

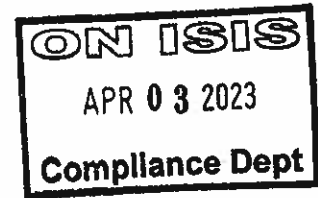
SERVICE PROCEDURE

23501
APRIL 2023

SUBJECT: NONCOMPLIANCE RECALL
Roof Lining Joints on certain 2022 thru 2024 IC Bus® CE and RE Series school bus models and 2023 IC Bus® Electric CE Series school bus models built 09/01/2021 thru 01/12/2023.

CUSTOMER LETTER

Print ready (PDF file) copy of the Customer Letter



DEFECT DESCRIPTION

Certain school buses may not conform to Federal Motor Vehicle Safety Standard (FMVSS) 221 – The roof lining joints may not meet the required joint strength pull test requirement. A school bus roof panel with insufficient joint strength may separate during a crash, increasing the risk of injury.

MODELS INVOLVED

This noncompliance recall involves certain 2022 thru 2024 IC Bus® CE and RE Series school bus models and 2023 IC Bus® Electric CE Series school bus models built 09/01/2021 thru 01/12/2023.

ELIGIBILITY

This procedure applies ONLY to vehicles marked in the International® Service PortalSM with Safety Recall 23501. Also complete any other open campaigns listed on the Service Portal at this time.

TOOL INFORMATION

Description	Tool Number
Scaffold or safety harness	None
Tape measure	None
Slow speed drill	None
#21 drill bit 0.1590 in (4.0386 mm) diameter	None
Drill bit stop	None
Center punch and hammer	None

Table 1 Tools Information

VEHICLE RECALL 23501

PARTS INFORMATION

NOTE: There are 50 screws per box and one box can repair two roof top sheet joints. Depending on the length and / or roof hatch configuration of the bus being repaired you may need up to five boxes per bus.

NOTE: These screws are AB #10-16 X 3/4 in Cross Recessed Pan Head, have a sealer applied and have the heads painted white or yellow to blend with the color of the roof.

Part Number	Part Description	Quantity
8900142R91	AB #10-16 x 3/4 in YELLOW NSBC W/ FISHER COMPOUND	As Needed
8900143R91	AB #10-16 x 3/4 in WINTER WHITE W/ FISHER COMPOUND	As needed

Table 2 Parts Information

SERVICE PROCEDURE

WARNING! To prevent personal injury and / or death, or property damage, 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 both directions.

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 property damage, 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, work on a level scaffold of appropriate size and / or wear a safety harness in good working condition. IC Bus, LLC recommends the use of a fall protection system and / or scaffolding to perform this service procedure. Consult your OSHA representative for guidance.

IMPORTANT: Portions of this repair procedure must be performed on the roof of the bus. Please refer to the Warnings depicted in this document and consult your facility's OSHA guidelines related to safety requirements before performing this procedure.

1. Park vehicle on flat surface.
2. Shift transmission to Park or Neutral and set parking brake.
3. Turn vehicle ignition to Key OFF position.
4. Install wheel chocks.
5. Safely position scaffolding or safety harness over bus.

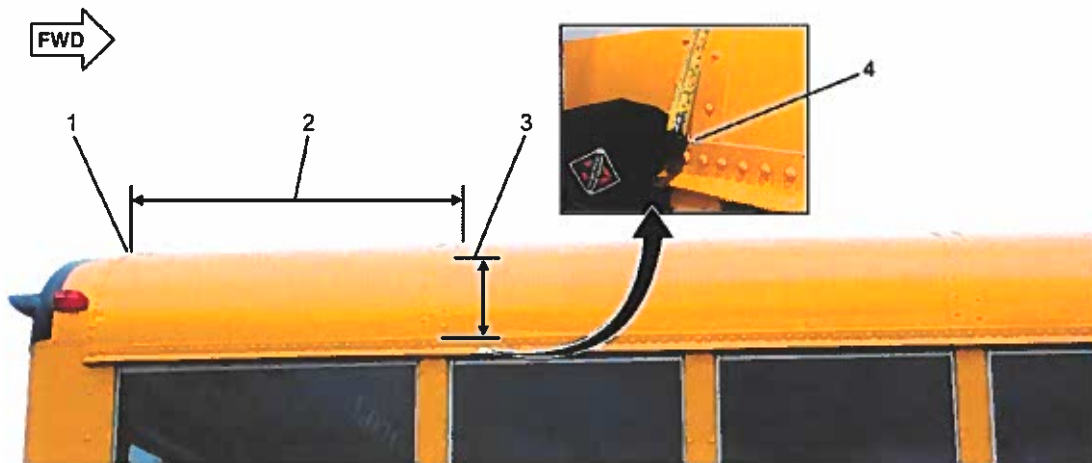


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Figure 1. Front Entrance Door Rivets

1. Row of rivets
2. Front cap panel

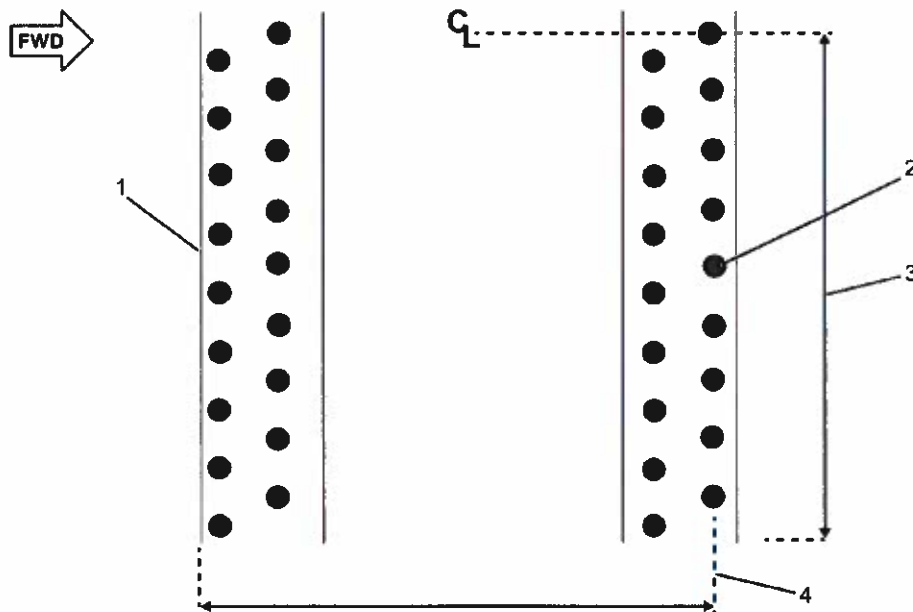
NOTE: Do not measure the row of rivets (Figure 1, Item 1) of the roof top sheet above the entrance door to the front cap (Figure 1, Item 2); it is not part of the inspection procedure.



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Figure 2. Measurement Guidelines – Drip Rail & Top Sheet

1. Back edge of rearmost top sheet
2. Measurement - rearmost top sheet to forward row of rivets
3. Measurement - 20 in (508 mm) up from drip rail
4. Top of drip rail



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Figure 3. Measurement Guidelines – Rear Edge of Top Sheet to Front Row of Rivets

1. Back edge of rearmost top panel
2. Forward row of rivets on mating top panel
3. Measurement to centerline of roof
4. Centerline of forward row of rivets

NOTE: The inspection requires measuring the rear edge of the roof top sheet metal, not the sealant edge, to the forward row of rivets of the next forward joint.

NOTE: The inspection procedure is only required on one side of the bus. If a repair is required, the complete joint is to be repaired.

NOTE: Start with the rearmost top sheet, and all measurements must start approximately 20 in (508 mm) up, at least 9 rivets up, from the top of the drip rail to the top centerline of the roof (Figure 3, Item 3).

6. Measure and record roof top panels starting at rearmost top panel of bus (Figure 2, Items 1 & 2) using a tape measure. Refer to following detailed instructions:
 - a) Measure up 20 in (508 mm) (Figure 2, Item 3) from top of drip rail (Figure 2, Item 4), approximately 9 rivets.
 - b) Measure from rear edge of top panel (Figure 3, Item 1) to centerline of forward row of rivets (Figure 3, Item 4) on next joint on each panel and not from sealant edge.
 - c) Measure all rivets to centerline of roof (Figure 3, Item 3).

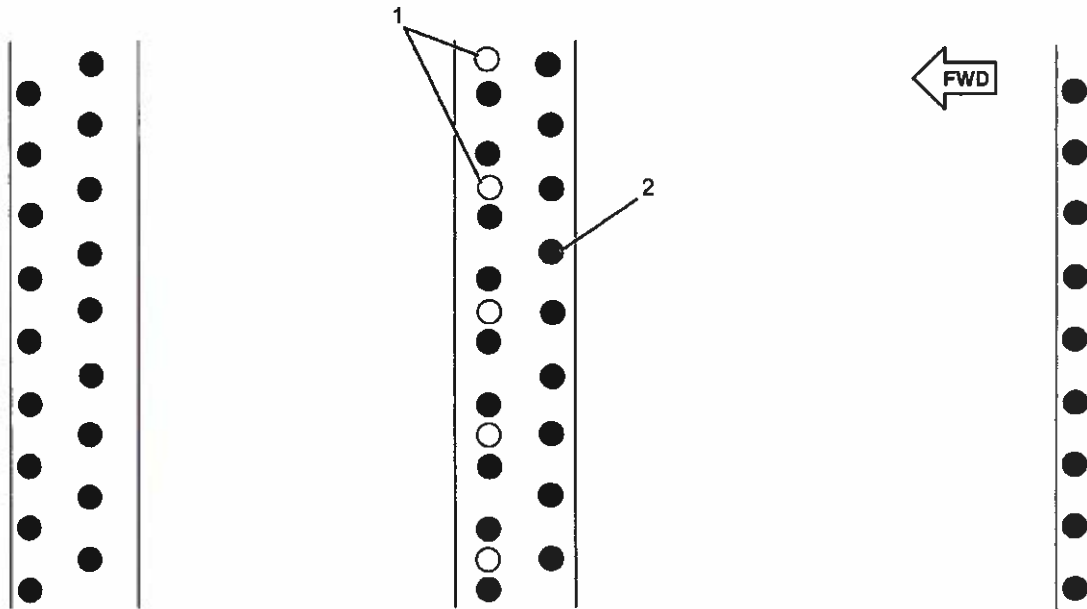
NOTE: Roof top sheets may vary in length, and maximum dimensions must not exceed 30.25, 39.25, 57.25, or 44.75 in for each roof top sheet you will measure.

Roof Spacing	Maximum Dimension (in)
Single Bow Sheet	30.25 in
Single Bow Sheet plus 9 in	39.25 in
Double Bow Sheet	57.25 in
RE Rear Sheet	44.75 in

Table 3 Maximum Roof Dimension

7. Determine if measurements meet or exceed maximum dimension.
 - a) If measurement is less than or equal to maximum dimension, repair of joint(s) is not required.
 - b) If measurement is greater than maximum dimension, repair on panel(s) is required.

8. Determine if bus has a roof hatch overlapping a roof joint row of rivets.
- a) If top panel does not have a roof hatch overlapping a roof joint row of rivets and does not exceed maximum dimension, repair of joint is not required.
 - b) If top panel has a roof hatch covering rear row of rivets and exceeds maximum dimension, repair on panel is required. Perform Steps 9 and 10.



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Figure 4. Noncompliant Roof Bow Screw Locations

- 1. Screw locations
- 2. Existing rivets

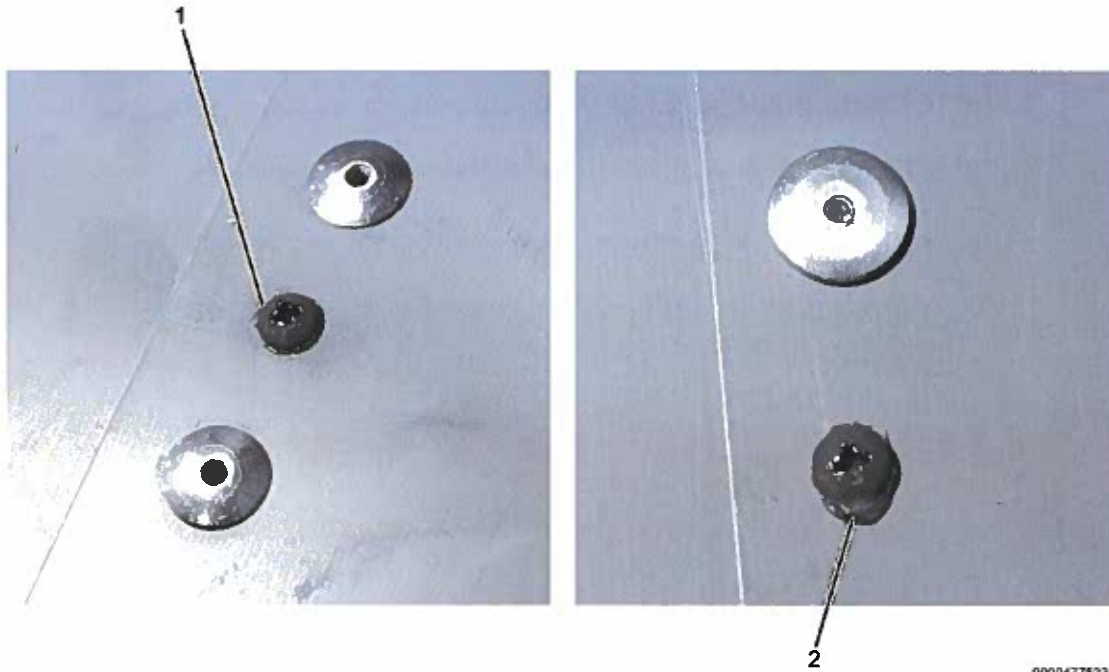


Figure 5. Correct and Incorrect Seal

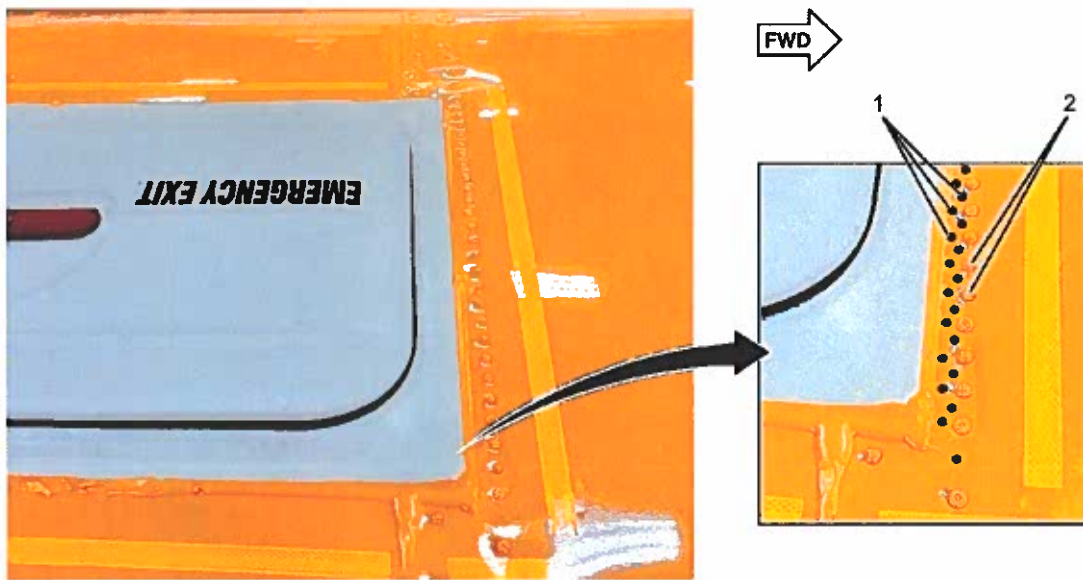
1. Correct seal
2. Incorrect seal

NOTE: In line with the rearmost row of rivets of the noncompliant joint, approximately 24 screws will need to be added. Screws to be added between every other rivet.

NOTE: These screws are self-tapping and can easily be stripped. Refer to Figure 6 for correct (Figure 5, Item 1) and incorrect (Figure 5, Item 2) seal. If incorrect seal is made, install new screw to create correct seal.

9. Install self-sealing screws (Figure 4, Item 1) between every other rivet (Figure 4, Item 2) into noncompliant roof bow. Refer to following detailed instructions:
 - a) Starting at 20 in (508 mm) up from drip rail, mark correct location between every other rivet (Figure 4, Item 1) to be punched and drilled on panel using a marker.
 - b) Punch location for each hole to be drilled on panel using hammer and center punch.
 - c) Install #21 drill bit 0.1590 in (4.0386 mm) diameter into drill.
 - d) Install and set drill stop to 1/2 in (12.7 mm) depth.

- e) Drill holes through joint and apply cutting oil to metal surface being drilled.
- f) Remove metal shavings from roof and drill bit using shop vacuum.
- g) Clean surface with non-oil-based cleaner and wipe dry.
- h) Install self-sealing screws. See Figure 5 for correct seal.
- i) Tighten screws until head is fully seated. Be careful not to overtighten self-sealing screws.



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Figure 6. Noncompliant Roof Bow – Roof Hatch Screw Locations

1. Screw locations
2. Existing rivets

NOTE: If roof hatch is covering a row of rivets by a noncompliant joint, approximately 52 screws will be needed when they are installed every 1/2 in and staggered along the forward edge of roof hatch.

10. Install self-sealing screws (Figure 6, Item 1) into roof between roof hatch and forward row of rivets (Figure 6, Item 2) every 1/2 in (12.7 mm) near noncompliant roof bow. Refer to following detailed instructions:
 - a) Mark correct location for each hole 1/2 in (12.7 mm) apart and staggered to be punched and drilled on panel using a marker.
 - b) Punch location for each hole to be drilled on panel using hammer and center punch.

- c) Install #21 drill bit 0.1590 in (4.0386 mm) diameter into drill.
 - d) Install and set drill stop to 1/2 in (12.7 mm) depth.
 - e) Drill holes through joint and apply cutting oil to metal surface being drilled.
 - f) Remove metal shavings from roof and drill bit using shop vacuum.
 - g) Clean surface with non-oil-based cleaner and wipe dry.
 - h) Install self-sealing screws. See Figure 5 for correct seal.
 - i) Tighten screws until head is fully seated. Be careful not to over tighten self-sealing screws.
11. Once all noncompliant joints have been repaired, carefully remove scaffolding or safety harness.
12. Remove wheel chocks.

END OF SERVICE PROCEDURE

NOTE: Time to set up scaffolding and/or safety harness should be submitted as T-time and attach technician comments and time punches with the claim submission.

LABOR INFORMATION

Operation Number	Description	Time
A40-23501-1	Inspect All Joints	0.6 hrs.
A40-23501-2	Repair One Joint	0.5 hrs.
A40-23501-3	Repair each additional joint; as needed	0.4 hrs.
A40-23501-4	Repair joint with roof patch; as needed	1.0 hrs.

Table 4 Labor Information

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.

DO NOT REMOVE	
INTERNATIONAL	
Campaign No.	
VIN	Eng.#
COMPLETED	
Service Location Code #	
DO NOT REMOVE	

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 23501.

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, a barrel of oil, or a 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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VEHICLE RECALL 23501

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.