

SAFETY RECALL BULLETIN

February 2019
D18R7 (FL802)
NHTSA #18V-913 (Non-School Buses)
#18V-914 (School Buses)
Transport Canada #18-719 (Non-School Buses)
#18-720 (School Buses)

Subject: **Detroit™ Axle Steering Arm / Tie Rod Arm Capscrew Inspection**

Issue Involved

Daimler Trucks North America LLC, on behalf of its wholly owned subsidiary, Detroit Diesel Corporation, has decided that a defect which relates to motor vehicle safety exists on specific Freightliner 108SDM, 114SD, 122SD, 4700, 4900, Business Class M2, and Cascadia model vehicles; Freightliner Custom Chassis, MT45, MT55, S2G, S2RV, XBS, XCL, XCM, XCR, and XCS chassis; and Thomas Built Buses Saf-T-Liner C2, Saf-T-Liner HDX, and Saf-T-Liner EFX model school buses manufactured February 10, 2017, through July 21, 2018, with certain Detroit Axles.

On certain vehicles, the steering and tie rod arm bolts that join the steering and tie rod arm to the knuckle may not have accurate torque specification data. Without verification of torque data on the steering and tie rod arm bolts, it is unclear if the bolts were torqued to specification. Under torqued bolts may lead to a separation of the tie rod and disconnect the front wheels of the vehicle. A disconnect of the front wheels can reduce the ability to steer the vehicle, which could increase the risk of a crash.

Axles will be inspected for correct torque and repaired if necessary.

There are approximately 633 vehicles affected by this Safety Recall.

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Vehicles Involved

A list of vehicles that require this inspection is attached.

The table below gives descriptive information to help identify the affected units:

Front Axle Model Series	Front Axle Model Number	Model Year	Inclusive Front Axle Mfg. Date (From) (To)
Model 2	DA-F-8.0-2	2017-2018	February 1, 2017 to July 17, 2018
Model 3	DA-F-8.0-3 DA-F-10.0-3 DA-F-10.5-3 DA-F-12.0-3 DA-F-12.5-3 DA-F-13.0-3 DA-F-13.3-3 DA-F-14.7-3		
Model 5	DA-F-16.0-5 DA-F-18.0-5 DA-F-20.0-5		

Owner Notification

A copy of the owner letter that will be used by Detroit Diesel is enclosed with this Safety Recall Bulletin.

Dealer Campaign Responsibility

Detroit Diesel authorized Detroit™ Axle repair facilities to service all axles subject to this Safety Recall. Safety Recall D18R7 is to be performed at no charge.

Please use the appropriate steps, noted below, for indicating that Safety Recall D18R7 has been completed.

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Daimler Trucks North America Vehicles

- Check the base label (**Form WAR259**) to see if **Safety Recall D18R7** has been completed. The base label is usually located on the passenger-side door about 30 cm (12 inches) below the door latch. If **Safety Recall D18R7** has been completed, no further work is needed. If base label is not located on the passenger-side door, please affix label (**Form WAR259**) 30 cm (12 inches) from the door latch.
- Upon completion of **Safety Recall D18R7**, clean a spot on the base label (**Form WAR259**), write the Safety Recall Number (**D18R7**) on a blank, black completion sticker (**Form WAR261**), and attach it to the base label.

Ordering Information

1. If you do not have the appropriate Form or Labels (DDC_WAR 259, DDC_WAR 260, DDC_WAR 261), they can be ordered from **EPI Printers** by emailing your order to ddc@epiinc.com.
2. You can also fax in your order to **269-698-4240 Attn: Corrina Cotton**.
3. Contact **EPI Printers at 734-464-9000**.

Parts Information

There are no parts required for this Safety Recall unless an under-torque capscrew is discovered. If the inspection results require capscrew replacement, or capscrew, steering arm and steering knuckle replacement, the required parts for this repair are shown below in Table 1. Note that Detroit™ expects a very low percentage of vehicles on the list to require any parts replacement.

Front Axle Model Series	Part Number	Quantity	Description
Model 2 and Model 3	MBA 308676020025	2	Capscrew, Steering Arm - M20 x 1.5 x 80mm, 10.9
	MBA 308676020022	4	Capscrew, Tie Rod Arm - M20 x 1.5 x 90mm, 10.9
Model 5	MBA 308676024003	2 or 4 (Dual Steer)	Capscrew, Steering Arm - M24 x 2.0 x 90mm, 10.9
	MBA 308676024002	4	Capscrew, Tie Rod Arm - M20 x 2.0 x 100mm, 10.9
All Models	Refer to DTNAConnect.com and PartsPro		Steering Knuckle
All Models	Refer to DTNAConnect.com and PartsPro		Steering Arm
All Models	Refer to DTNAConnect.com and PartsPro		Tie Rod Arm
All Models	PEX 27010 or locally available equivalent		Loctite® 277 Red Threadlocker or equivalent

Table 1 – Parts Information

Capscrew Inspection Procedure

Note: Each vehicle and axle configuration may require different extensions to properly get the socket onto the capscrew so that the torque can be checked. In most cases, all of the capscrews are accessible with the steering wheel turned all the way to the left or to the right with the hood open.

1. Park the vehicle on a level surface and turn the steering wheel all the way to the left to expose the steering arm capscrews and the front tie rod arm capscrew on the driver’s side of the vehicle. The rear tie rod arm capscrew on the passenger’s side should also be accessible from behind the tire.

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2. Apply the parking brake, turn off the ignition, chock the rear wheels, and perform any other applicable safety steps.
3. Using a suitable torque wrench, check the torque on the two steering arm capscrews as well as the forward tie rod capscrew on the driver's side and the rear tie rod capscrew on the passenger's side. See Figure 1.
 - a. For Model 2 and Model 3 axles with a M20 capscrew, the torque should be checked at 525 N·m (390 lb·ft).
 - b. For Model 5 axles with a M24 capscrew, the torque should be checked at 850 N·m (630 lb·ft).

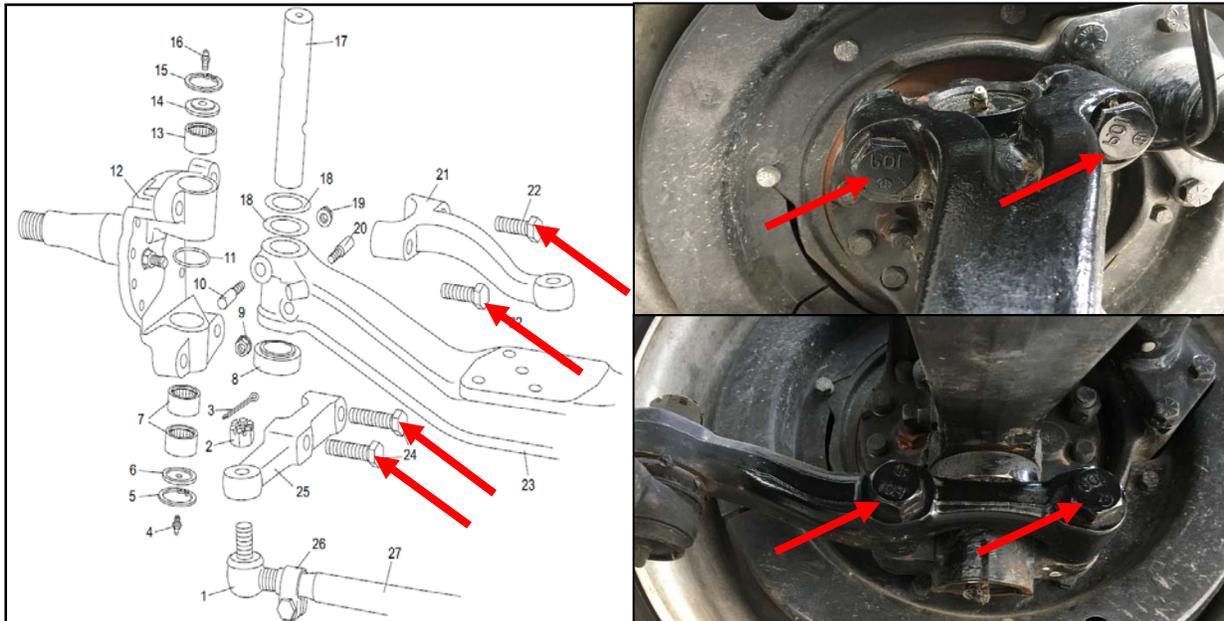


Figure 1 – Steering Arm and Tie Rod Arm Capscrew Location

4. Are the capscrews at the correct torque?
 - a. Yes; proceed to step 5 to check the other capscrews.
 - b. No; mark which capscrews are at low torque before proceeding to step 5 to check the rest of the capscrews. Any capscrews that are below the correct torque will need to be repaired following the instructions starting in step 9.

 WARNING:
PERSONAL INJURY
<p>Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.</p> <ul style="list-style-type: none">• 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
<p>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.</p>

 WARNING:
ENGINE EXHAUST
<p>To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.</p>

5. With the parking brake applied and the rear wheels chocked, start the engine and turn the steering wheel all the way to the right to expose the front tie rod arm capscrew on the passenger's side of the vehicle and the steering arm capscrews on vehicles equipped with dual steering arms. The rear tie rod arm capscrew on the driver's side should also be accessible from behind the tire.
6. Turn off the ignition and perform any other applicable safety steps.
7. Check the torque on the two steering arm capscrews (if vehicle is equipped) as well as the forward tie rod capscrew on the passenger's side and the rear tie rod capscrew on the driver's side using the same tools and specifications as in step 3 above.

8. Are the capscrews at the correct torque?
 - a. Yes; no further work is needed.
 - b. No; mark which capscrews are at low torque and proceed to the repair instructions starting in step 9.

Capscrew Repair Procedure

9. Remove the two capscrews from the steering or tie rod arm where the low torque capscrew(s) was identified, and remove the steering or tie rod arm. **Reference** section “Dissassembly of the Steering Knuckle” in the Front Axles chapter of the *Detroit Axles Manual* (DDC-SVC-MAN-0141).
10. Inspect the joint surface between the steering or tie rod arm and steering knuckle for signs of fretting, dents, or other damage from the loose capscrew(s). See Figure 2 and 3 for examples of damaged parts, and Figure 4 for an example of a new part.



Figure 2 – Fretting Damage That May Look Like Rust from Water Intrusion at Loose Joint

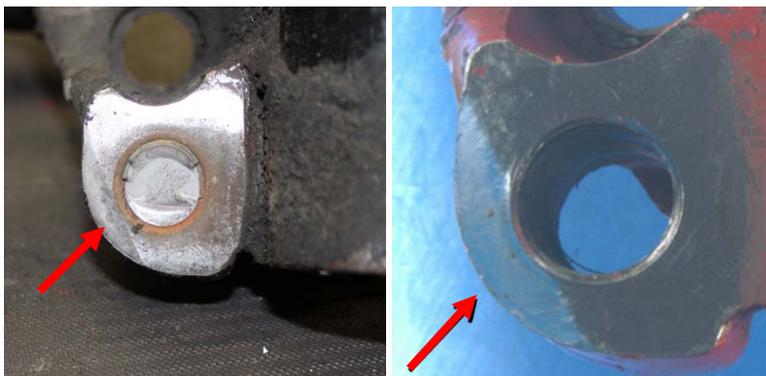


Figure 3 – Dent at the Loose Joint

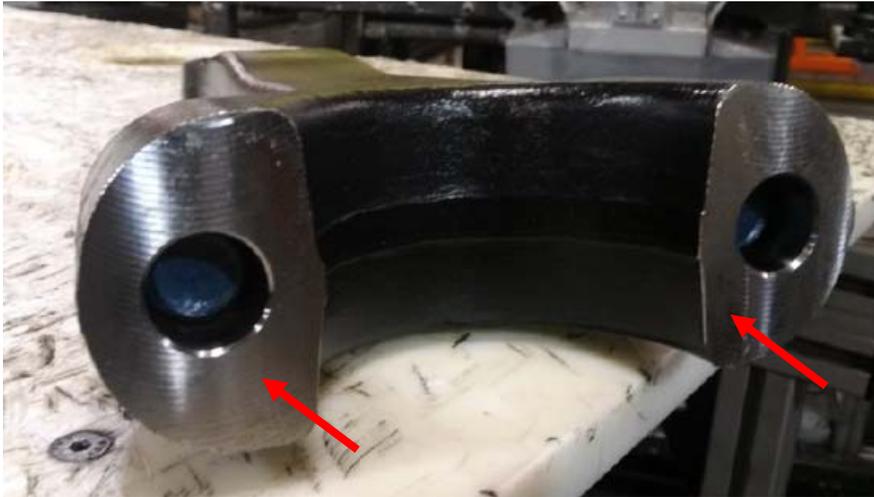


Figure 4 – New (Undamaged) Joint Surface

11. Are the joint surfaces of either the steering or tie rod arm or steering knuckle damaged?
 - a. Yes; proceed to step 12 to replace the knuckle and the arm.
 - b. No; proceed to step 14 to replace the capscrews only.
12. **Remove the steering or tie rod arm and steering knuckle. Reference** section “Dissassembly of the Steering Knuckle” in the Front Axles chapter of the *Detroit Axles Manual* (DDC-SVC-MAN-0141).
13. **Install a new steering or tie rod arm and new steering knuckle. Reference** section “Assembly of the Steering Knuckle” in the Front Axles chapter of the *Detroit Axles Manual* (DDC-SVC-MAN-0141).
14. **Install two new steering or tie rod arm capscrews. Reference** section “Assembly of the Steering Knuckle” in the Front Axles chapter of the *Detroit Axles Manual* (DDC-SVC-MAN-0141).
15. Repairs are complete.

Warranty Information

Notice	
There are nine different labor codes listed below. Use only one of these codes when filing the claim, depending on the repair necessary.	
Claim administration time, <u>SRT 939-6010A</u>, for 0.3 hours will automatically be added.	
Claim Type:	CAMPAIGN
Modification:	D18R7
Cause Code:	A1-CAMPAIGN
Primary Failed Part:	MBA 308676020022
PROCEDURE A	
Use this operation if all capscrews are verified to have proper torque	
Labor Code:	996-R061A
Labor:	0.7 Hours
PROCEDURE B	
Use one of the following labor operations if any of the capscrews are found to have low torque and only the capscrews need to be replaced	
Labor Code:	996-R061B (If one steering/tie rod arm is found with low torque)
Labor:	2.2 Hours
Labor Code:	996-R061C (If two steering/tie rod arms are found with low torque)
Labor:	3.5 Hours
Labor Code:	996-R061D (If three steering/tie rod arms are found with low torque)
Labor:	4.9 Hours
Labor Code:	996-R061E (If four steering/tie rod arms are found with low torque)
Labor:	6.2 Hours
Parts Return:	NONE

PROCEDURE C	
Use one of the following labor operations if any of the capscrews are found to have low torque and there is damage to the steering/tie rod arm and knuckle mating surfaces; This requires replacement of the entire knuckle on one or both sides of the vehicle.	
Labor Code:	996-R061F (If only one knuckle is found to be damaged and the other side passes the torque check)
Labor:	3.2 Hours
Labor Code:	996-R061G (If only one knuckle is found to be damaged and one arm on the other side is found with low torque, but is not damaged)
Labor:	4.5 Hours
Labor Code:	996-R061H (If only one knuckle is found to be damaged and both arms on the other side are found with low torque, but are not damaged)
Labor:	5.9 Hours
Labor Code:	996-R061I (If both knuckles are found to be damaged and must be replaced)
Labor:	5.5 Hours
Parts Return:	REQUIRED

Please contact the Detroit™ Customer Support Center at 855-253-0427 or email csc@daimler.com if you have any questions.

DETROIT DIESEL
13400 Outer Drive West
Detroit, Michigan 48239-4001

BULLETIN

Daimler Trucks North America LLC

Daimler Trucks North America LLC

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, MI 48239-4001
313.592.5000 Telephone

February 2019
D18R7 (FL802)
NHTSA #18V-913 (Non-School Buses)
#18V-914 (School Buses)

IMPORTANT SAFETY RECALL **This notice applies to your vehicle(s)**

Subject: Detroit™ Axle Steering Arm / Tie Rod Arm Capscrew Inspection

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

Daimler Trucks North America LLC, on behalf of its wholly owned subsidiary, Detroit Diesel Corporation, has decided that a defect which relates to motor vehicle safety exists on specific Freightliner 108SDM, 114SD, 122SD, 4700, 4900, Business Class M2, and Cascadia model vehicles; Freightliner Custom Chassis, MT45, MT55, S2G, S2RV, XBS, XCL, XCM, XCR, and XCS chassis; and Thomas Built Buses Saf-T-Liner C2, Saf-T-Liner HDX, and Saf-T-Liner EFX model school buses manufactured February 10, 2017, through July 21, 2018, with certain Detroit Axles.

On certain vehicles, the steering and tie rod arm bolts that join the steering and tie rod arm to the knuckle may not have accurate torque specification data. Without verification of torque data on the steering and tie rod arm bolts, it is unclear if the bolts were torqued to specification. Under torqued bolts may lead to a separation of the tie rod and disconnect the front wheels of the vehicle. A disconnect of the front wheels can reduce the ability to steer the vehicle, which could increase the risk of a crash.

Axles will be inspected for correct torque and repaired if necessary.

Please contact an authorized Detroit Diesel Authorized Repair Facility 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://demanddetroit.com/find-a-dealer/>. The Recall will take approximately six hours and will be performed at no charge to you.

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. Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by a Detroit Authorized Repair Facility.

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 Detroit Diesel dealer. Please speak with your Detroit Diesel authorized dealer concerning this matter.

If you have questions about this Recall, please contact the **Detroit Diesel Customer Support Center**, 13400 Outer Drive West, Detroit, MI 48239, or call **(800) 445-1980 (Eastern Standard Time)**. **Detroit Diesel's Customer Support Center is open 24 Hours / 7 Days a Week.** If you are not able to have the defect remedied 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 to <http://www.safercar.gov>.

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

DETROIT DIESEL WARRANTY CAMPAIGNS DEPARTMENT
Enclosure

Daimler Trucks North America LLC

Daimler Trucks North America LLC

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, MI 48239-4001
313.592.5000 Telephone

February 2019
D18R7 (FL802)
Transport Canada #18-719 (Non-School Buses)
#18-720 (School Buses)

Subject: Detroit™ Axle Steering Arm / Tie Rod Arm Capscrew Inspection

This notice is sent to you in accordance with the Canadian Motor Vehicle Safety Act.

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

DETROIT DIESEL WARRANTY CAMPAIGNS DEPARTMENT
Enclosure

Daimler Trucks North America LLC

Daimler Trucks North America LLC

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, MI 48239-4001
313.592.5000 Téléphone

Février 2019
D18R7 (FL802)
Transports Canada n° 18-719 (non autobus scolaires)
N° 18-720 (autobus scolaires)

Objet : Inspection des boulons de montage de l'axe / des biellettes de direction Detroit^{MC}

Le présent avis vous est envoyé conformément à la Loi canadienne sur la sécurité des véhicules automobiles.

Daimler Trucks North America LLC, au nom de sa filiale en propriété exclusive Detroit Diesel Corporation, a conclu qu'il existe une défectuosité ayant une incidence sur la sécurité des véhicules automobiles sur certains véhicules de modèles Freightliner 108SDM, 114SD, 122SD, 4700, 4900, Business Class M2 et Cascadia; châssis Freightliner MT45, MT55, S2G, S2RV, XBS, XCL, XCM, XCR, et châssis XCS; et autobus scolaires de modèles Thomas Built Saf-T-Liner C2, Saf-T-Liner HDX et Saf-T-Liner EFX fabriqués entre le 10 février 2017 et le 21 juillet 2018 avec certains essieux de marque Detroit.

Sur certains véhicules, les boulons qui joignent l'axe de direction et les biellettes au porte-fusée peuvent ne pas avoir été serrés au couple prescrit. Il est impossible d'être certain sans vérification que les boulons de l'axe de direction et des biellettes ont été serrés au couple prescrit. Des boulons insuffisamment serrés peuvent entraîner une séparation d'une biellette et désaccoupler les roues avant du véhicule. Un désaccouplement des roues avant peut réduire la capacité de diriger le véhicule, ce qui pourrait hausser le risque d'accident.

Les essieux seront inspectés pour déterminer si leur couple est adéquat et réparés si nécessaire.

Communiquez avec un concessionnaire Detroit Diesel autorisé pour organiser l'exécution du rappel et pour vous assurer que les pièces sont disponibles chez ce concessionnaire. Vous pouvez trouver un concessionnaire autorisé en ligne à <https://demanddetroit.com/find-a-dealer/>. Le rappel nécessite environ 6 heures et sera exécuté sans frais pour vous.

Vous pouvez être tenu responsable de tout dommage progressif causé par le manquement à exécuter le rappel au sein d'un délai raisonnable après la réception de l'avis.

Si vous ne possédez pas le véhicule qui correspond au(x) numéro(s) d'identification figurant sur l'avis de rappel, veuillez retourner la notification au Service de campagnes de garantie avec toute information que vous pouvez fournir, cela nous aidera à localiser le propriétaire actuel. Si vous avez loué le véhicule concerné, la loi fédérale exige que vous transmettiez le présent avis au locataire dans les 10 jours. Si vous êtes un fabricant d'étapes ultérieures, la loi fédérale exige que vous transmettiez le présent avis à vos distributeurs et détaillants dans les cinq jours ouvrables.

Si vous avez des questions concernant ce rappel, contactez le **Centre de soutien à la clientèle de Detroit Diesel**, 13400 Outer Drive West, Detroit, MI 48239, ou composez le **(800) 445-1980 (heure de l'est)**. **Le centre de soutien à la clientèle de Detroit Diesel est ouvert 24 heures par jour et 7 jours par semaine.** Au Canada, vous pouvez communiquer avec Transports Canada, Direction de la sécurité routière, 80 rue Noël, Gatineau, Québec J8Z 0A1 ou par téléphone au 800 333-0510.

Nous nous excusons de tout désagrément que le présent rappel peut vous causer, mais nous sommes certains que vous comprenez notre souci de la sécurité des véhicules motorisés.

DÉPARTEMENT DES CAMPAGNES DE GARANTIE DE DETROIT DIESEL
Pièces jointes