

# DAIMLER

Daimler Trucks North America

Nasser Zamani  
Senior Manager  
Compliance and Regulatory Affairs

March 13, 2014

Nancy Lewis  
Associate Administrator for Enforcement  
National Highway Traffic Safety Administration  
Attention: Recall Management Division (NVS-215, Rm. W45-206)  
1200 New Jersey Avenue S.E.  
Washington D.C. 20590

**RE: Defect Information Report – Supplemental Report No. 2  
13V-627, FL-656, ECAS Rear Axle Wiring  
Representative Dealer Notice**

Ms. Lewis,

In accordance with Part 573 of Title 49 of the Code of Federal Regulations, Daimler Trucks North America LLC herewith submits supplemental defect information and copies of documents distributed to dealers.

- (c)(3) Total number of potentially affected vehicles: 379
- (c)(8)(ii) Dealer and distributor notification: Began and ended: March 10, 2014
- (c)(10) A copy of communications sent to dealers is attached.

Please contact me if you have any questions, or concerns.

Sincerely yours,



Nasser Zamani

Cc: Amy Martin, CAL-OSHA  
Attachment

A Daimler Company

Daimler Trucks North America LLC  
4747 N. Channel Avenue  
Portland OR 97217-7699  
503-745-6910 Phone  
503-745-5544 Fax  
Nasser.Zamani@Daimler.com

## **Subject: ECAS Rear Axle Wiring**

**Models Affected:** Specific Freightliner Cascadia vehicles manufactured December 11, 2012, through November 27, 2013, and equipped with a MeritorWABCO Electronically Controlled Air Suspension (ECAS) system.

### **General Information**

**IMPORTANT:** If this vehicle is in Field Service campaign SF495, Recall campaign FL656 must be performed first.

**IMPORTANT:** This repair will require MeritorWABCO's Toolbox 11.2 software. Earlier versions of Toolbox 11 must be upgraded to 11.2. If the computer does not have Toolbox, or has Toolbox 10 or earlier, Toolbox 11.2 can be purchased through the MeritorWABCO website at [www.meritorwabco.com](http://www.meritorwabco.com).

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

There are approximately 380 vehicles involved in this campaign.

On certain vehicles the ECAS wiring harnesses to the rear rear forward and rear rear rear axles may have been reversed. When this condition is present the system may adjust the suspension axle height incorrectly which could reduce driving traction and park brake effectiveness. Reduced driving traction or park brake effectiveness could increase the risk of a crash.

Suspect vehicles will be inspected for incorrect wiring. Vehicles with incorrect wiring will be repaired.

### **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.

### **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**

No replacement parts are needed; however, this repair will require MeritorWABCO's Toolbox version 11.2 software. Please see Important statement above.

If our records show your dealership has ordered any vehicles involved in campaign number FL656A, a list of the customers and vehicle identification numbers will be available on [AccessFreightliner.com](http://AccessFreightliner.com).

### **Removed Parts**

U.S. and Canadian Dealers, please follow Warranty Failed Parts Tracking shipping instructions for the disposition of all removed parts. Export distributors, please destroy removed parts unless otherwise advised.

# Recall Campaign

Daimler Trucks  
North America LLC

March 2014  
FL656A  
NHTSA #13V-627

## Labor Allowance

Table 1 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Damage Code
FL656A	Inspect wiring	0.8	996-0926A	000-Inspection
	Inspect and correct wiring	2.1	996-0926B	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 (landed cost for Export Distributors) by submitting your claim through the Warranty system within 30 days of completing this campaign. Please reference the following information in QuickClaim or OWL:

- Claim type is **Recall**.
- In the FTL Authorization field, enter the campaign number and appropriate condition code (**FL656A**).
- In the Primary Failed Part Number field, enter **25-FL656-000**.
- 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.
- For OWL, the VMRS Component Code is 016-014-047 and the Cause Code is A1 - Campaign.
- **U.S. and Canada – Reimbursement for Prior Repairs.** When a customer asks about reimbursement, please do the following:
  - Accept the documentation of the previous repair.
  - Make a brief check of the customer's paperwork to see if the repair may be eligible for reimbursement. (See the "Copy of Owner Letter" section of this bulletin for reimbursement guidelines for this recall.)
  - Submit a Campaign Pre-Approval inquiry to the Warranty Campaigns Department for a decision and authorization number.
  - Include the approved amount on your claim in Other Charges section.
  - In the claim story, first note the authorization number and that the claim includes a reimbursement.
  - Retain the documentation and provide it to Warranty Campaigns or Claims Processing if requested.
  - When your claim is paid, reimburse the customer the appropriate amount.

**IMPORTANT:** ServicePro or OWL 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.

U.S. and Canadian dealers, contact the Warranty Campaigns Department from 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, via Web inquiry at [AccessFreightliner.com](http://AccessFreightliner.com) / Support / My Tickets and 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. Export distributors, submit a Web inquiry or contact your International Service Manager.

U.S. and Canadian Dealers: 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. Export Distributors: Excess inventory is not returnable.

The letter notifying U.S. and Canadian vehicle owners is included for your reference.

Please note that the National Traffic and Motor Vehicle Safety Act, as amended (ECAS Rear Axle Wiring 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. Any lessor is required to send a copy of the recall notification to the lessee within 10 days. Any subsequent stage manufacturer is required to forward this notice to its distributors and retail outlets within five working days.

# Recall Campaign

Daimler Trucks  
North America LLC

March 2014  
FL656A  
NHTSA #13V-627

## Copy of Notice to Owners Subject: ECAS Rear Axle Wiring

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

Daimler Trucks North America LLC, on behalf of its Freightliner Trucks Division, has decided that a defect which relates to motor vehicle safety exists on specific Freightliner Cascadia vehicles manufactured December 11, 2012, through November 27, 2013, and equipped with a MeritorWABCO Electronically Controlled Air Suspension (ECAS) system.

On certain vehicles the ECAS wiring harnesses to the rear rear forward and rear rear rear axles may have been reversed. When this condition is present the system may adjust the suspension axle height incorrectly which could reduce driving traction and park brake effectiveness. Reduced driving traction or park brake effectiveness could increase the risk of a crash.

Suspect vehicles will be inspected for incorrect wiring. Vehicles with incorrect wiring will be repaired.

Please contact an authorized Daimler Trucks 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 [www.Daimler-TrucksNorthAmerica.com](http://www.Daimler-TrucksNorthAmerica.com). The Recall will take approximately one to two hours depending on the work needed 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. 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@Daimler.com](mailto:DTNA.Warranty.Campaigns@Daimler.com), or the Customer Assistance Center at (800) 385-4357 after normal business hours. 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.

WARRANTY CAMPAIGNS DEPARTMENT

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 Trucks 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 Trucks North America LLC dealer.

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

March 2014  
FL656A  
NHTSA #13V-627

## Work Instructions

### Subject: ECAS Rear Axle Wiring

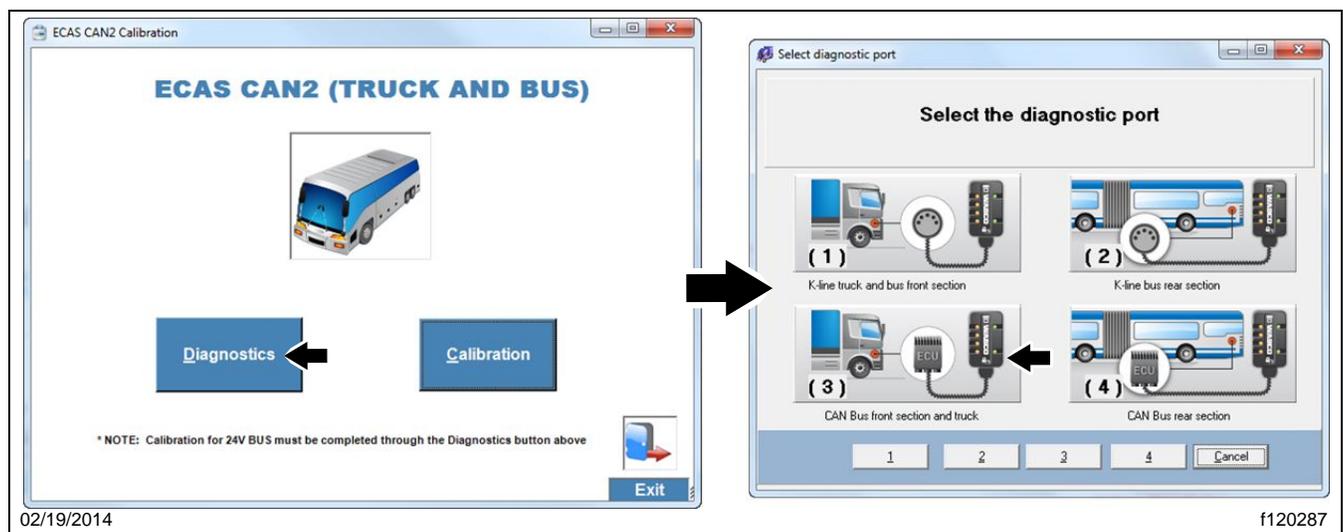
**Models Affected:** Specific Freightliner Cascadia vehicles manufactured December 11, 2012, through November 27, 2013, and equipped with a MeritorWABCO Electronically Controlled Air Suspension (ECAS) system.

**IMPORTANT:** If this vehicle is in Field Service campaign SF495, Recall campaign FL656 must be performed first.

**IMPORTANT:** This repair will require MeritorWABCO's Toolbox 11.2 software. Earlier versions of Toolbox 11 must be upgraded to 11.2. If the computer does not have Toolbox, or has Toolbox 10 or earlier, Toolbox 11.2 can be purchased through the MeritorWABCO website at [www.meritorwabco.com](http://www.meritorwabco.com).

### Air Bag Solenoid Wiring Check

1. Check the base label (Form WAR259) for a completion sticker for FL656 (Form WAR260), indicating this work has been completed. 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 needed. If a completion sticker is not present, proceed to the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.
3. Make sure Toolbox 11.2 is installed on the computer that will be connecting to the vehicle. Toolbox versions older than 11.0 will not work with ECAS.
4. Start the engine and charge the vehicle's air tank. Shut down the engine, then turn the key on.
5. Connect the Nexiq connector to the vehicle and the computer.
6. Open MeritorWABCO Toolbox 11.2. Click the ECAS CAN 2 (Truck and Bus) icon. For the diagnostic port, click option 3, "CAN BUS front section and truck." See **Fig. 1**.



**Fig. 1, Accessing the Diagnostics Option for ECAS on Cascadia Vehicles**

NOTE: Toolbox contains a number of popup warning notes for user safety. These work instructions expect the user to heed the warning note and click "Ok" in each instance.

7. Toolbox should detect any wiring faults. See **Fig. 2**. These faults must be repaired before continuing with the air suspension check. If any faults are detected, see "Troubleshooting and Fixing ECAS Faults" on page 9 and remedy any faults.

Once any and all faults are fixed, go to the next step.



**Fig. 2, Accessing Toolbox ECAS Fault Window**

8. Exit Toolbox and launch it again. Click the "ECAS" button, then the "Calibrate" button. The Calibration window will enable inflating and deflating of the air bags from the computer, providing a method to check the solenoid wiring. Test the solenoid wiring as follows (see **Fig. 3** for these substeps):
  - 8.1 Activate control of the rear drive axle and tag axle air solenoids by clicking the button for each marked "Middle."
  - 8.2 Lower the suspension all the way by clicking and holding the "Vent" button to empty the air bags.
  - 8.3 After releasing the button, check the current pressures shown in Toolbox. Each bag should be 0 to 5 kPa. Vent more air as needed.
  - 8.4 Deactivate control of the tag axle by clicking the middle button. Only the rear (drive) axle should be active. This will enable the drive axle solenoid to be triggered alone.
  - 8.5 Position the mouse cursor over the "Charge" button, then watch the air bags while pressing and holding the "Charge" button briefly. As soon as one of the bags starts to dimple a little bit, release the button. The air should be charged only enough to see which bags are inflating and which are dimpling.

# Recall Campaign

March 2014  
FL656A  
NHTSA #13V-627

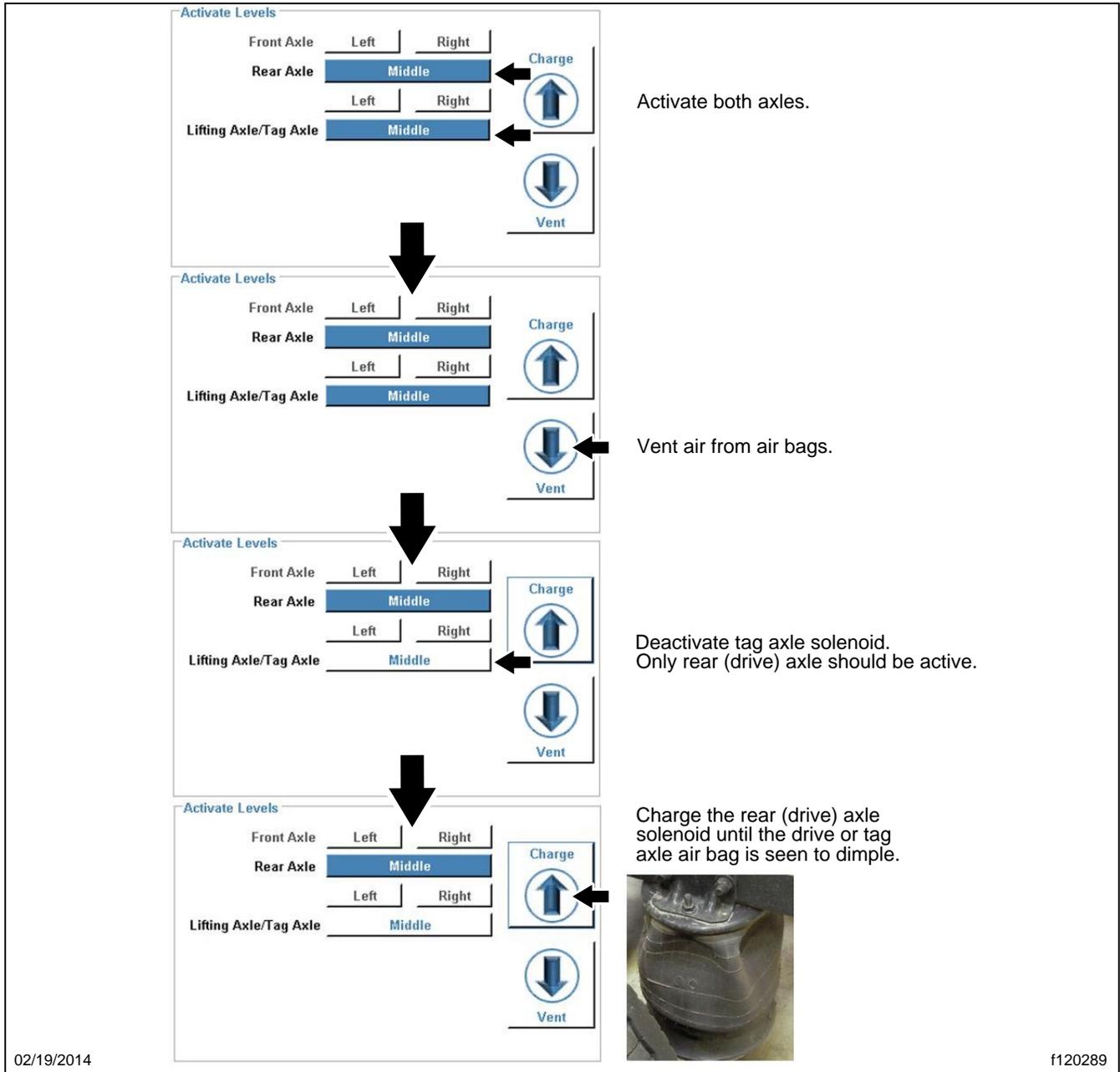
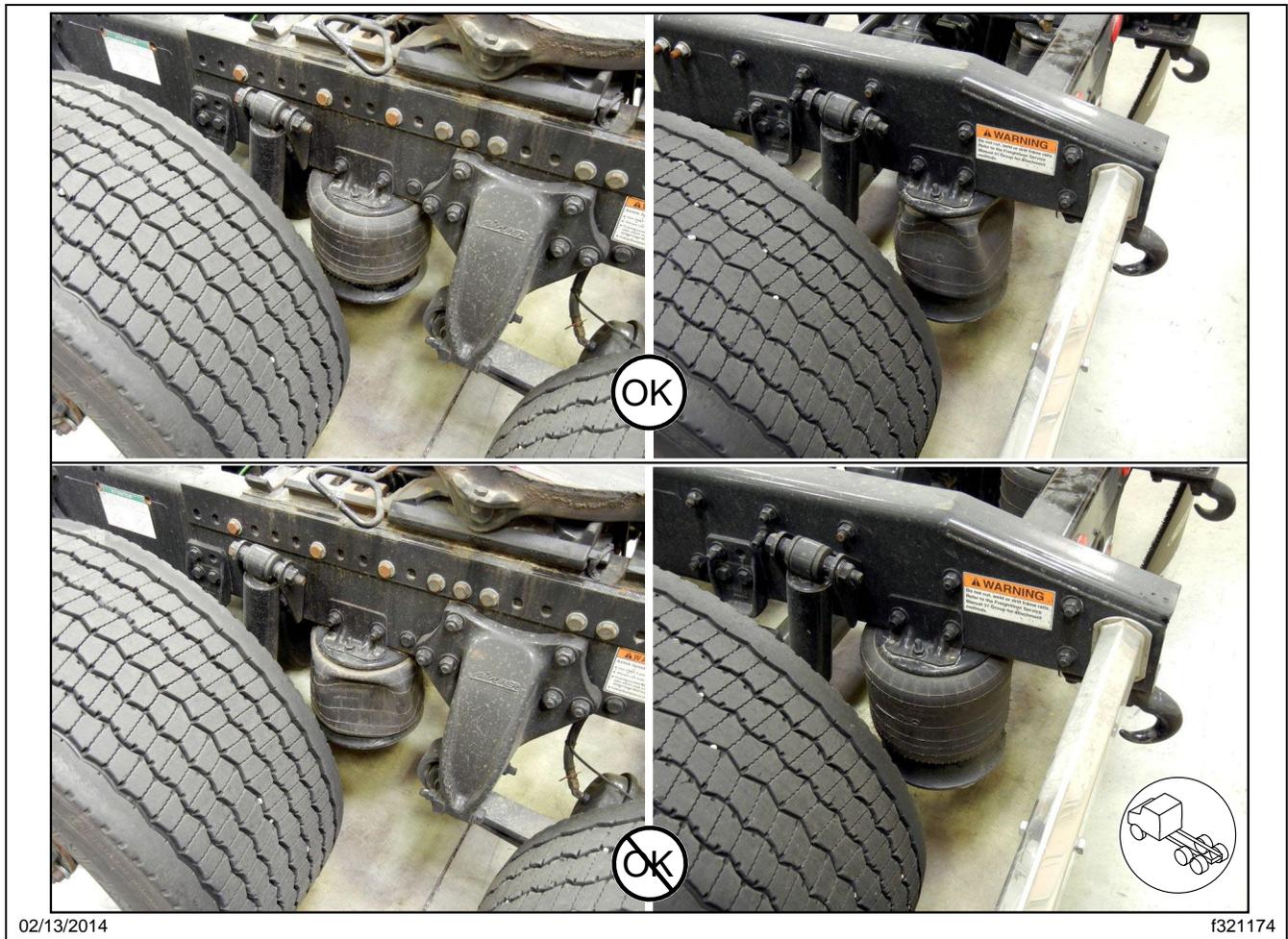


Fig. 3, Procedure for Checking for the Correct Solenoid Wiring via Toolbox 11.2

- Use Fig. 4 to check whether the wiring is correct.

If the drive axle bag dimpled and the tag axle bag inflated when Toolbox activated the drive axle solenoid, then the wiring is **INCORRECT**. Check the wiring for the solenoid circuits and make them match the G06-89395-000 wiring diagram. Go to "Finding and Repinning Incorrect Solenoid Wiring" on page 10.

If the drive axle bag inflated and the tag axle bag dimpled when Toolbox activated the drive axle solenoid, then the wiring is **CORRECT**. No repair is needed, go to the next step.



**Fig. 4, Solenoid Wiring Check: OK and NOT OK Conditions.**

10. Exit Toolbox. Turn on the the cab ECAS Remote Control using the top-middle button, and press the green button to return the vehicle to normal ride height.
11. Clean a spot on the base label (Form WAR259). Write the campaign number, FL656, on a blank red completion sticker (Form WAR260) to indicate the work has been completed and attach it to the base label.

## Troubleshooting and Fixing ECAS Faults

This procedure is only needed if Toolbox shows active ECAS faults. Faults will show on the middle-left side of the Toolbox ECAS Diagnostic screen.

1. To view details about the faults, click the icon of a magnifying glass over a red light. This is the "Display diagnostic memory content" button. See **Fig. 2**.
2. Troubleshoot any faults shown as light bulbs on a red background in the Diagnostic Memory Content screen. Red icons are active faults. Blue icons are inactive faults (fault histories). When a fault icon is highlighted, information about the fault will be shown at the bottom of the screen.

# Recall Campaign

Daimler Trucks  
North America LLC

March 2014  
FL656A  
NHTSA #13V-627

3. After any fault is corrected, refresh the Diagnostic screen using the "Refresh" button on the right.
4. Once all faults are remedied, clear the fault histories using the "Clear diagnostic memory" button on the right side of the screen.
5. Once all faults have been repaired, return to step 8 of the "Air Bag Solenoid Wiring Check" procedure on page 7.

## Finding and Repinning Incorrect Solenoid Wiring

1. Disconnect the batteries.
2. Troubleshoot the pinning of the connectors using **Fig. 5** and wiring diagram G06-89395-000 (available in EZWiring). Troubleshoot one harness at a time until the incorrect wiring is found. Only one harness should have incorrect wiring.

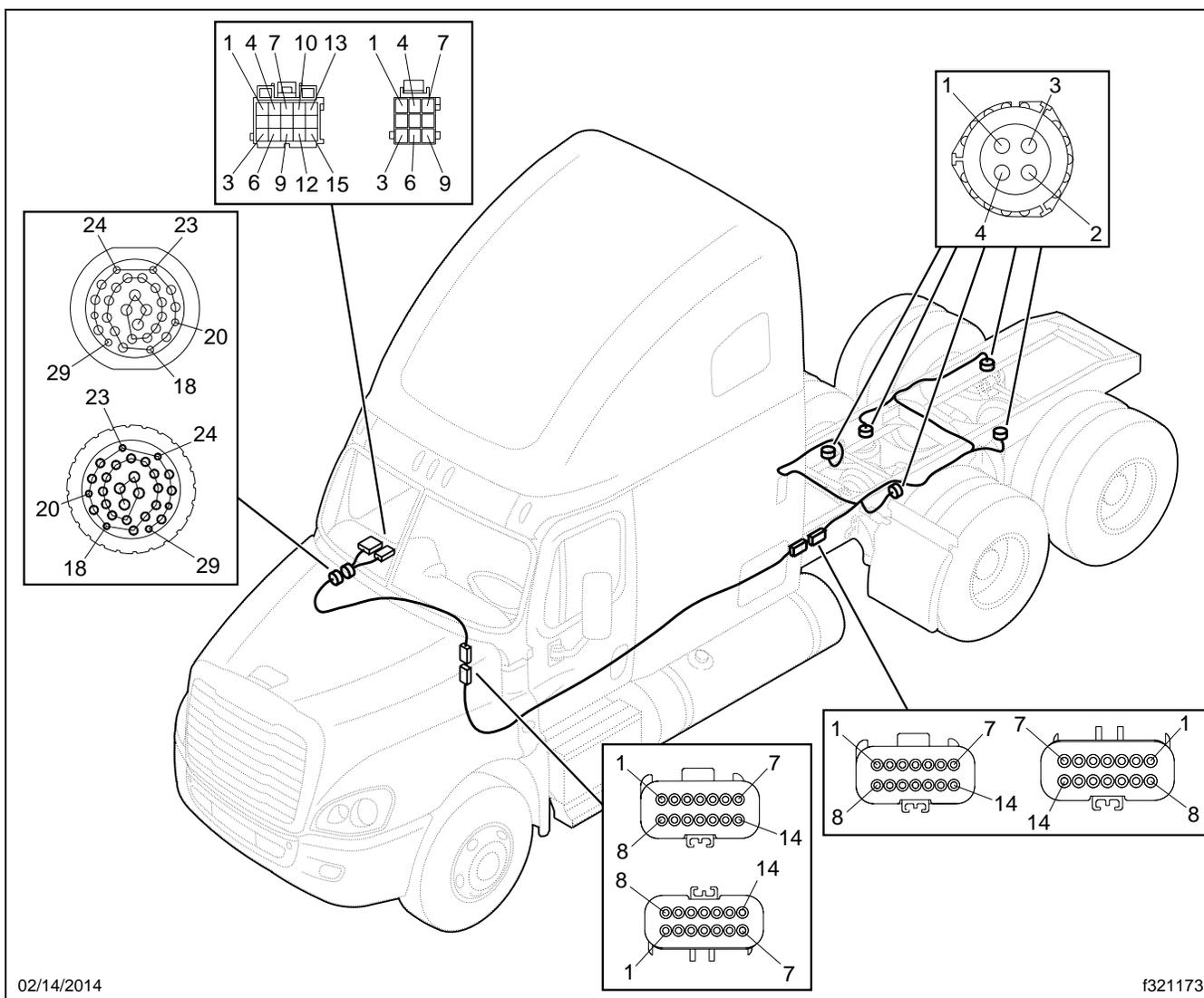
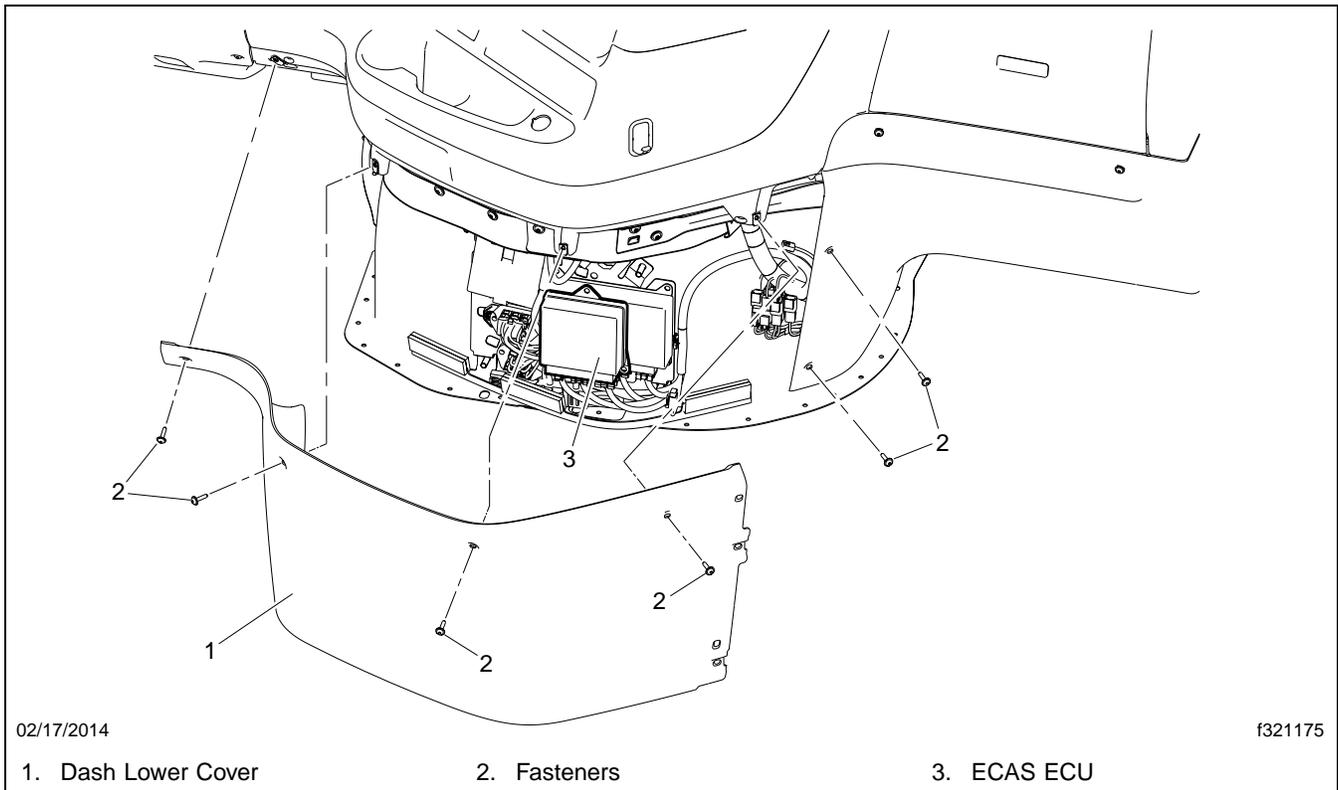


Fig. 5, ECAS Harness Routing (Pin numbering shown from the wired side of the connectors.)

Start with the rear wiring from the sensor and solenoid connectors to the 14-pin connectors above the drive axle. If the rear wiring is correct, check the 9 and 15-pin connectors at the ECAS ECU (see **Fig. 6** for ECU access) and the 14-pin connectors near the steering i-shaft. Although there is a 29-pin connector in the frontwall between the 14-pin and the ECU 9 and 15-pin, it should not be wired incorrectly.

When incorrect wiring is found:

- 2.1 Correct the pinning to match G06-89395-000.
- 2.2 For any repinned wires, check circuit continuity with an ohm check to verify the repair.



**Fig. 6, Accessing the ECU**

- 2.3 Reconnect the batteries, then use Toolbox again to test the air suspension for the correct air solenoid wiring, as performed in "Air Bag Solenoid Wiring Check" on page 6.
- 2.4 If the air suspension does not pass the solenoid wiring check, troubleshoot the next section of harness.

Once the air suspension passes the solenoid wiring check, no further repairs are necessary, but the ECAS will need to be calibrated:

If the vehicle **IS** in Field Service Campaign SF495, the ride height should be calibrated *AFTER* replacing the ECU as instructed in the SF495 campaign. Clean a spot on the base label (Form WAR259). Write the campaign number, FL656, on a blank red completion sticker (Form WAR260) to indicate the work has been completed and attach it to the base label. Proceed to Field Service Campaign SF495.

If the vehicle **IS NOT** in Field Service Campaign SF495, calibrate the height and pressure sensors. See "ECAS Calibration, Height, and Pressure Sensors" on page 12.

# Recall Campaign

March 2014  
FL656A  
NHTSA #13V-627

## ECAS Calibration, Height, and Pressure Sensors

NOTE: Two ride height blocks made of hardwood or aluminum and 2 5/8 inch (6.67 cm) tall are needed for the calibration.

NOTE: Toolbox contains a number of popup warning notes for user safety. These work instructions expect the user to heed the warning note and click "Ok" in each instance.

1. Run Toolbox 11.2. Click the ECAS CAN 2 (Truck and Bus) icon.

Click the "Calibration" button to go to the Calibration window. Use this window to calibrate the vehicle as follows (see **Fig. 7** for these substeps):

- 1.1 Activate both rear drive and tag axles by clicking both "Middle" buttons. The buttons will show blue when active.
  - 1.2 Click the "START HEIGHT CALIBRATION" button.
  - 1.3 Use the "Charge" button (up arrow icon) to inflate the suspension air bags just enough to fit a height block between the axle stop and the u-bolt clamp group on both sides of the truck. Insert a height block on each side.
  - 1.4 Lower the chassis using the "Vent" button (down arrow icon) until the axle stops rest on the height blocks.
  - 1.5 The vehicle is now at the correct ride height. Click the "SAVE NORMAL LEVEL" button in the lower left of the screen.
  - 1.6 Using the "Charge" button, raise the frame until the frame stops against the limits of the shock absorbers, then lower the frame 1/4 inch (6 mm) with the "Vent" button.
  - 1.7 The vehicle is now at the upper level. Click the "SAVE UPPER LEVEL" button in the lower left.
  - 1.8 Remove the height blocks from the suspension.
  - 1.9 Using the "Vent" button, lower the frame as low as possible.
  - 1.10 The frame is now at the lowest level. Click the "SAVE LOWER LEVEL" button in the lower left.
  - 1.11 Click the "FINISH CALIBRATION" button in the lower left.
  - 1.12 Click the "START PRESSURE CALIBRATION" button.
  - 1.13 If for some reason the frame is not now resting on the axle stops, using the "Vent" button, lower the vehicle frame to rest on the axle stops.
  - 1.14 Click the button marked "SAVE PRESSURE VALUES TO ECU".
2. Exit Toolbox, then turn on the the cab ECAS Remote Control using the top-middle button, and press the green button to return the vehicle to normal ride height. The ride height at the axle stop may vary up to 1/2 inch (1.25 cm) from the height block immediately after using the remote.

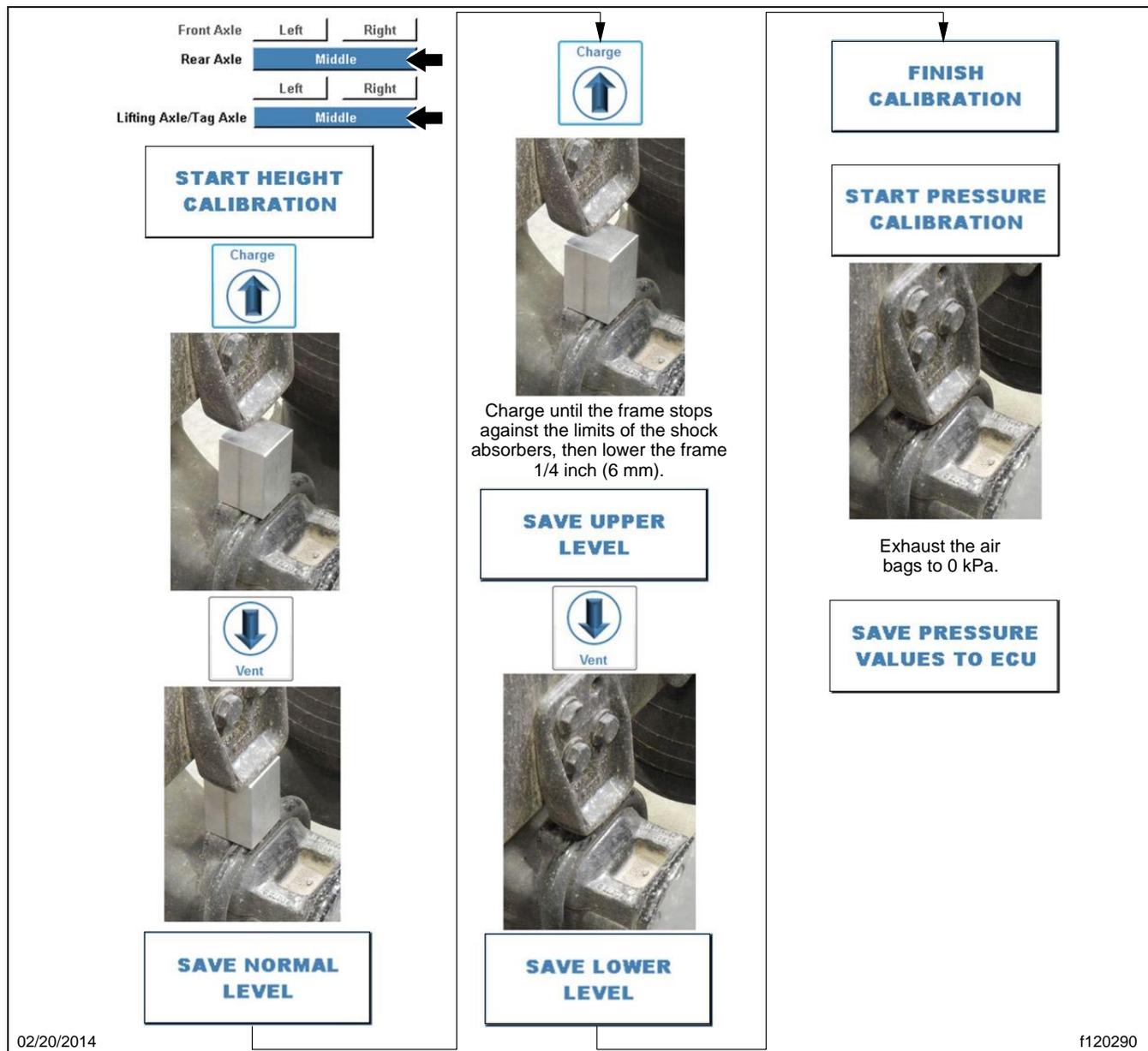


Fig. 7, Height and Pressure Calibration Procedure for ECAS using Toolbox 11.2

- Clean a spot on the base label (Form WAR259). Write the campaign number, FL656, on a blank red completion sticker (Form WAR260) to indicate the work has been completed and attach it to the base label.