



# **SERVICE PROCEDURE**

**21501  
APRIL 2021**

**SUBJECT: SAFETY RECALL**

**Battery Ground Cable on certain International® LT® Series trucks built 18 May 2016 thru 03 March 2021 and Lonestar® Series trucks built 21 July 2017 thru 16 December 2020 with an 08XHK or 08XHL left side under cab Battery Box, a Cummins® X15 or ISX engine, and 6 x 2 or 6 x 4 chassis configuration.**

**DEFECT DESCRIPTION**

The battery ground cable may break at the frame connection resulting in loss of electrical power and unintended engine shut down without warning. Unintended engine shut down without warning may result in a vehicle being stalled on the side of the roadway which could increase the risk of a vehicle crash.

**MODELS INVOLVED**

This safety recall involves certain International® LT® Series trucks built 18 May 2016 thru 03 March 2021 and Lonestar® Series trucks built 21 July 2017 thru 16 December 2020 with an 08XHK or 08XHL left-side under cab Battery Box, Cummins X15 or ISX engine, and 6 x 2 or 6 x 4 chassis configuration.

**ELIGIBILITY**

This procedure applies **ONLY** to vehicles marked in the International® Service Portal™ with Safety Recall 21501. Also complete any other open campaigns listed on the Service Portal at this time.

**PARTS INFORMATION**

**NOTE: Do not preorder kits or standalone cables for inventory. Only order additional battery cable kits and/or standalone battery cables once a confirmed appointment has been made and according to vehicle build date.**

**NOTE: There are two populations of vehicles: Population 1 and Population 2. Vehicle build date determines which parts are required for each build.**

- **Population 1 – Vehicles built from 18 May 2016 - 10 November 2019**
- **Population 2 – Vehicles built from 11 November 2019 - 03 March 2021**

Part Number	Part Description	Quantity
K2H2212035	Cable, Battery, Negative 00 Gauge	1
Source Locally	Strap, Cable Lock - 14 inch	1
3744063C1	M10 X 45MM Bolt	1
3718728C1	Nut, Special M10X1.50 Hexagon	1
476074C1	Nut, Battery Terminal 3/8 Inch UNC	1
NANO2133005	Dielectric Grease Coating (BLUE)	As Needed
NANO4311832	Paint, Type Electric Sealant (RED)	As Needed

**Parts Table 1 – Population 1**

Part Number	Part Description	Quantity
8900291R91	Kit, Ground Battery Cable	1
3744063C1	M10 X 45MM Bolt	1
3718728C1	Nut, Special M10X1.50 Hexagon	1
476074C1	Nut, Battery Terminal 3/8 Inch UNC	1
NANO2133005	Dielectric Grease Coating (BLUE)	As Needed
NANO4311832	Paint, Type Electric Sealant (RED)	As Needed

**Parts Table 2 – Population 2**

**8900291R91** contains the following parts:

Part Description	Quantity
Cable, Battery, Negative 00 Gauge	1
Clamp, Saddle	1
Bolt ¼ Inch X ¾ Inch	1
Washer, Lock, ¼ inch Reg Steel /ZNC ¼ Inch	1
Nut, Hexagon Type 8 ¼ Inch UNC	1
Extension, Clip	1
Guide, Brake Hose and Cable Spacer / Swivel Saddle	3
Strap, Cable Lock	10

## **SERVICE PROCEDURE**

**WARNING!** To prevent personal injury and / or death, or damage to property, park vehicle on hard flat surface, turn the engine off, set the parking brake and install wheel chocks to prevent the vehicle from moving in either direction.

**WARNING!** To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

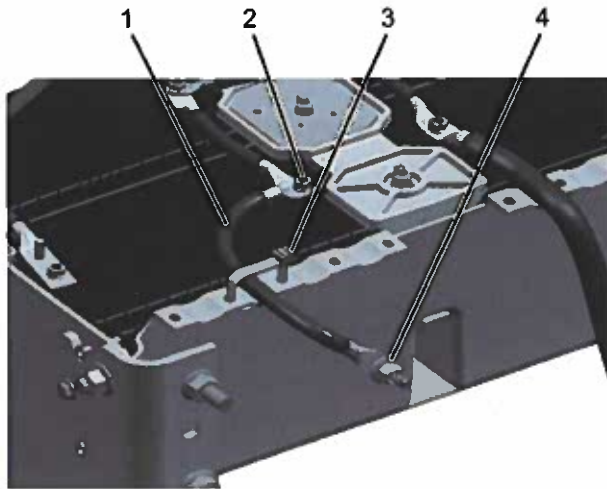
**WARNING!** To prevent personal injury and / or death, or damage to property, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

**WARNING!** To prevent personal injury and / or death, or damage to property, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

**NOTE:** There are two populations of vehicles. Depending on the population number / vehicle build date will determine the steps to perform. All vehicles need to perform Steps 1 through 3. After Steps 1 through 3 are completed, proceed to the correct service procedures.

1. Park vehicle on flat surface.
2. Shift transmission to Park or Neutral and set parking brake.
3. Install wheel chocks.

**Population 1 – Service Instructions for Vehicles Built 18 May 2016 thru 10 November 2019**



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**Figure 1. Routing of New Battery Cable for Population 1**

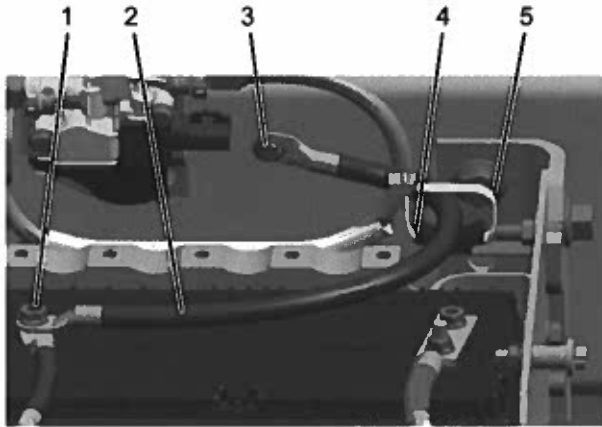
1. Battery ground cable
2. Battery stud nut
3. Cable tie strap
4. Battery cable frame bolt and nut

**NOTE: When performing Step 4, discard negative battery cable bolt and nut at frame, and battery cable retention nut at battery. Replace with new nuts and bolts.**

4. Remove negative battery cable (Figure 1, Item 1) from main battery to frame.
5. Clean negative battery cable connection point on the frame.
6. Route new negative battery cable to the frame as shown in Figure 1.
7. Connect negative battery cable to battery stud.
8. Install new battery cable frame bolt (Figure 1, Item 4), install new ground cable and new nut (Figure 1, Item 4). Using a torque wrench, tighten cable frame nut to 31 lb-ft (42 N•m). Apply RED electric sealant paint to cable, bolt, and nut.
9. Secure negative battery cable with cable tie strap (Figure 1, Item 3), tighten cable tie strap to cable, and remove excess material.

10. Apply dielectric grease to battery stud and threads of new nut. Install nut. Using torque wrench, tighten battery terminal nut to 12 to 15 lb-ft (16.3 to 20.3 N•m).
11. Proceed to Step 25.

**Population 2 – Service Instructions for Vehicles Built 11 November 2019 thru 03 March 2021**



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**Figure 2. Routing for Truck for Population 2**

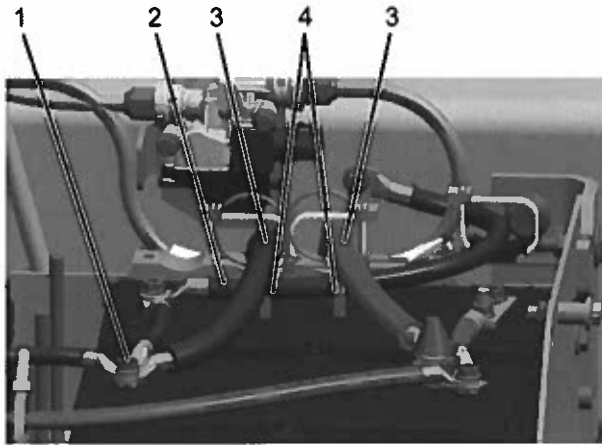
1. Battery stud nut
2. Negative battery cable
3. Battery cable frame bolt and nut
4. Saddle clamp
5. Extension clip

**NOTE: When performing Step 12, discard negative battery cable bolt and nut at frame and battery cable retention nut at battery. Replace with new bolt and nut.**

12. Remove negative battery cable (Figure 2, Item 2) from main battery to frame.
13. Clean negative battery cable connection point on frame.
14. Route new battery ground cable to frame (Figure 2, Item 2) and under all other harnesses that may be in battery box.
15. Connect negative battery cable to battery stud.

16. Install new battery cable frame bolt (Figure 1, Item 3), install new ground cable and new nut (Figure 1, Item 3). Using a torque wrench, tighten cable frame nut to 31 lb-ft (42 N•m). Apply RED electric sealant paint to cable, bolt, and nut.
17. Assemble saddle clamp (Figure 2, Item 4) to extension clip (Figure 2, Item 5) from kit.
18. Remove existing bolt and nut from battery box and install extension clip and tighten fastener (Figure 2, Item 5).
19. Secure negative battery cable to saddle clamp (Figure 2, Item 4), tighten cable tie strap and remove excess material.
20. Apply dielectric grease to battery stud and threads of new nut. Install nut. Using a torque wrench, tighten cable frame nut to 12 to 15 lb-ft (16.3 to 20.3 N•m).
21. Check if vehicle is equipped with additional wiring in battery box in location of newly installed negative battery cable.
  - a. No: Proceed to Step 25.
  - b. Yes; there is additional wiring and clipping required. Perform all additional steps for all additional options the truck you are working on is equipped with. Once all necessary additional steps have been completed, proceed to Step 25.
    - i. Inverter system wiring: 0008XDM, 0008XLD
      - Refer to Step 22
    - ii. Lift gate wiring
      - Refer to Step 23
    - iii. No-idle system
      - Refer to Step 24

## Inverter Wiring



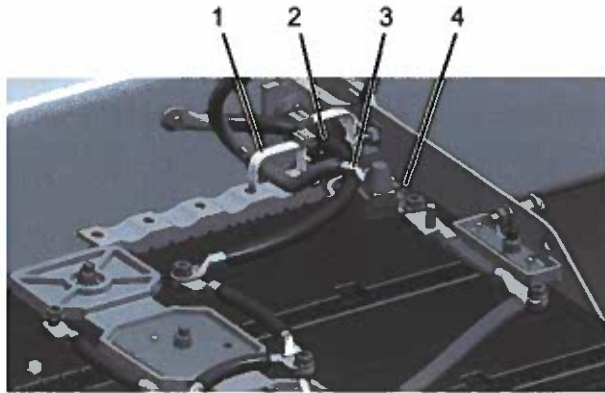
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**Figure 3. Routing for Truck with Inverter Systems**

1. Battery stud nut
2. Negative battery cable
3. Inverter power and ground cable (2)
4. Swivel saddle

### 22. Inverter Cable Wiring:

- i. Install swivel saddle (Figure 3, Item 4) between negative battery cable and both inverter cables. Secure both swivel saddles in place with cable tie straps. Tighten cable tie straps and remove excess material.



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**Figure 4. Routing for Truck with Lift Gate Wiring**

1. Cable tie strap
2. Negative battery cable
3. Lift gate wiring
4. Cube fuse for lift gate wiring

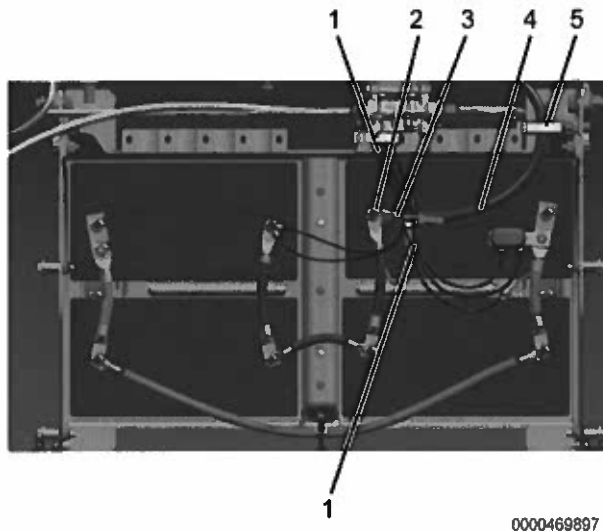
**NOTE: If Step 23 ii and iii are performed, remove battery stud nut and discard. Replace nut with new.**

**23. Lift Gate Wiring:**

- i. Inspect for clearance between newly installed negative battery cable and wiring for lift gate wiring, Figure 4, Items 2 and 3.
- ii. If little to no clearance, loosen cable on cube fuse and battery nut.
- iii. Rotate cube fuse to gain clearance, apply dielectric grease to battery stud and threads of new nut. Install nut. Using a torque wrench, tighten battery terminal nut to 12 to 15 lb-ft (16.3 to 20.3 N•m).
- iv. Install swivel saddle between negative battery cable and lift gate wiring (Figure 4, Items 2 and 3) (swivel clamp NOT shown). Secure in place with cable tie straps. Tighten cable tie straps and remove excess material.



## No Idle HVAC Cabling



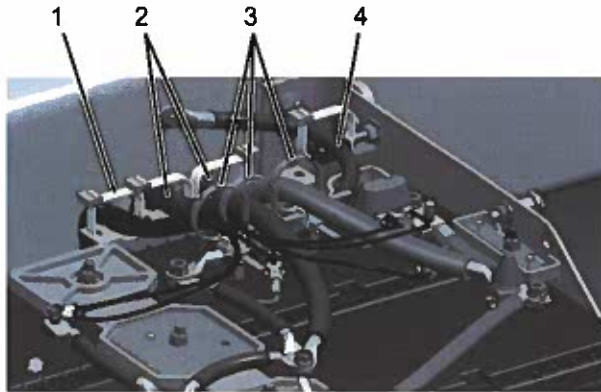
**Figure 5. Routing for Truck with No-idle HVAC**

1. No-idle HVAC cabling
2. Battery stud nut
3. Swivel saddle
4. Negative battery cable
5. Saddle clamp

### 24. No-idle HVAC Wiring

- i. Install swivel saddle (Figure 4, Item 3) between negative battery cable and No-idle HVAC cabling and secure in place with cable tie straps. Tighten cable tie straps and remove excess material.

## Inverter Wiring and No-idle HVAC Wiring



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**Figure 6. Cable Routing: When Equipped with Inverter Wiring and No-idle HVAC**

1. No-idle HVAC wiring
2. Inverter power and ground cable (2)
3. Swivel saddle (3)
4. Negative battery cable

**NOTE: Figure 6 illustrates battery box when equipped with both inverter wiring and No-idle HVAC.**

25. Inspect all cables to verify there is clearance and no rub points. Adjust as required.
26. Remove wheel chocks.

## END OF SERVICE PROCEDURE

### LABOR INFORMATION

Operation Number	Description	Time
A40-21501-1	Replace Battery Cable – Population 1	0.4 hrs
A40-21501-2	Replace Battery Cable – Population 2	0.5 hrs

## CAMPAIGN IDENTIFICATION LABEL

Each vehicle corrected in accordance with this campaign must be marked with a CTS-1075 Campaign Identification Label.

Complete the label and attach on a clean surface next to the vehicle identification number (VIN) plate.



## ADMINISTRATIVE / DEALER RESPONSIBILITIES

### WARRANTY CLAIMS

Warranty claim expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Safety Recall 21501.

Section 7 of the Warranty Policy and Procedures Manual contains further information related to the submission and processing of AFC / Recall claims.

As with all claim submissions, items acquired locally must be submitted in the "Other Charges" tab. The cost of any bulk items (such as a bag of cable tie straps, roll of wire, barrel of oil, or tube of silicone) should be prorated for the cost of the individual pieces / amount used during each repair.

	GROUP	NOUN	C	WARR.	TP	PAD

GROUP — Enter number ←

NOUN — Leave blank ←

C (CAUSE) — Enter either 1, 2, 3. (See below)

1. Inspected (No repair required).
2. Inspected and repaired.
3. Defective part from parts stock.

WARRANTY — (Warranty Code) Enter 40. ←

TYPE PART — Enter P for type part causing failure. ←

PAD — Enter 100 ←

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## **UNITED STATES AND POSSESSIONS**

The National Traffic and Motor Vehicle Safety Act, as amended, provides that each vehicle that is subject to a vehicle recall campaign must be adequately repaired within a reasonable time after the owner has tendered it for repair. A failure to adequately repair within 60 days after a tender of a vehicle is prima facie evidence of failure to repair within a reasonable time. If the condition is not adequately repaired within 60 days, the owner may be entitled to replacement with an identical or reasonable equivalent vehicle at no charge, or to a refund of the purchase price less a reasonable allowance for depreciation.

Dealers must correct all vehicles subject to this campaign at no charge to the owner, regardless of mileage, age of vehicle, or ownership, from this time forward.

Dealers should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your dealer location.

Dealers must make every effort to promptly schedule an appointment with each owner to repair his or her vehicle as soon as possible. However, consistent with the customer notification, dealers are expected to complete the repairs on the mutually agreed upon service date.

Dealers involved in the recall process will be furnished a listing of owner names and addresses to enable them to follow up with owners and have the vehicles corrected. Use of this listing must be limited to this campaign because the list may contain information obtained from state motor vehicle registration records, and the use of such motor vehicle registration data for purposes other than this campaign is a violation of law in several states.

## **CANADA**

Dealers must correct all vehicles subject to this campaign at no charge to the owner, regardless of mileage, age of vehicle, or ownership, from this time forward.

Dealers should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your dealer location.

Dealers must make every effort to promptly schedule an appointment with each owner to repair his or her vehicle as soon as possible. However, consistent with the customer notification, dealers are expected to complete the repairs on the mutually agreed upon service date.

Dealers involved in the recall process will be furnished a listing of owner names and addresses to enable them to follow up with owners and have the vehicles corrected. Use of this listing must be limited to this campaign because the list may contain information obtained from state motor vehicle registration records, and the use of such motor vehicle registration data for purposes other than this campaign is a violation of law in several states.

## **EXPORT**

Export Distributors should proceed immediately to make necessary correction to units in inventory. All inventory vehicles subject to this recall campaign must be corrected prior to sale, transfer or delivery. If vehicles have been sold or transferred and you are in receipt of Customer Notification Letters and Authorization for Recall Service cards for those vehicles, the transfer location or customer must be notified immediately from your distributor location.

Export Distributors are to submit warranty claims in the usual manner making reference to this recall number.

Export Distributors are expected to provide full cooperation and follow-up with respect to this important subject matter. If you have any questions or need further assistance, please contact the Regional Service Manager at your regional office.

## **NAVISTAR, INC.**

