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SERVICE PROCEDURE

17508

November, 2017

SUBJECT: SAFETY RECALL

Tie Rod Castellated Nut on certain CE school bus models built 11 March 2015 thru 01 June 2015 with Spicer D or E series steer axles.

DEFECT DESCRIPTION

The castellated nut and cotter pin that fasten the tie rod end to the steering knuckle may have not been tightened to the specified assembly torque, and over time may loosen resulting in looseness in steering. If a vehicle operator continues to operate the vehicle, the tie rod may in rare instances become disconnected from the knuckle resulting in a loss of control of the vehicle and may contribute to a vehicle crash.

MODELS INVOLVED

This safety recall involves certain CE school bus models built 11 March 2015 thru 01 June 2015 with Spicer D or E series steer axles.

ELIGIBILITY

This procedure applies **ONLY** to vehicles marked in the International® Service Portal™ with Safety Recall 17508. Also complete any other open campaigns listed on the Service Portal at this time.

PARTS INFORMATION

NOTE: The Tie Rod Castellated Nut inspection will require replacement of the cotter pins. If inspection procedure results in replacement of right and/or left tie rod ends and steering knuckles, these parts will be supplied direct from Dana at no cost. Refer to Dana instructions at the end of this procedure.

Part Number	Part Description	Quantity
Source locally	Cotter Pins	2

SERVICE PROCEDURE

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

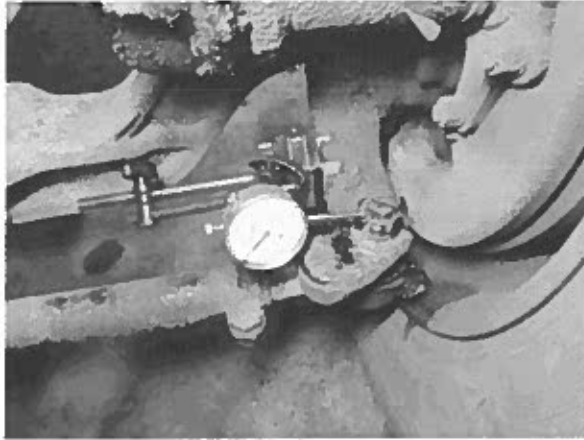
WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

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

WARNING! To prevent property damage, personal injury, and / or death, allow engine / vehicle components to cool before servicing.

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

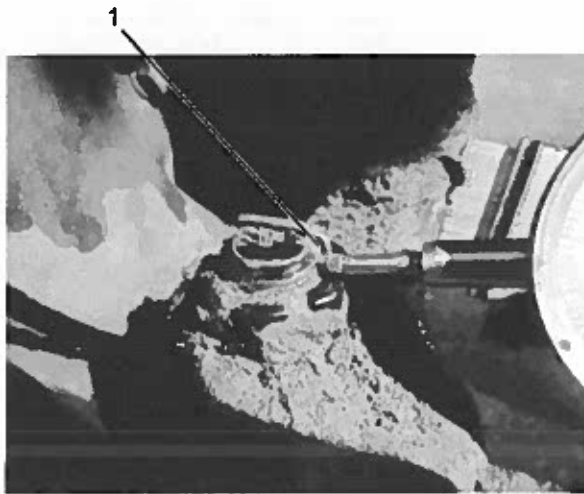
1. Park vehicle on flat surface.
2. Shift transmission to Park or Neutral and set parking brake.
3. Turn vehicle ignition to Key OFF position.
4. Install wheel chocks.
5. Unlatch and open hood.



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Figure 1. Dial Indicator Mounting Position

6. Starting with driver-side of vehicle, using a flexible, magnetic base dial indicator (Figure 1), mount base of indicator on tie rod arm.

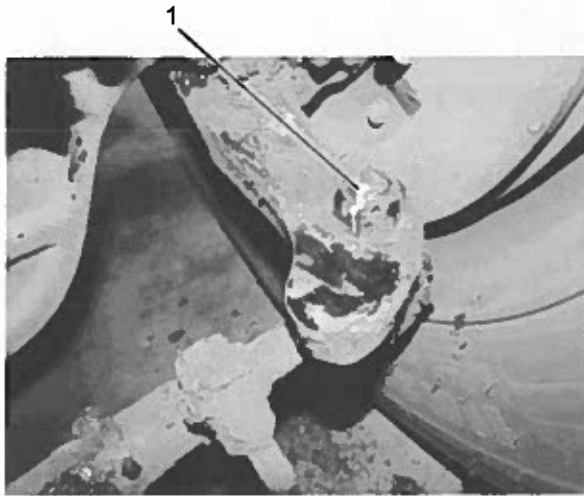


0000429410

Figure 2. Dial Indicator Tip Placement

1. Indicator tip
7. Center indicator tip on threads of stud just above nut (Figure 2, Item 1).
8. Ensure engine is OFF and turn steering wheel just enough to cause movement in wheels.

9. Using dial indicator, record how much movement is found on each side of steer axle.



0000429413

Figure 3. Paint Mark to Identify Nut Rotation

1. Paint mark

NOTE: Never back the nut off to align the cotter pin hole to the nut slot. Torque may reach 170 lb-ft (230 nm) to obtain proper alignment.

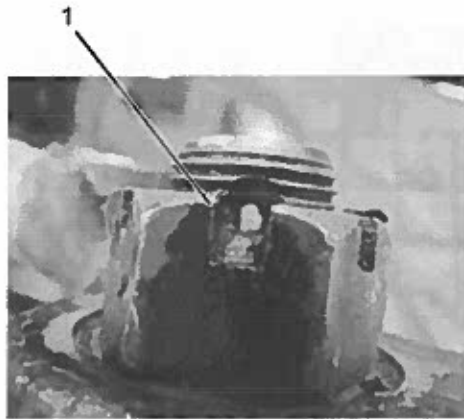
10. Remove cotter pins and using paint marker, make a mark across one side of nut and stud (Figure 3, Item 1).



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Figure 4. Verifying Nut Torque

11. Tighten nut to 130 lb-ft (176 nm) (Figure 4):
 - a. If nut does not turn when 130 lb-ft (176 nm) is reached, go to Step 22.
 - b. If nut does turn before 130 lb-ft (176 nm) is reached, go to Step 12.
12. With nut tightened to 130 lb-ft (176 nm), advance nut so cotter pin hole is aligned with slot in castellated nut.
13. Reinstall dial indicator and check for tie rod stud movement, record readings.



0000429423

Figure 5. Unacceptable Cotter Pin Hole Position

1. Top of castellated nut

NOTE: Any tie rod stud with movement after proper nut torque and alignment and / or the cotter pin hole is above the top of the nut surface will require the authorization from Dana to replace the components and will be sent to you.

NOTE: Steps 6 thru 14 MUST be performed on passenger-side of vehicle before you determine whether to perform step 14a and / or 14b on both sides of the vehicle.

14. After nut has been aligned with cotter pin hole in stud, check to see if cotter pin hole is above top of castellated nut (Figure 5, Item 1):
 - a. If top of cotter pin hole is even with or less than top of nut, continue to Step 22.
 - b. If cotter pin hole is above top of nut surface, continue to Step 15.
15. If no tie rod and knuckle require replacement, proceed to Step 22. If one or both tie rods and knuckles require replacement, proceed to Step 16.
16. For each tie rod and knuckle that require replacement, fill out document at end of letter before calling Dana's Real Time Warranty Center.
17. After completing form and taking required photos, email information to Spicer.rtw@dana.com with repair order number in subject line.

18. Call Real Time Warranty at 977-777-5360:
 - a. Real Time Warranty (RTW) will review information that you emailed them and while you are on phone, direct you to next step.
 - b. If parts are to be replaced RTW will authorize the replacement and will ship parts directly to your location.
 - c. Replaced parts must be returned to Dana:
 - I. Follow instructions later in this document.
 - II. RTW will supply an RMA to return parts
19. Verify authorization to replace parts:
 - a. If RTW determined parts do not need to be replaced go to step 22.
 - b. If RTW authorized parts to be replaced, proceed to Step 21.
20. Replace parts supplied by Dana, refer to appropriate service manual.
21. Adjust toe-in, refer to appropriate service manual.
22. Install cotter pin.
23. Close and latch hood.
24. Remove wheel chocks.

NOTE: Should a tie rod and / or steering knuckle need to be replaced, the damaged part must be returned to DANA.

For tracking purposes, please write this RMA number on the outside of the shipping container and in the shipping address.

Important: If material is shipped to the warranty center without a copy of the claim, the shipment will be returned "Collect" to the sender.

Important: If material is returned to Dana and there is no failure found or the wrong material was sent, the shipment will be returned "Collect" back to the sender.

Warranty Return Material Shipping Instructions:

- For shipments over 150 lb – Call Penske Logistics at 855-456-3867
- For shipments under 150 lb – Call Dana Logistics at 260-481-3778

Ship to:

Dana Inc. CV Warranty Return Center

6515 Maumee Western

Maumee, OH 43537

Att: RMA-1200

END OF SERVICE PROCEDURE

LABOR INFORMATION

Operation Number	Description	Time
A40-17508-1	Inspect Both Tie Rod Castellated Nuts Only	0.5 hr
A40-17508-2	Inspect Both Tie Rod Castellated Nuts; Replace One Tie Rod And Set Toe	0.9 hr
A40-17508-3	Inspect Both Tie Rod Castellated Nuts; Replace Two Tie Rod And Set Toe	1.2 hrs
A40-17508-4	Inspect Both Tie Rod Castellated Nuts; Replace Tie Rod And Knuckle; One Side Only	3.1 hrs
A40-17508-5	Inspect Both Tie Rod Castellated Nuts; Replace Tie Rod and Knuckle; Both Sides	5.5 hrs

SPECIAL HANDLING INFORMATION

If right-side and/or left-side Tie Rod End and steering knuckle was replaced, in "Other Charges" section, enter a handling fee of \$30.00 for each tie rod end replaced. Enter a handling fee of \$400.00 for right side steering knuckle and a handling fee of \$475.00 for left side steering knuckle.

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

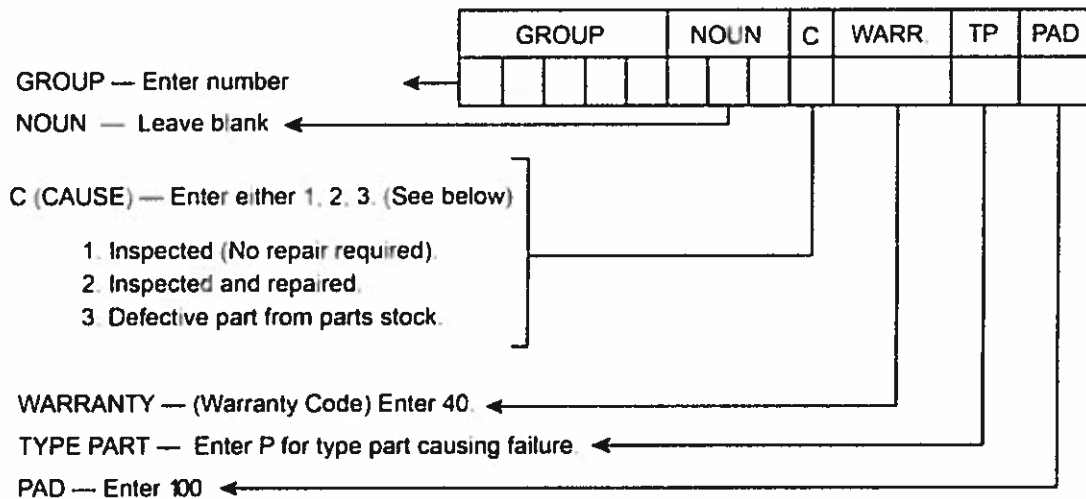
ADMINISTRATIVE / DEALER RESPONSIBILITIES

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 17508.

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.



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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.

Dana Axle Inspection Recoding Form



Date: _____
 Repair Order Number: _____
 Dealer Code: _____
 Complete 17 Digit Vehicle Identification Number: _____
 Axle model: _____
 Axle serial number: _____
 In-service date of the vehicle: _____
 Vehicle mileage: _____

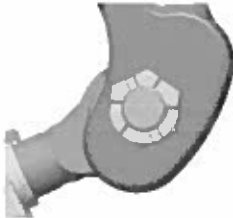
1. Document the amount of total movement on the dial indicator. (Example: .002 inch)

Left-Side Tie Rod Movement Reading	Amount of Movement
Right-Side Tie Rod Movement Reading	Amount of Movement

2. Using the images below mark the amount of rotation on the nut after the nuts were torqued to 130 lb-ft.



Left Side

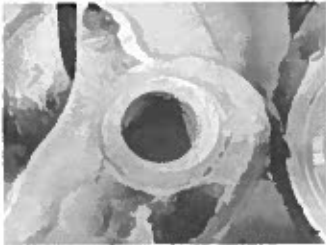


Right Side

3. Document the amount of movement between the tie rod end and the tie rod arm after retorqued the nut to 130 ft. lbs. If there is no movement answer "NONE"

Left-Side Movement After Retorque	Amount of Movement
Right-Side Movement After Retorque	Amount of Movement

4. If your inspection identifies that components may need to be replaced, you will need to take pictures of the damaged parts and the position of the cotter pin hole. It's important to remember that RTW will be using the pictures you send to determine if components need to be replaced. If the pictures are out of focus, too light, too dark, too far away or too close-up, the process will be delayed until new pictures are submitted. Use the example below as a guide of what your pictures should resemble.



Tie Rod Arm Taper Bore



Tie Rod End Taper Stud



Back of Tie Rod Nut



Nut Rotation



Cotter Pin Hole Position

