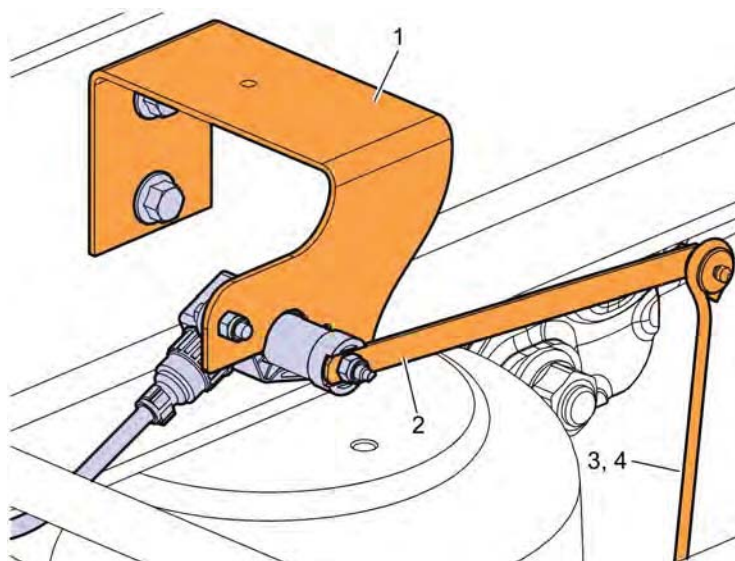


Electronically Controlled Suspension (ECS)
 Level Sensor Bracket, Replacement
 VN, VAH

FSB 728-001, Electronically Controlled Suspension (ECS) Level Sensor Bracket, Replacement

(October 2014)

In some VOLVO VN and VAH trucks built between 06/01/2012 and 08/31/2014, the Electronically Controlled Suspension (ECS) level sensor may generate a M150 S13 F3 Diagnostic Trouble Code (DTC). An M150 S13 F3 DTC causes the suspension to lock into the blocked mode which may cause damage to the shock brackets, leveling sensor rod and arm. Replacement of level sensor mounting bracket, rod, and arm is required for the repair procedure outlined in this document. Additionally, reprogramming, running the appropriate accessory kit, and calibration of the level sensor is required after installation of the repair parts.



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Required Parts (ECS Level Sensor Bracket, Replacement)

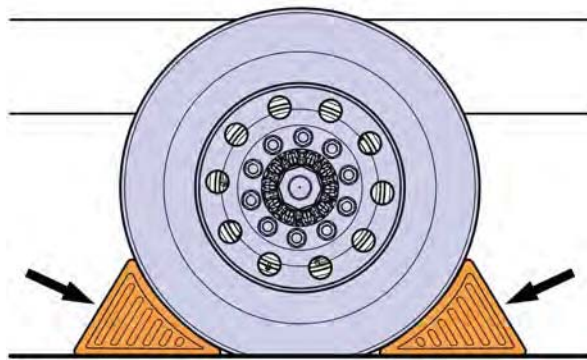
| Item | Description | Part Number | Qty |
|------|---------------------------------------|-------------|-----|
| 1 | ECS Level Sensor Bracket | 22477383 | 1 |
| 2 | ECS Level Sensor Arm | 22477385 | 1 |
| 3 | Level Control Rod (Used for VN only) | 22383590 | 1 |
| 4 | Level Control Rod (Used for VAH only) | 22503349 | 1 |

Decommissioning the Truck for Repair

You must read and understand the precautions and guidelines in Service Information, group 70, "General Safety Practices, Electrical" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

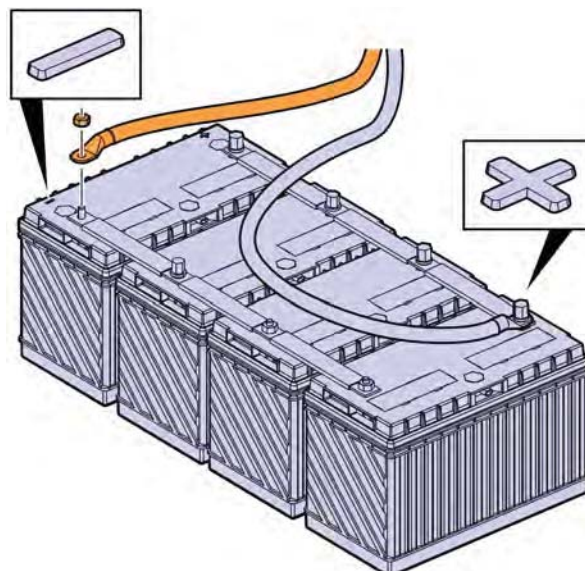
NOTE: Information is subject to change without notice. Illustrations are used for reference only and can differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

- 1 Park the vehicle on a flat and level surface.
- 2 Apply the parking brake.
- 3 Place the transmission in neutral or park.
- 4 Install the wheel chocks.



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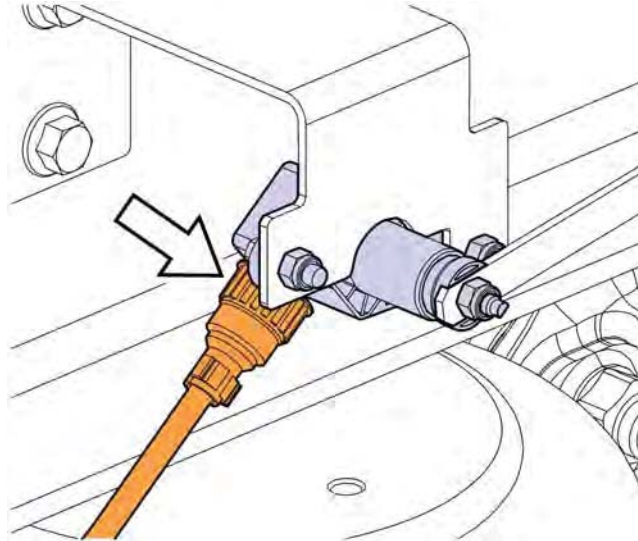
- 5 Disconnect the cable from the battery's negative terminal.



W3086747

ECS Level Sensor Bracket Replacement Procedure

- 1 Disconnect the wiring harness from the ECS level sensor.

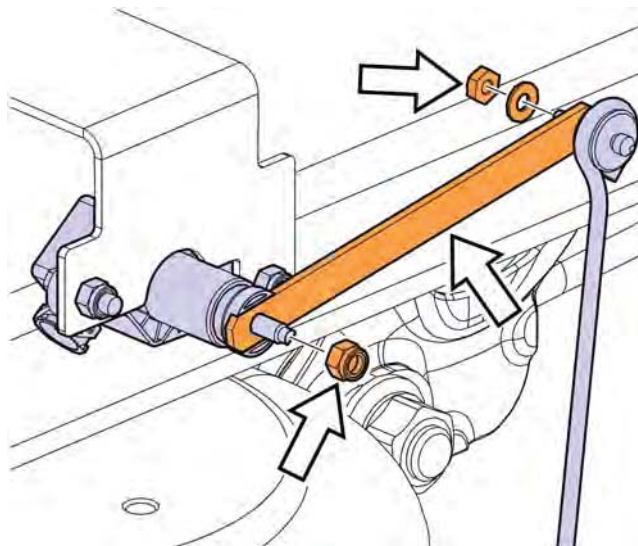


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- 2 Remove the fastener securing the level sensor arm to the ECS level sensor.
- 3 Remove the fastener securing the levels sensor arm to the level control rod.
- 4 Remove the level control arm.

Note: Do not discard the fasteners. Store the fasteners for reuse.

Note: Discard the level control arm.

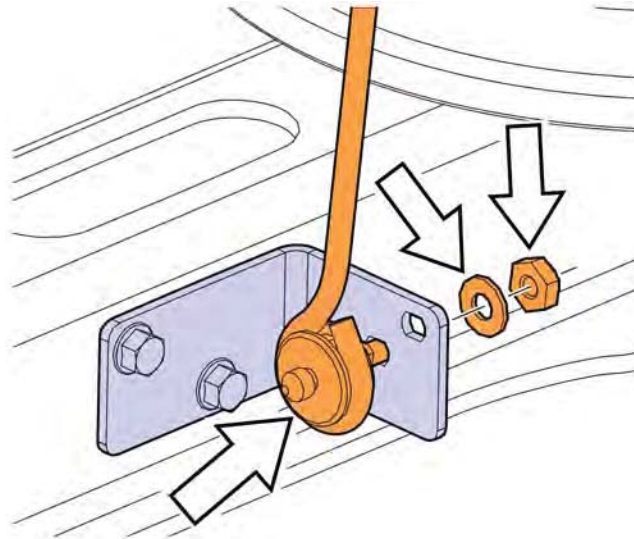


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- 5 Remove the fastener securing the level control rod to the air spring crossbar bracket.

Note: Do not discard the fastener. Store the fastener for reuse.

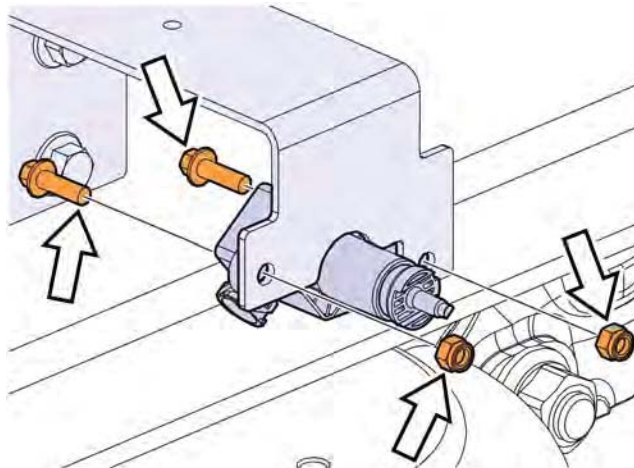
Note: Discard the level control rod.



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- 6 Remove the fasteners securing the ECS level sensor to the mounting bracket.

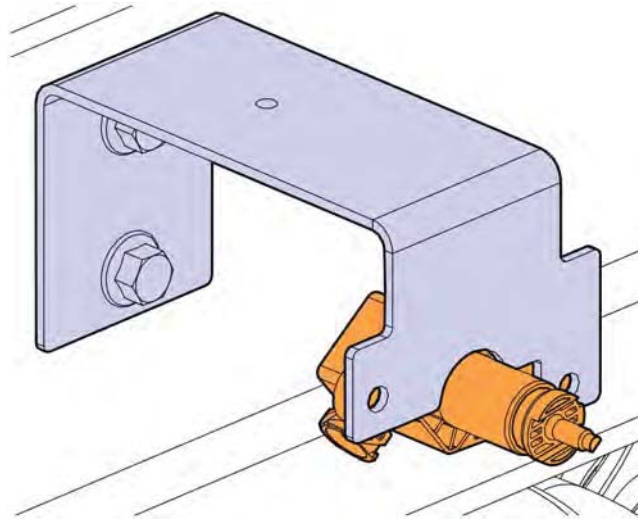
Note: Do not discard the fasteners. Store them for reuse.



W7093633

- 7 Remove the ECS level sensor from the mounting bracket.

Note: clean the level sensor of any debris and store it for reuse.

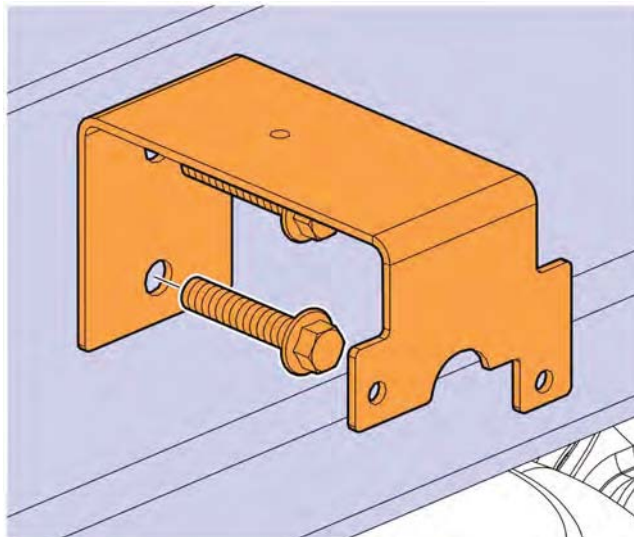


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- 8 Remove the fasteners securing the mounting bracket to the frame.

Note: Do not discard the fasteners. Store them for reuse.

- 9 Remove the mounting bracket from the frame and discard.

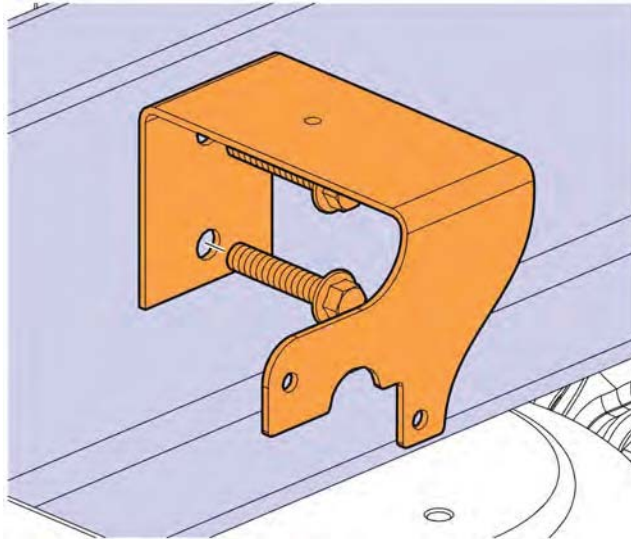


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10 Install the replacement mounting bracket.

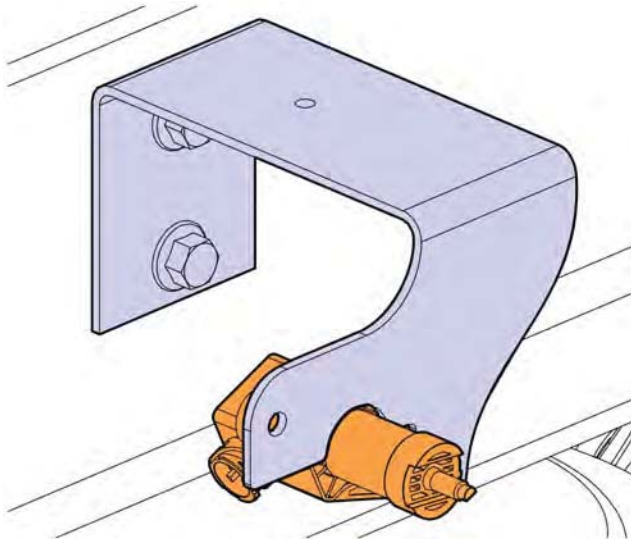
11 Using the stored fasteners, secure the mounting bracket to the frame.

12 Tighten the fasteners to 175 ± 30 Nm (129 ± 22 ft-lb).



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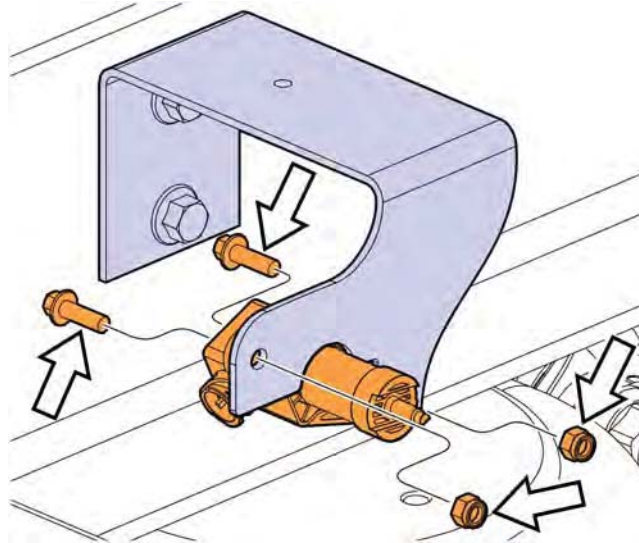
13 Install the stored ECS level sensor to the mounting bracket.



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14 Using the stored fasteners, secure the ECS level sensor to the mounting bracket.

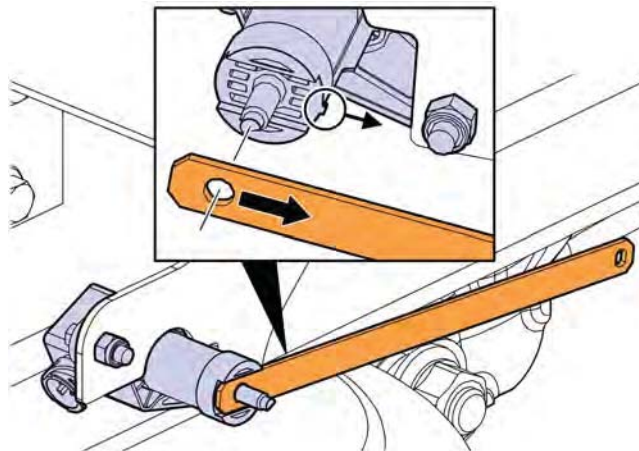
15 Tighten the fasteners to 24 ± 4 Nm (18 ± 3 ft-lb).



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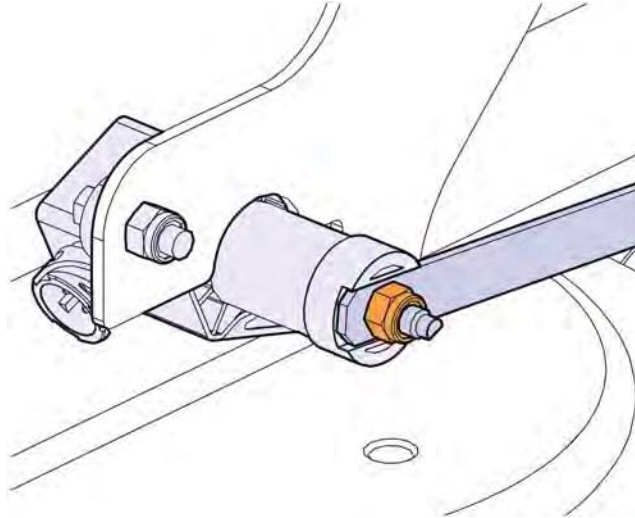
16 Install the replacement level sensor arm to the ECS level sensor.

Note: To prevent over-inflation of the suspension air bags, ensure the ECS level sensor tab and level sensor arm are aligned as shown in the figure below.



W7093639

- 17 Using the stored fastener, secure the level sensor arm to the ECS level sensor.
- 18 Tighten the fastener to 24 ± 4 Nm (18 ± 3 ft-lb).

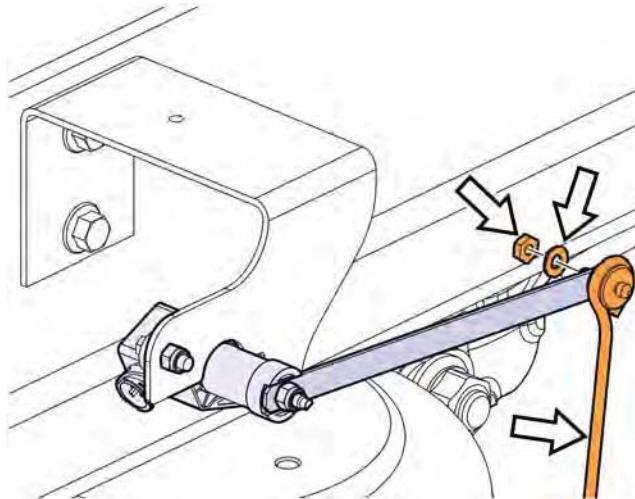


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- 19 Install the appropriate replacement level control rod to the level sensor arm.

Note: See the table on page 1 for the correct level control rod part number.

- 20 Using the stored fastener, secure the level control rod.
- 21 Tighten the fastener to 2.8 Nm (25.0 in-lb).



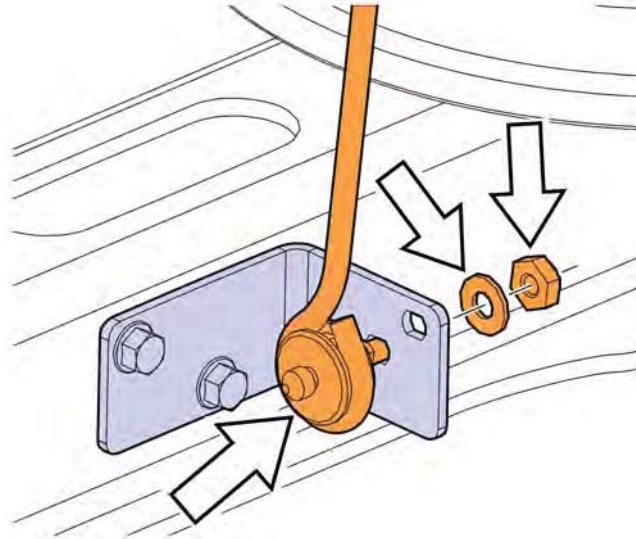
W7093641

22 Install the level control rod to the air spring crossbar bracket.

Note: Ensure the level control rod is installed in the middle hole of the air spring crossbar bracket as shown in the figure below.

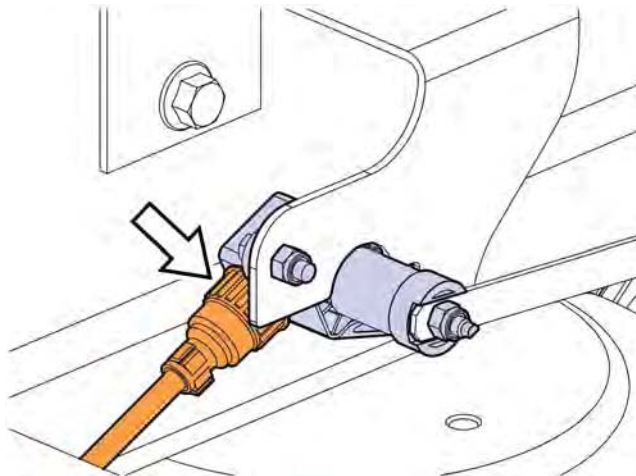
23 Using the stored fastener, secure the level control rod.

24 Tighten the fastener to 2.8 Nm (25.0 Nm).



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25 Connect the wiring harness to the level sensor.



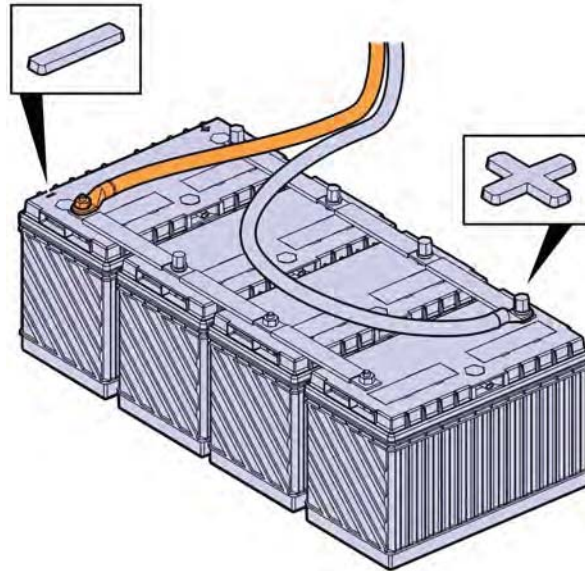
W7093642

26 Inspect all four rear upper shock brackets for any signs of bending or deformation.

Note: If any shock brackets show signs of damaged, replace them as needed. If the shock brackets are not damaged, no replacement is required.

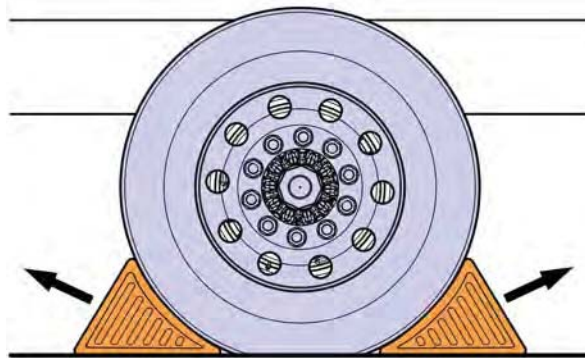
Commissioning the Truck for Operation

- 1 Connect the battery cable to the negative (ground) terminal.



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- 2 Using Premium Tech Tool (PTT), clear all DTCs set during the ECS level sensor replacement procedure.
- 3 Using PTT, run accessory kit number 85144396.
- 4 Using PTT, perform a level sensor calibration.
- 5 Remove the wheel chocks.



W7086759

Reimbursement

| | | |
|--|---------------------------|--------------------------------|
| This repair may be eligible for reimbursement if a product failure was experienced within time and mileage limits of the applicable Warranty coverage. Reimbursement is obtained via the normal claim handling process. | UCHP Reimbursement | eWarranty Reimbursement |
| Claim Type (used only when uploading from the Dealer Bus. Sys.) | W | W |
| Labor Code | | |
| Primary Labor Code (ECS Level Sensor Bracket, Replacement) | 7281-03-09-01 1.5 hrs. | 72803-2-00 1.5 hrs. |
| Causal Part | 21731965 | 21731965 |

VOLVO Trucks North America reserves the right to make any changes in design or to make additions to or upon its products without incurring any obligations to install the same on vehicles previously built.