

SERVICE PROCEDURE

21502
MAY 2021

SUBJECT: SAFETY RECALL
Spring Brake Chamber on certain International® LT® and RH™ series trucks built 11 February 2020 thru 16 July 2020 with feature code 04AAR (Park Brake Chambers; spring type, T20/24 Sq. In. for Air Disc brakes).

DEFECT DESCRIPTION

The spring inside the spring brake chamber may allow the pressure plate to shift and wear a hole through the diaphragm resulting in an air leak. An air leak in the spring brake chamber may result in an uncommanded application of the parking brakes and increase the risk of a vehicle crash.

MODELS INVOLVED

This safety recall involves certain International® LT® and RH™ Series trucks built 11 February 2020 thru 16 July 2020 with feature code 04AAR (Park Brake Chambers; spring type, T20/24 Sq. In. for Air Disc brakes).

ELIGIBILITY

This procedure applies ONLY to vehicles marked in the International® Service Portal™ with Safety Recall 21502. Also complete any other open campaigns listed on the Service Portal at this time.

PARTS INFORMATION

NOTE: Do not preorder chambers for inventory as only 10% of the spring brake chambers may contain the defect.

Part Number	Part Description	Quantity
8900293R91	Spring Brake Chamber	As Needed

VEHICLE RECALL 21502

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, or damage to property, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

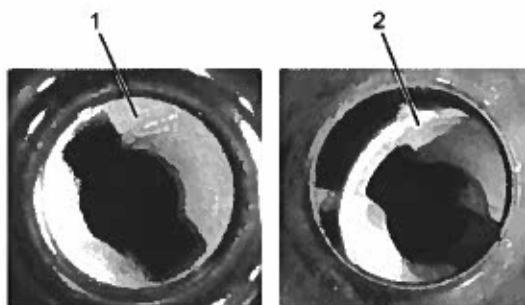
WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

NOTE: This service procedure is divided into the following sections:

- **Brake Chamber Inspection: Steps 6 – 8 for all rear brake chambers.**
- **Brake Chamber Replacement: Steps 9 – 43 when brake chamber replacement is required after inspection.**
- **Brake Chambers that Cannot Be Caged Due to Shifted Pressure Plate: Steps A1 – A3.**

Brake Chamber Inspection

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. Release parking brake.



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Figure 1. Plates

1. Centered pressure plate
2. Shifted pressure plate

NOTE: Inspection procedure must be performed on all spring brake chambers. Only chambers that fail inspection with the caging tool are to be replaced. Any brake chambers found by the supplier that should not have been replaced will result in a warranty charge back.

NOTE: If all four chambers pass inspection after performing Steps 6, 7, and 8, proceed to Step 45.

6. Starting with spring brake chamber on driver-side of forward drive axle, remove dust plug from chamber to check for centering of pressure plate.
 - a. If pressure plate is centered (Figure 1, Item 1) install dust plug. Proceed to Step 8.
 - b. If pressure plate is not centered (Figure 1, Item 2), continue with Step 7.
7. Remove caging tool and insert into chamber.
 - a. If caging tool can be fully inserted into chamber, remove caging tool and insert it into holder. Using a torque wrench, tighten nut to 11 to 35 lb-ft (7 to 15 N•m). Continue with Step 8.
 - b. If caging tool cannot be fully inserted into chamber, chamber must be replaced. Continue with Step 8.
8. Perform Steps 6 and 7 on remaining spring brake chambers.
 - a. All chambers pass inspection; install dust plugs. Proceed to Step 45.
 - b. One or more chambers require replacement. Continue with Step 9.

Brake Chamber Replacement

9. Using jack, raise axle that requires spring brake chamber replacement and support on suitable jack stands.
10. Remove wheels on side of axle that requires spring brake chamber replacement.

WARNING! To prevent personal injury and / or death, or damage to property, do not attempt to mechanically release (cage) the spring on any spring brake that shows sign of structural damage, significant corrosion or any other damage that the operator or mechanic deems unsafe. Handle damaged spring brakes with extreme caution. Caging the spring disassembling the chamber may result in a forceful release of the chamber and / or its contents.

WARNING! To prevent personal injury and / or death, or damage to property, do not work from behind the spring brakes, always work from the side and front. Spring brake chambers are under more than 2,000 pounds. (8,900 newtons) of spring force.

CAUTION! To prevent damage to property, do not apply more than 50 lb-ft of torque to nut of manual caging tool.

NOTE: If caging tool cannot be inserted to manually cage brakes, perform Steps A1 – A3 (below). Then perform Steps 12 thru 16.

11. With parking brake released, manually cage spring brake.
 - a. If caging tool cannot be inserted, set parking brake and manually cage spring brake.
12. Drain air tanks.

NOTE: For installation reference, be sure to mark air line from air inlet port identified as “Spring.”

13. Record orientation between two air hoses and their respective valves and ports located on spring brake chamber. Orientation needed in Steps 25, 31, and 32.

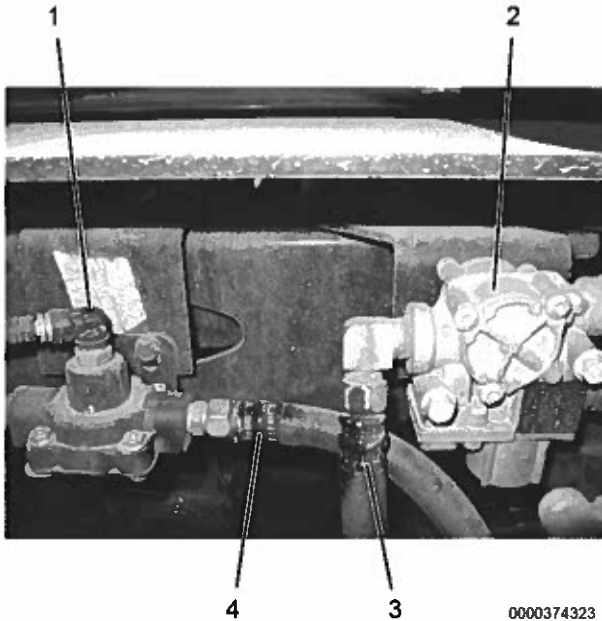
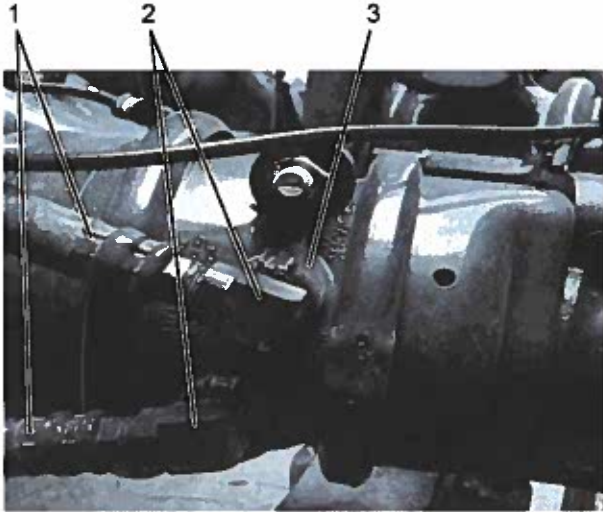


Figure 2. Brake Hoses

1. Quick release valve
2. ABS modulator valve
3. Service brake hose
4. Spring brake hose

14. Disconnect spring brake air hose (Figure 2, Item 4) from quick release valve (Figure 2, Item 1).
15. Remove hose tender from both air hoses. Save for reuse.
16. Disconnect service brake air hose (Figure 2, Item 3) from ABS modulator valve (Figure 2, Item 2).
17. Support spring brake chamber and remove then discard mounting nuts and washers.
18. Remove spring brake chamber.



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Figure 3. 90-Degree Fittings Orientation

1. Air hose (2)
2. 90-degree fitting (2)
3. Spring brake chamber

19. Remove both air hoses (Figure 3, Item 1) from 90-degree fittings (Figure 3, Item 2).
20. Note orientation of both 90-degree fittings (Figure 3, Item 2) located on spring brake chamber (Figure 3, Item 3). Remove fittings and save chamber for parts return.
21. Clean remaining sealant from threads of both fittings.
22. Apply thread sealant to both 90-degree fittings and thread into each port hand tight on new spring brake chamber.

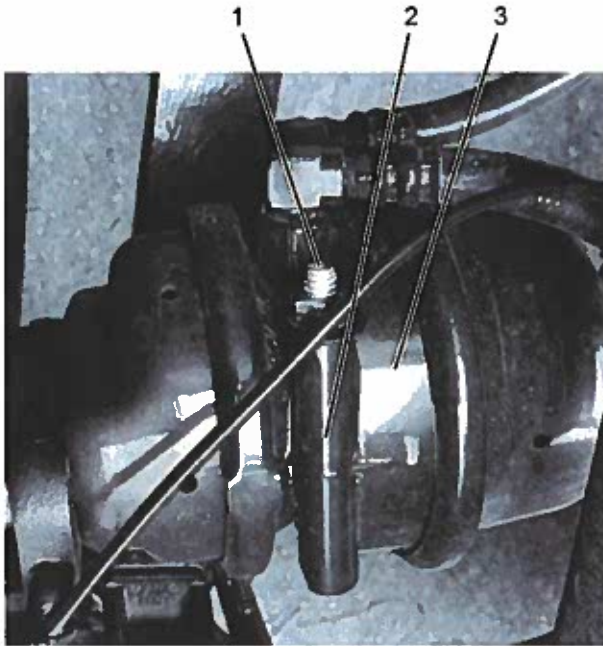
NOTE: Orienting fittings must be made in tightening direction only. DO NOT BACK OFF (LOOSEN) to correctly orient 90-degree fittings. If correct orientation cannot be attained when 90-degree fittings are tightened to 1 1/2 to 2 turns from hand tight, continue to turn 90-degree fittings up to one half turn more to attain correct orientation.

23. Tighten both 90-degree fittings 1 1/2 to 2 turns. Orient both 90-degree fittings to position noted in Step 20.
24. Clean any thread sealant from threads of both air lines. Apply fresh sealant to air line threads.

25. Install both air hoses hand tight to their correct port fitting as noted in Step 13.
26. Tighten both air hoses 1 1/2 to 2 turns.

WARNING! To prevent personal injury and / or death, or damage to property, do not work from behind the spring brakes, always work from the side and front. Spring brake chambers are under more than 2,000 pounds (8900 newtons) of spring force.

27. Correctly orient new spring brake chamber into position. As chamber is being positioned onto caliper, visually check that chamber push rod is nesting in pocket of operating shaft.
28. Firmly hold the chamber onto the caliper by hand. Place the two washers and nuts onto the mounting studs.
29. Tighten nuts until the mating surfaces meet. Use minimal torque on both nuts.
30. Using a torque wrench, tighten each nut to 59-75 lb-ft (80-100 N•m). Then, tighten each nut to 133-155 lb-ft (180-210 N•m).
31. Connect service brake air hose (Figure 2, Item 3) to ABS modulator valve (Figure 2, Item 2) and tighten swivel nut.
32. Connect spring brake air hose (Figure 2, Item 4) to quick release valve (Figure 2, Item 1) and tighten swivel nut.
33. Reinstall hose tender removed in Step 15.
34. Turn vehicle ignition to Key ON, Engine RUNNING position. Allow air system to reach full system pressure.
35. Turn vehicle ignition to Key OFF position.
36. Release parking brake and check for air leaks.



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Figure 4. Spring Brake Chamber

1. Caging bolt, nut, and washer
 2. Holder
 3. Spring brake chamber
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37. Remove caging bolt (Figure 4, Item 1) from spring brake chamber (Figure 4, Item 3). Stow caging bolt in holder on chamber (Figure 4, Item 2) with threaded end up. Using a torque wrench, tighten nut to 5 to 11 lb-ft (7 to 15 N·m).
 38. Install dust plug on back of spring brake chamber.
 39. Apply service brake and observe air gauges; drop in pressure indicates leak in service brake air line.

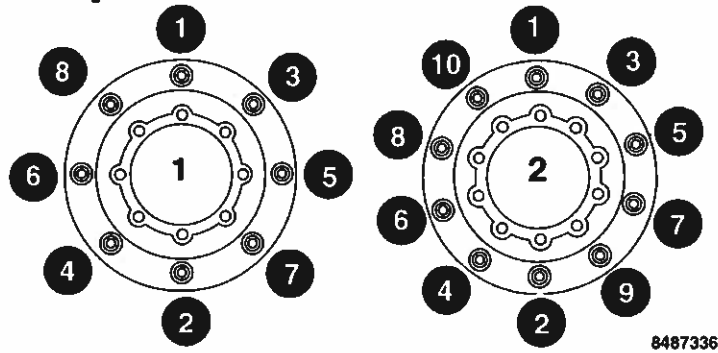


Figure 5. Flange Stud Mounts

1. Flange stud mount – 8 stud
 2. Flange stud mount – 10 stud
40. Install tires, wheel assemblies and wheel nuts. Refer to appropriate service manual for instructions. Tighten wheel nuts alternately following crisscross pattern sequence (Figure 5). Do not fully tighten nuts at this time. This procedure allows uniform seating of nuts and ensures even, face-to-face contact of wheel and hub.
 41. Raise vehicle, remove jack stands, and lower vehicle.
 42. Set parking brake.
 43. Using a torque wrench, tighten wheel nuts to 450 to 500 lb-ft (610 to 678 N•m).
 44. Repeat Steps 9 through 43 for any additional chamber requiring replacement.
 45. Remove wheel chocks.

Brake Chambers That Cannot Be Caged Due to Shifted Pressure Plate

- A1. Release park brake.
- A2. Remove chamber from caliper.
- A3. Once chamber is removed from caliper, set parking brake.

END OF SERVICE PROCEDURE

LABOR INFORMATION

Operation Number	Description	Time
A40-21502-1	Inspect All Chambers	0.4 hrs
A40-21502-2	Replace (1) Chamber, If Necessary	1.3 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.



DO NOT REMOVE

INTERNATIONAL

Campaign No. _____

VIN _____

Eng.# _____

COMPLETED

Service Location Code # _____

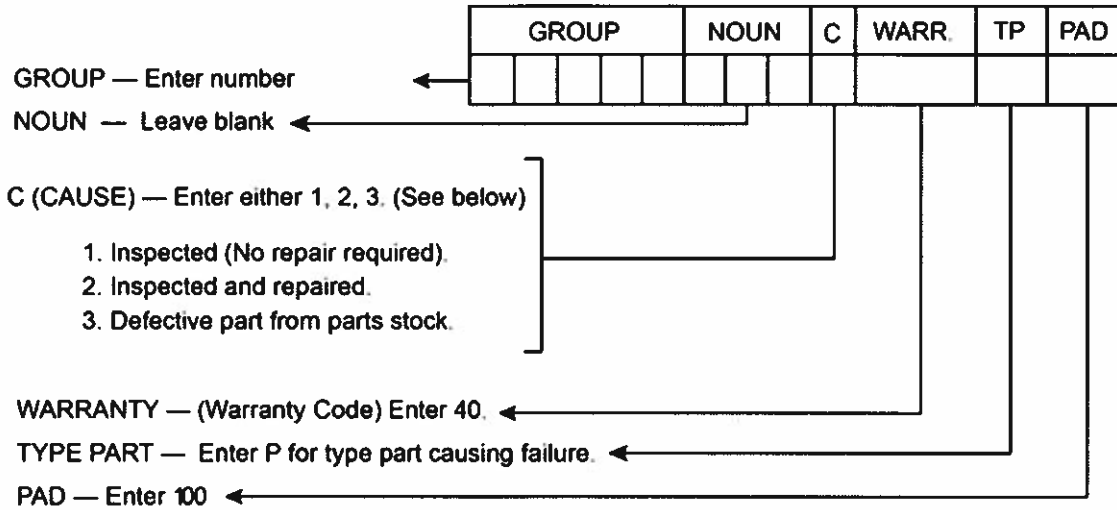
DO NOT REMOVE

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 21502.

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.

