6803307403	1
D	TIE ROD ASM	MBA 6813300403	1
E	TIE ROD ASM	MBA 6813300303	1
F	TIE ROD ASM	MBA 6803307803	1
G	TIE ROD ASM	MBA 6803306603	1
H	TIE ROD ASM	MBA 6803306503	1
I	TIE ROD ASM	MBA 6813300603	1
J	TIE ROD ASM	MBA 6803308803	1
K	TIE ROD ASM	MBA 6803308303	1
L	TIE ROD ASM	MBA 6803307003	1
M	TIE ROD ASM	MBA 6803309003	1
N	TIE ROD ASM	MBA 6803307303	1
O	TIE ROD ASM	MBA 6803315301	1
P	TIE ROD ASM	MBA 6803307903	1
Q	TIE ROD ASM	MBA 6813300303	1
R	TIE ROD ASM	MBA 6803307803	1
S	TIE ROD ASM	MBA 6803306503	1
T	TIE ROD ASM	MBA 6813300603	1
U	TIE ROD ASM	MBA 6803308803	1
V	TIE ROD ASM	MBA 6803308303	1
W	TIE ROD ASM	MBA 6803309003	1

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Labor Allowance

Table 2 – Labor Allowance for D23R6 (FL970)

Procedure	Time Allowed (hours)	SRT Number	Corrective Action
D23R6			
COTTER PIN, INSPECTION (FL970) 95% will fall into this category	0.3	996-R203A	12-Repair Recall/Campaign
COTTER PIN INSPECTION, TIE ROD ASSEMBLY R&R (FL970)	2.7 - 2.9	996-R203B	12-Repair Recall/Campaign

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Claim Reimbursement

You will be reimbursed for your parts, labor, and handling (landed cost for Export Distributors) by submitting your claim through the Warranty system within 30 days of completing this recall. Please reference the following information in OWL.

Table 3 – Claim Reimbursement for D23R6 (FL970)

Claim Type	Recall Campaign
Campaign	D23R6
Component Code	053-007-017
Cause Code	A1 - Campaign
Primary Failed Part	23-00800-407
Procedure A¹	
Use this labor operation for Tie Rod Inspection	
Labor Number	996-R203A
Labor Hours	0.3 hours
Part Number	Refer to Replacement Parts list and Campaign Group.
Parts Return	SCRAP
Procedure B¹	
Use this labor operation for Tie Rod assembly replacement	
Labor Number	996-R203B
Labor Hours	2.7 - 2.9 hours
Part Number	Refer to Replacement Parts list and Campaign Group.
Parts Return	SCRAP
¹ Administrative time (SRT 939-6010A) for 0.3 hours is automatically added to the claim.	

IMPORTANT: OWL must be viewed prior to beginning work to ensure the vehicle is involved in the recall and the campaign has not previously been completed.

For questions, U.S. and Canadian dealers, contact the Warranty Campaigns Department via Web inquiry at DTNAPortal.com using the WSC (Warranty Support Center) application.

IMPORTANT SAFETY RECALL

This notice applies to your vehicle(s), see enclosed VIN List.

August 2023

D23R6 (FL970) REV1

NHSTA #23V-238 (Non-School Bus)

NHTSA #23V-259 (School Bus)

Subject: Steer Axle Castle Nut and Cotter Pin

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

Daimler Truck North America LLC, on behalf of its Freightliner Trucks Division, and wholly owned subsidiaries, Freightliner Custom Chassis Corporation, Western Star Truck Sales, Inc., Thomas Built Buses (TBB), has decided that a defect, which relates to motor vehicle safety, exists in certain model year 2022-2024 school bus and non-school bus vehicles.

The affected non-school bus vehicles are: FCCC RV Chassis, Shuttle Chassis, Van Chassis, and Van Chassis – Gas, Freightliner Business Class M2, and Cascadia, Western Star 47X, 49X, 4700, and 4900 vehicles, and TBB SCHOOL BUS CHASSIS (non-school bus application).

The affected school buses are: TBB SAF-T-LINER C2 JOULEY, SAF-T-LINER EFX, SAF-T-LINER HDX, SCHOOL BUS CHASSIS, TBB CHASSIS.

See below for additional detail on vehicle applicability:

Make	Model	Model Yr. Start	Model Yr. End	Prod. Start Date	Prod. End Date
FCCC	RV CHASSIS	2022	2023	January 21, 2022	August 22, 2022
FCCC	SHUTTLE CHASSIS	2022	2022	February 4, 2022	February 4, 2022
FCCC	VAN CHASSIS	2022	2023	April 13, 2022	August 17, 2022
FCCC	VAN CHASSIS - GAS	2022	2023	January 13, 2022	October 14, 2022
Freightliner	Business Class M2	2023	2023	January 26, 2022	September 27, 2022
Freightliner	Cascadia	2023	2023	January 31, 2022	August 1, 2022
TBB	SAF-T-LINER C2 JOLEY	2023	2023	May 9, 2022	May 9, 2022
TBB	SAF-T-LINER EFX	2023	2023	March 2, 2022	July 28, 2022
TBB	SAF-T-LINER HDX	2023	2023	March 27, 2022	October 28, 2022
TBB	SCHOOLBUS CHASSIS	2023	2024	January 19, 2022	October 20, 2022
TBB	TBB CHASSIS	2023	2023	April 12, 2022	April 12, 2022
Western Star	47X	2023	2023	February 10, 2022	September 14, 2022
Western Star	49X	2023	2023	February 1, 2022	July 13, 2022
Western Star	4700	2023	2023	January 26, 2022	April 28, 2022
Western Star	4900	2023	2023	March 11, 2022	May 16, 2022

On the affected vehicles, the steer axle tie rod castle nut cotter pin may be missing, allowing the steering arm to detach. This could lead to a loss of steering response and a lack of direction control, increasing the risk of a crash. The driver may experience some additional free-play in the steering and/or feel an improper steering alignment.

A Daimler Truck North America authorized service facility will remove the cotter pin, if present, and inspect the installation of the castle nut. If the installation is correct, then a new cotter pin will be installed. If the installation is incorrect, then the tie rod assembly will be replaced. The recall will take approximately one half to three hours and will be **performed free of charge**.

**Daimler Truck
North America LLC**

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, Michigan 48239-4001
Telephone: 313-592-5000

Daimler Truck North America LLC
Warranty Campaigns Department
P.O. Box 4090
Portland, OR 97208-4090
800.547.0712 Phone

Please contact an authorized Daimler Truck North America dealer to arrange to have the recall performed and to ensure that parts are available at the dealership. To locate an authorized dealer, search online at <https://northamerica.daimlertruck.com/contact-us>. Scroll down to "Locate a Dealer" and select the appropriate brand.

You may also confirm your vehicle's involvement in this recall at the following URL:

<https://dtna-dlrinfo.prd.freightliner.com:48518/VinLookup/vin-module/getVinLookupPage>.

You may be liable for any progressive damage that results from your failure to complete the recall within a reasonable time after receiving notification.

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 a subsequent stage manufacturer, Federal law requires that you forward this notice to your distributors and retail outlets within five working days. If you have paid to have this recall condition corrected prior to this notice, you may be eligible to receive reimbursement. Please see the reverse side of this notice for details.

If you have questions about this Recall, 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 DTNA.Warranty.Campaigns@Daimlertruck.com. For other concerns, you may contact the Customer Assistance Center at (800) 385-4357. If your manufacturer, distributor, or dealer fails to remedy the defect or noncompliance without charge and within a reasonable time, you may 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 go to <http://www.nhtsa.gov>.

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

DAIMLER TRUCK NORTH AMERICA LLC

Enclosure

Reimbursement to Customers for Repairs Performed Prior to Recall

If you have already **paid** to have this recall condition corrected you may be eligible to receive reimbursement.

Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by an authorized Daimler Truck North America LLC dealer. The following documentation must be presented to your dealer for consideration for reimbursement.

Please provide original or clear copies of all receipts, invoices, and repair orders that show

- The name and address of the person who paid for the repair
- The Vehicle Identification Number (VIN) of the vehicle that was repaired
- What problem occurred, what repair was done, when the repair was done
- Who repaired the vehicle
- The total cost of the repair expense that is being claimed
- Proof of payment for the repair (such as the front and back of a cancelled check or a credit card receipt)

Reimbursement will be made by check from your Daimler Truck North America LLC dealer.

Please speak with your Daimler Truck North America LLC authorized dealer concerning this matter.

IMPORTANT SAFETY RECALL

This notice applies to your vehicle(s), see enclosed VIN list.

August 2023

D23R6 (FL970) REV1

Transport Canada #2023-206 (Non-School Bus)

Transport Canada #2023-219 (School Bus)

Subject: Steer Axle Castle Nut and Cotter Pin

This notice is sent to you in accordance with the requirements of the *Motor Vehicle Safety Act*. This is to inform you that your vehicle may contain a defect that could affect the safety of a person.

Daimler Truck North America LLC, on behalf of its Freightliner Trucks Division, and wholly owned subsidiaries, Freightliner Custom Chassis Corporation, Western Star Truck Sales, Inc., Thomas Built Buses (TBB), has decided that a defect, which relates to motor vehicle safety, exists in certain model year 2022-2023 FCCC Van Chassis – Gas, Freightliner Business Class M2, and Cascadia, TBB SCHOOL BUS CHASSIS, and Western Star 47X, 49X, 4700, and 4900 vehicles. See below for additional detail on vehicle applicability:

Make	Model	Model Yr. Start	Model Yr. End	Prod. Start Date	Prod. End Date
FCCC	VAN CHASSIS - GAS	2022	2022	February 1, 2022	February 1, 2022
Freightliner	Business Class M2	2023	2023	January 26, 2022	May 16, 2022
Freightliner	Cascadia	2023	2023	February 8, 2022	August 23, 2022
TBB	SCHOOLBUS CHASSIS	2023	2023	January 27, 2022	January 27, 2022
Western Star	47X	2023	2023	April 8, 2022	September 13, 2022
Western Star	49X	2023	2023	February 1, 2022	September 9, 2022
Western Star	4700	2023	2023	February 8, 2022	March 29, 2022
Western Star	4900	2023	2023	January 24, 2022	January 24, 2022

On the affected vehicles, the steer axle tie rod castle nut cotter pin may be missing, allowing the steering arm to detach. This could lead to a loss of steering response and a lack of direction control, potentially increasing the risk of a crash. The driver may experience some additional free-play in the steering and/or feel an improper steering alignment.

A Daimler Truck North America authorized service facility will remove the cotter pin, if present, and inspect the installation of the castle nut. If the installation is correct, then a new cotter pin will be installed. If the installation is incorrect, then the tie rod assembly will be replaced. The recall will take approximately one half to three hours and will be **performed free of charge**.

Please contact an authorized Daimler Truck North America dealer to arrange to have the recall performed and to ensure that parts are available at the dealership. To locate an authorized dealer, search online at <https://northamerica.daimlertruck.com/contact-us>. Scroll down to "Locate a Dealer" and select the appropriate brand.

You may also confirm your vehicle's involvement in this recall at the following URL:
<https://dtna-dlinfo.prd.freightliner.com:48518/VinLookup/vin-module/getVinLookupPage>.

You may be liable for any progressive damage that results from your failure to complete the recall within a reasonable time after receiving notification.

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 in locating the present owner. If you have leased this vehicle, Federal law requires that you

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forward this notice to the lessee within 10 days. If you are a subsequent stage manufacturer, Federal law requires that you forward this notice to your distributors and retail outlets within five working days.

If you have questions about this Recall, 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 DTNA.Warranty.Campaigns@Daimlertruck.com. For other concerns, you may contact the Customer Assistance Center at (800) 385-4357. If you have a safety concern relating to this Recall, you may wish to contact Transport Canada – Motor Vehicle Safety at, 80 rue Noel, Gatineau, Quebec J8Z 0A1 or phone (800) 333-0510.

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

DAIMLER TRUCK NORTH AMERICA LLC
Enclosure

August 2023

FL970 (D23R6) **REV1**

NHSTA #213-238 (Non-School Bus)

NHTSA #21V-259 (School Bus)

Transport Canada #2021-206 (Non-School Bus)

Transport Canada #2021-219 (School Bus)

Work Instructions

Subject: Steer Axle Castle Nut and Cotter Pin

Models Affected: 2, 3 & 5 DETROIT™ Front Steer Axles

Corrective Procedure

Inspection of the Tie Rod

1. Check the base label (Form WAR259) for a completion sticker for FL970 (Form WAR261), 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 work is required. If a completion sticker is not present, proceed to the next step.
2. Park vehicle on a level surface, shut down engine, and set parking brake. Chock tires.
3. Open the hood.



WARNING:

PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.



WARNING:

PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

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WARNING:

ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

4. Start engine (key ON, engine ON), and turn the steering wheel to full right, as shown in [Fig. 1](#).
5. Turn ignition OFF with park brake set.



Fig. 1, Hood Opened and Wheel Turned Full Right

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5. Remove the cotter pin from the tie rod end. See [Fig. 2](#) and [Fig. 3](#).

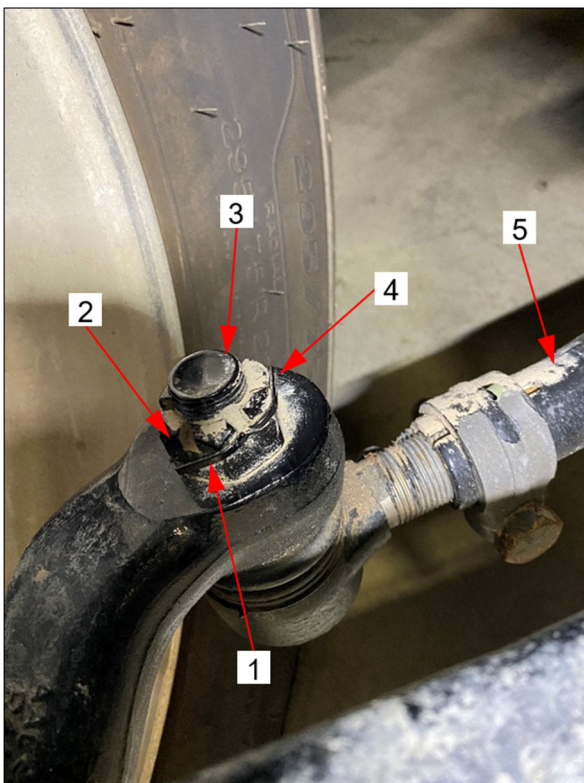


Fig. 2, Cotter Pin Location

- | | |
|-----------------|---------------|
| 1. Cotter Pin | 4. Castle Nut |
| 2. Tie Rod Arm | 5. Drag Link |
| 3. Tie Rod Bolt | |



Fig. 3, Cotter Pin Removed

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6. Use a paint pen to mark the tie rod bolt, tie rod castle nut, and tie rod arm, as shown in [Fig. 4](#).



Fig. 4, Tie Rod Bolt, Castle Nut, and Tie Rod Arm Marked

7. Tighten the castle nut to 130 lbf-ft (176 N·m), and inspect if either the tie rod bolt, tie rod castle nut, or tie rod arm have moved from the initial marked position. Do any of these components move after tightening the castle nut?
- YES** → Go to the **Tie Rod Assembly Replacement** procedure.
- NO** → Install a new cotter pin in the tie rod end.



WARNING:

PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

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WARNING:

PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



WARNING:

ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

8. Start engine (key ON, engine ON), and turn the steering wheel to full left then turn ignition OFF again with park brake set.
9. Repeat steps 5 through 7 for the front, left-hand side tie rod cotter pin.
 - a. Once both sides have been inspected and no further repair is needed based on the inspection results, proceed to step 10.
10. Repair is now complete, go to the “**Completion Stickers**” section below.

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Replacement of the Tie Rod Assembly

NOTE: Only perform this repair procedure when instructed to do so by step 7 of the 'Inspection of the Tie Rod' procedure.

1. Replace the tie rod assembly. For instructions, see **Group 33** of the applicable workshop manual.
2. Perform a full vehicle alignment. For instructions, see **Group 33** and **Group 35** of the applicable workshop manual.
IMPORTANT: If the vehicle is equipped with an APS3 steering gear, it must be calibrated when an axle alignment is performed. For calibration instructions, see **Group 46** of the applicable workshop manual.
3. Test drive the vehicle in order to calibrate the electronic stability control system (ESC).
4. Clean a spot on the base label (Form WAR259), and attach a campaign completion sticker for FL970 (Form WAR260), indicating this work has been completed.

Completion Stickers

- Upon completion of Recall Campaign FL970 (D23R6), clean a spot on the base label (Form WAR259), write the Recall Campaign Number FL970 (D23R6), on a blank, completion sticker (Form WAR260), and attach the completion sticker to the base label.
- Completion Sticker and Base Label Ordering Info: DTNA Portal > Service > Chassis Service Information > Order Literature (Warranty and Chassis Service) > Warranty