



Service Information System

Service Letter

PRODUCT IMPROVEMENT PROGRAM FOR INSPECTING AND POSSIBLY REPLACING TIE RODS AND STEERING KNUCKLES ON CERTAIN CT660 ON HIGHWAY TRUCKS

Media Number -TEBE7016-00

Publication Date -2017/12/07

Date Updated -2017/12/07

Caterpillar: Confidential Yellow

TEBE7016-00



SERVICE LETTER

07Dec2017

U-693

Safety

PRODUCT IMPROVEMENT PROGRAM FOR INSPECTING AND
POSSIBLY REPLACING TIE RODS AND STEERING
KNUCKLES ON CERTAIN CT660 ON HIGHWAY TRUCKS

7000 4300 4318

PI11133

NOTE:

Caterpillar's obligations under this Service Letter are subject to, and shall not apply in contravention of, the laws, rules, regulations, directives, ordinances, orders, or statutes of the United States, or of any other applicable jurisdiction, without recourse or liability with respect to Caterpillar.

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NOTE: This Program must be administered as soon as possible. When reporting the repair, use "PI11133" as the Part Number and "7751" as the Group Number, "56" as the Warranty Claim Description Code and "T" as the SIMS Description Code. Exception: If the repair is done after failure, use "PI11133" as the Part Number, "7751" as the Group Number, "96" as the Warranty Claim Description Code, and "Z" as the SIMS Description Code.

PROBLEM

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 result in a vehicle collision.

AFFECTED PRODUCT

Model	Identification Number
CT660	TEP01263, 1285, 1287-1288

PARTS NEEDED

Qty	Part Number	Description
2	KNUCKLE	If/as needed - see Rework Procedure for ordering
2	TIEROD	If/as needed - see Rework Procedure for ordering

In order to allow equitable parts availability to all participating dealers, please limit your initial parts order to not exceed 45% of dealership population. This is an initial order recommendation

only, and the ultimate responsibility for ordering the total number of parts needed to satisfy the program lies with the dealer.

ACTION REQUIRED

Inspect the tie rods castellated nut. If necessary as a result of the tie rod castellated nut inspection procedure, the right-side and/or left-side tie rod ends and/or steering knuckles may need to be replaced.

Refer to the attached Rework Procedure.

OWNER NOTIFICATION

Owners in the following countries will receive the attached Owner Notification:

US

Canada

Australia

New Zealand

SERVICE CLAIM ALLOWANCES

Caterpillar		Dealer Suggested		Customer Suggested	
Parts %	Labor Hrs%	Parts %	Labor Hrs%	Parts %	Labor Hrs%
100%	100%	0%	0%	0%	0%

NOTE: This is a 0.5-hour job

Inspect both Tie Rod Castellated nuts only: 0.5 hrs.

Inspect both Tie Rod Castellated nuts;
Replace one tie Rod and set Toe: 0.9 hrs.

Inspect both Tie Rod Castellated nuts;
Replace two Tie Rod and set Toe: 1.2 hrs.

Inspect both Tie Rod Castellated nuts;
Replace Tie Rod and Knuckle; One side only: 3.1 hrs.

Inspect both Tie Rod Castellated nuts;
Replace Tie Rod and Knuckle; Both sides 5.5 hrs.

PARTS DISPOSITION

If a tie rod(s) and/or steering knuckle(s) is/are replaced, hold the parts for a Parts Return Request (PRR). A Parts Return Request (PRR) will be issued to you through the Send-It-Back process after the claim is submitted. Make sure to list the service letter program number on the packing slip and include the closed work order paperwork.

MAKE EVERY EFFORT TO COMPLETE THIS PROGRAM AS SOON AS POSSIBLE.

IMPORTANT SAFETY RECALL

THIS NOTICE APPLIES TO YOUR VEHICLE(S) LISTED AT THE END OF THIS NOTIFICATION LETTER

SAFETY - Recall Steer Axle Loose Tie Rods, NHTSA Recall #17V-641

MODELS INVOLVED - CERTAIN 2016 CT660S ON-HIGHWAY TRUCKS

Dear Cat Product Owner:

This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act. This notice is also in accordance with the requirements of the Canadian Motor Vehicle Safety Act. Caterpillar has decided that a defect which relates to motor vehicle safety exists on certain Caterpillar 2016 CT660S On-Highway Trucks equipped with Spicer D or E series steer axles.

The castellated nut and cotter pin may not have been tightened to their specified assembly torque. As a result, the tie rod may become loose in the steer axle, causing significant auditory warning and/or looseness in steering.

If a vehicle operator continues to operate the vehicle in spite of this advanced warning, the tie rod may become disconnected from the knuckle. If the tie rod disconnects from the steering knuckle, the driver may lose full control of a vehicle wheel (normally the right front tire), increasing the risk of a crash.

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The remedy will involve inspection of all units in the suspect population to ensure the castellated nuts in the tie rods are tightened to their specified assembly torque. On units in which the nuts cannot be sufficiently torqued, Caterpillar will replace the tie rod stud and knuckle.

Contact your local Caterpillar dealer to schedule this service. The repair will be performed free of charge and take approximately 45 minutes to 6.5 hours to complete.

If you are a lessor of these vehicles, you must forward this letter to your lessee within ten days.

If you have had your vehicle repaired for this condition prior to receipt of this notice and incurred any costs, you may be eligible for reimbursement. Please contact Caterpillar at this toll free number 1-800-447-4986.

If you no longer own the vehicle, please contact Caterpillar at this toll free number 1-800-447-4986.

If you have any questions, please contact:

Caterpillar Inc.
Peoria, IL 61629-2490
Attn: Americas Distribution Services Division
Truck Call Center
Telephone: 1-800-447-4986

You may contact the following to submit a complaint:

In the U.S.
Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590
Telephone: 1-888-327-4236 (TTY:1-800-424-9153) or go to
<http://www.safercar.gov>

In Canada
Transport Canada
Defects Investigations and Recalls
Telephone: 1-800-333-0510

Please refer the dealer to their Service Letter dated _____, 2017 when scheduling this service.

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We regret the inconvenience this may cause you, but urge you to have this service performed for your safety and satisfaction.

Caterpillar Inc.

Identification #(s)

Attached to _____, 2017 Service Letter

SERIAL/PIN / VIN # ABC00123 1HSJKTLT7DJ123456

(Example) (Example) Please refer the dealer to their Service Letter dated 07Dec2017 when scheduling this service.

We regret the inconvenience this may cause you, and urge you to have this service performed for your safety and satisfaction.

Caterpillar Inc.

Identification #(s)

Attached to 07Dec2017 Service Letter

Rework Procedure



Do not operate or work on this product unless you have read and understood the instruction and warnings in the relevant Operation and Maintenance Manuals and relevant service literature. Failure to follow the instructions or heed the warnings could result in injury or death. Proper care is your responsibility.

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.

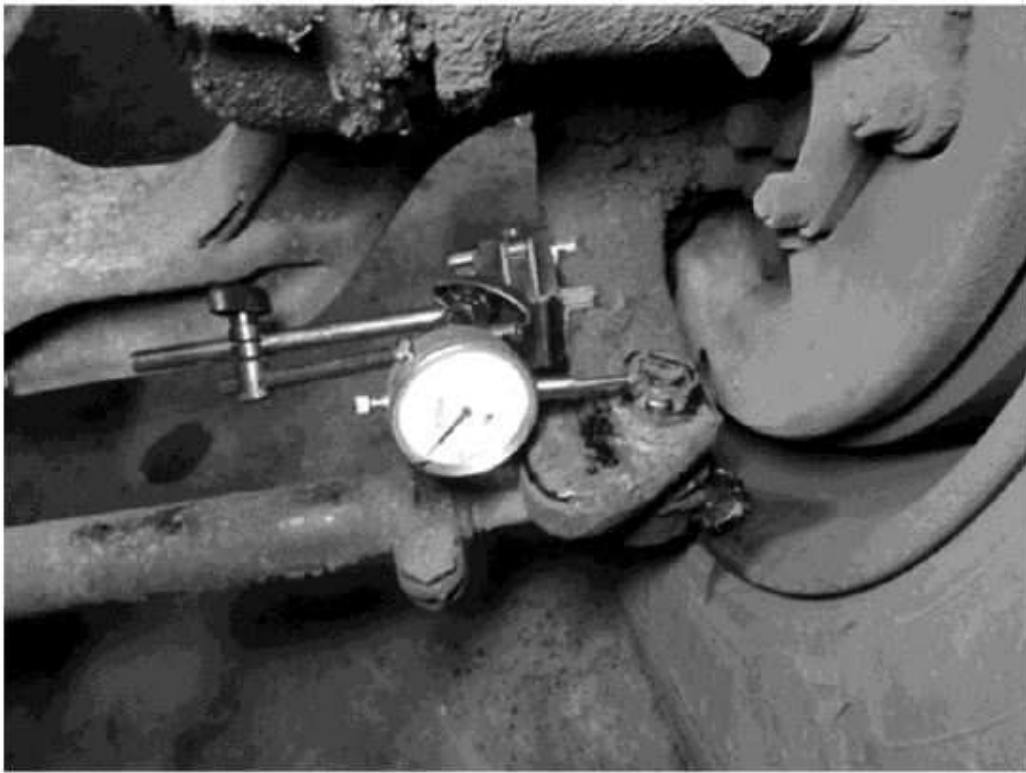


Image1.1.1

Image1.1.1: Dial Indicator Mounting Position

6. Starting with driver-side of vehicle, using a flexible, magnetic base dial indicator (Image1.1.1), mount base of indicator on tie rod arm.



Image1.2.1

Image1.2.1: Dial Indicator Tip Placement (1) Indicator tip

7. Center indicator tip (Image1.2.1, Item 1) on threads of stud just above nut.

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.

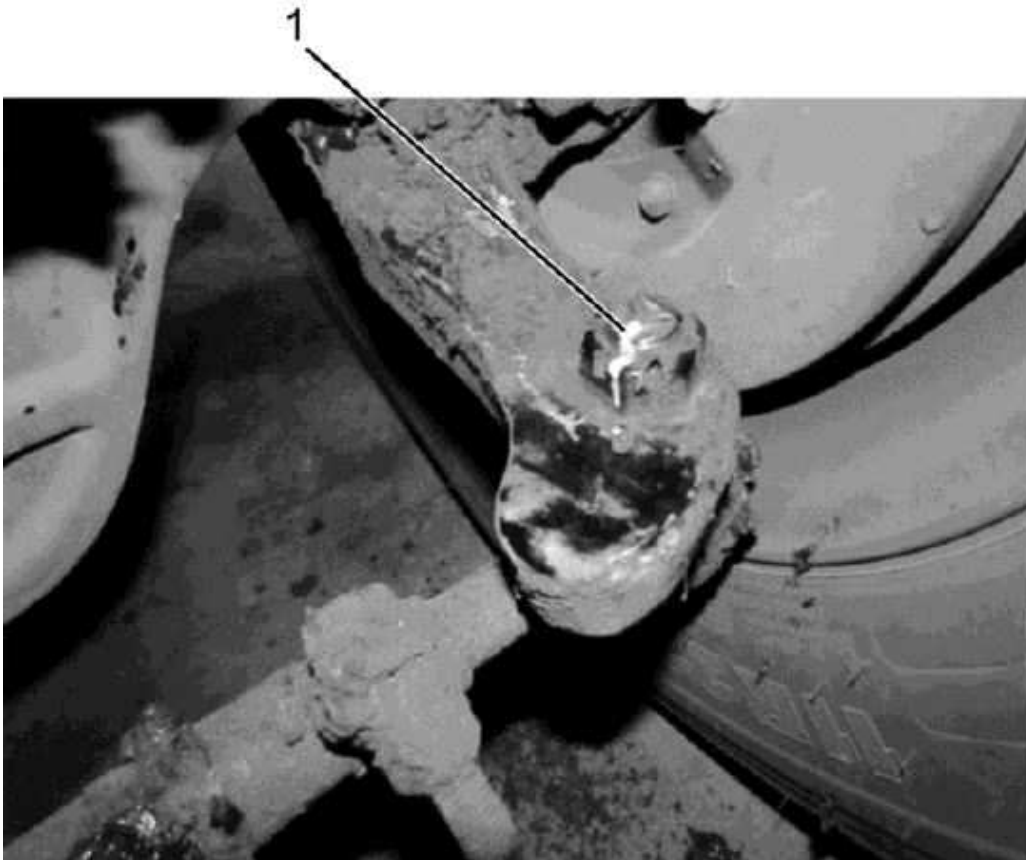


Image1.3.1

Image1.3.1: Paint Mark to Identify Nut Rotation (1) Paint mark

10. Remove cotter pins and using paint marker, make a mark (Image1.3.1, Item 1) across one side of nut and stud.



Image1.4.1

Image1.4.1: Verifying Nut Torque

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.

11. Tighten nut to 130 lb-ft (176 nm) (Image1.4.1):

- a. If nut does not turn when 130 lb-ft (176 nm) is reached, go to Step 21.
- 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.

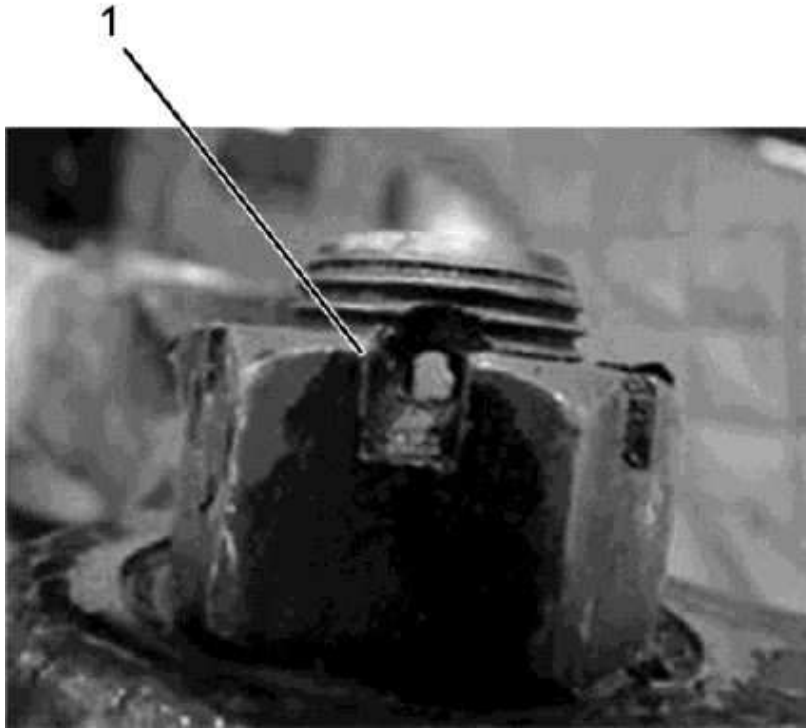


Image1.5.1

Image1.5.1: 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 authorization from Caterpillar.

NOTE: Steps 6 through 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 (Image1.5.1, Item 1):

- a. If top of cotter pin hole is even with or less than top of nut, continue to Step 21.
- 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 21. If one or both tie rods and knuckles require replacement, proceed to Step 16.

16. For each tie rod and knuckle require replacement, fill out document at end of the Rework Procedure section before contacting Caterpillar.

17. After completing form and taking required photos, have the Dealer Technical Communicator (TC) submit the form and photos to CPI number

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404867 through CPI Feedback within the Service Information Management System (SIMSi).

- a. If parts are to be replaced, Caterpillar will authorize the replacement and will send parts to your location.
- b. Replaced parts must be returned to Caterpillar. Refer to the Parts Disposition section.

18.

- a. If the parts do not need to be replaced go to Step 21.
- b. If the parts are to be replaced, proceed Step 19.

19. Replace the existing parts with the new parts.

20. Adjust toe-in.

21. Install cotter pin.

22. Close and latch hood.

23. Remove wheel chocks.

Axle Inspection Recoding Form



Image1.7.1

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

Image1.9.1

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



Left Side



Right Side

Image1.10.1

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

Image1.11.1

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. 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 Rotation



Tie Rod Arm Taper Bore



Tie Rod End Taper Stud



Back of Tie Rod Nut



Nut Rotation



Cotter Pin Hole Position

Image1.12.1

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