SERVICE PROCEDURE

23518R3
December 2025

SUBJECT: SAFETY RECALL
Brake pressure switch on certain 2016 IC Bus™ CE Series school buses built on 06/04/2015 and certain 2018 through 2024 IC Bus™ CE Series school buses built 12/15/2016 through 05/18/2023 with feature code 04100 (Brake system, hydraulic).

CUSTOMER LETTER

Print ready (PDF file) copy of the Customer Letter

REASON FOR REVISION

Installing extension harnesses to brake pressure switch and Hydro-Max pressure fuse.

DEFECT DESCRIPTION

The brake pressure switch may allow brake fluid to seep past the diaphragm seal into the brake pressure switch electrical connector and associated fuse, which can short the switch and/or fuse. A shorted switch or fuse may cause the circuit to generate excessive heat, which can result in a fire, increasing the risk of property damage or personal injury to the operator.

Vehicle owners have been advised that until the remedy can be performed, they are to park their vehicles outdoors.

MODELS INVOLVED

This Safety Recall involves certain 2016 IC Bus™ CE Series school buses built on 06/04/2015 and certain 2018 through 2024 IC Bus™ CE Series school buses built 12/15/2016 through 05/18/2023 with feature code 04100 (Brake system, hydraulic).

ELIGIBILITY

This procedure applies ONLY to vehicles marked in the International® Service Portal℠ with Safety Recall 23518. Also complete any other open campaigns listed on the Service Portal at this time.

TOOLS REQUIRED

Description	Tool Number
Hydraulic Clutch and Brake Bleeder	ZTSE6087NAV
Brake Switch Wrench	04-847-01

Table 1 Tool Information

PARTS INFORMATION

Part Number	Part Description	Quantity
4052584C2	Switch, Brake Pressure	1
8900389R91	Brake Switch Jumper Harness	1
306132C1	Strap, Cable, 14-inch	As Needed
Source Locally	DOT 3 Brake Fluid	As Needed
4056029C96	Connector, Tubing, Special (T-Fitting)	If Required

Table 2 Parts Information

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.

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

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.

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.

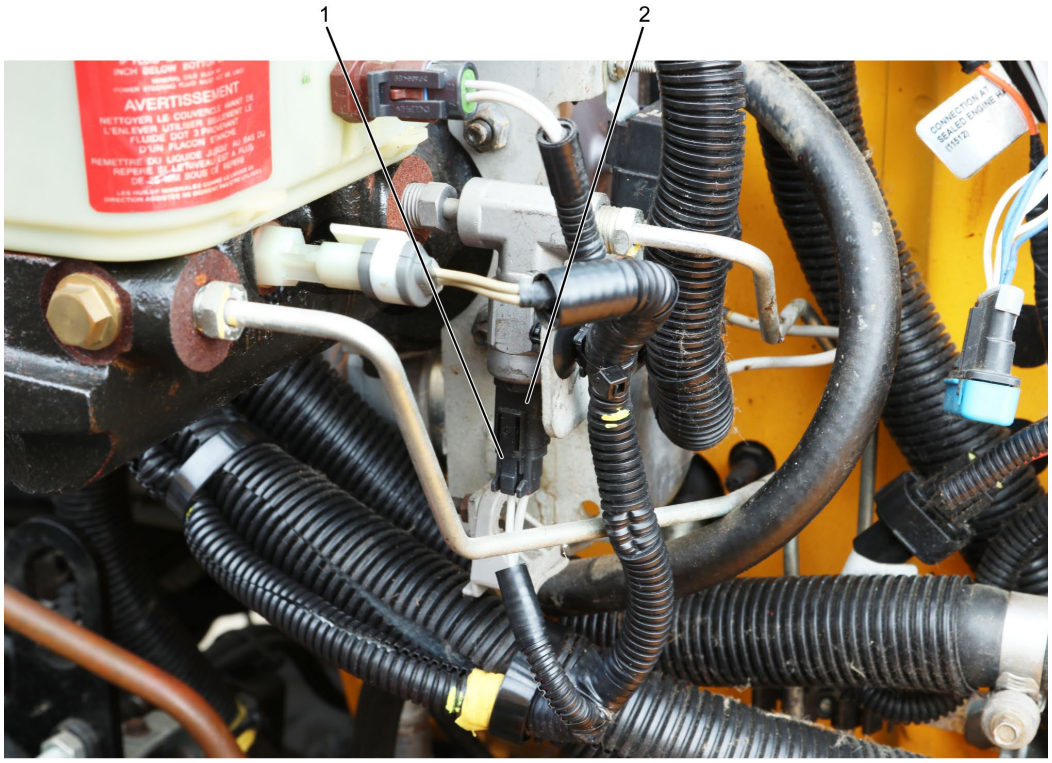

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Figure 1. Brake Pressure Switch Connector Location

1. Brake pressure switch connector
2. Brake pressure switch

6. Locate and disconnect brake pressure switch connector (Figure 1, Item 1) from hydraulic brake pressure switch (Figure 1, Item 2) located near vehicle master cylinder.

CAUTION! To prevent damage to property, utilize a back-up style wrench to prevent brake line damage. Failure to do so can result in damage to the brake line.

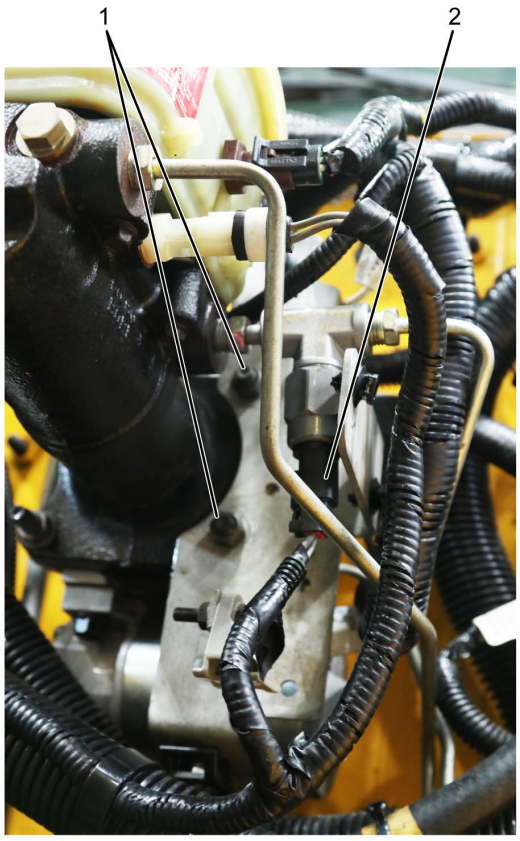

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Figure 2. Support Bracket Fastener Location

1. 9/16 hex nut location (2)
2. Hydraulic brake switch

7. Remove two 9/16 hex nuts (Figure 2, Item 1) on support bracket and remove bracket. Save hex nuts for reuse.

CAUTION! To prevent damage to property, ensure brake pressure switch connector is shielded from fluids, debris, and other contaminants. Failure to do so can result in damage to property.

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Figure 3. Loosening T-Fitting

CAUTION! To prevent damage to property, ensure brake fluid does not contact painted surfaces. Failure to do so can result in damage to property.

CAUTION! To prevent damage to property, ONLY loosen fittings to allow T-fitting to turn. Loosening the tube nuts will introduce air to the brake line and cause brake fluid to leak.

8. Place a suitable container under the area of the brake pressure switch.

9. Using 9/16 wrench, slightly loosen outer tube nut (1/4 turn) connecting T-fitting to brake line using 19 mm wrench as counter hold (Figure 3).

10. Using 9/16 wrench, slightly loosen inner tube nut (1/4 turn) connecting T-fitting to master cylinder.

11. Rotate hydraulic brake pressure switch and T-fitting 180 degrees to upright position, with hydraulic brake pressure switch now located on top of T-fitting.

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Figure 4. Brake Switch Wrench 04-847-01

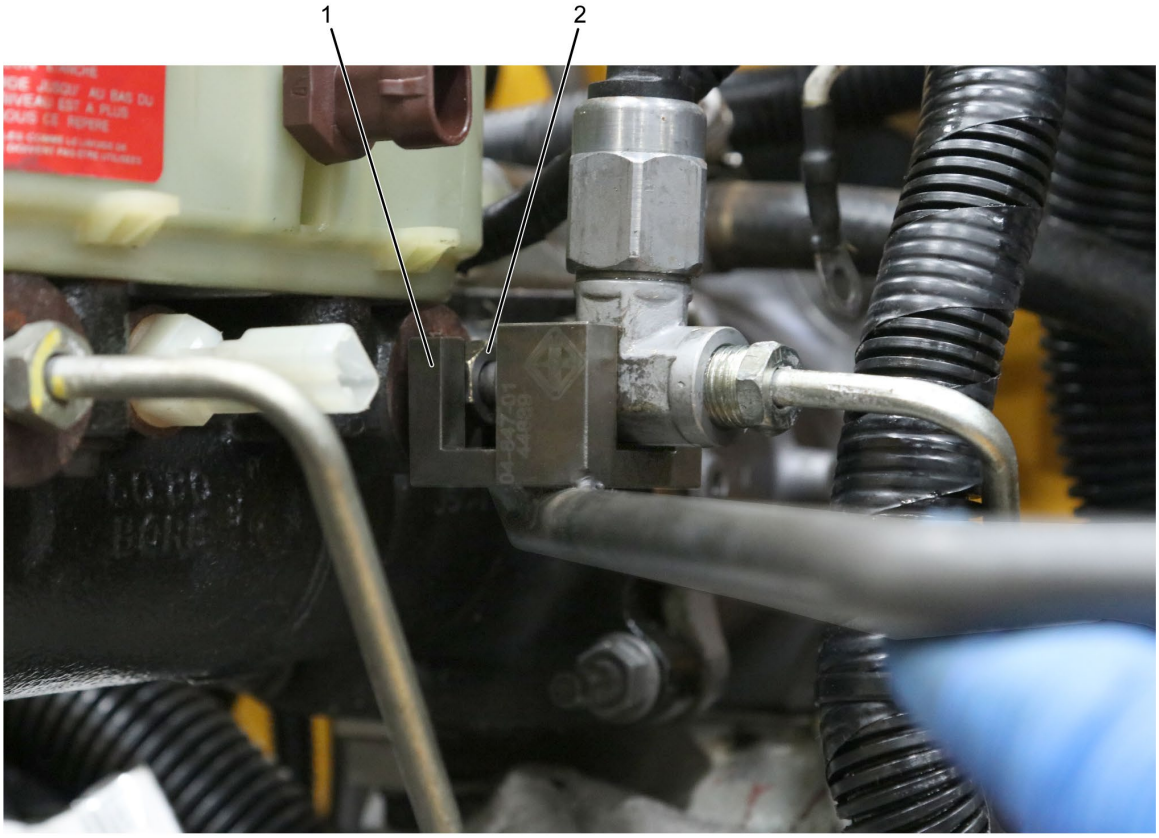

Figure 5. Brake Switch Wrench and Hex Nut Engagement

1. Brake switch wrench
2. Hex nut

NOTE: If needed, rotate tube nut to ensure tool engages on hex nut flats.

12. Install brake switch wrench (Figure 5, Item 1) and ensure full engagement with tube hex nut (Figure 5, Item 2).

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Figure 6. Brake Switch Wrench 04-847-01 Attached to T-Fitting

1. Brake switch wrench

CAUTION! To prevent damage to property, use brake switch wrench to stabilize T-fitting while removing and installing hydraulic brake switch. Failure to do so can result in damage to brake line or T-fitting.

13. Loosen hydraulic brake switch with 15/16 wrench while using brake switch wrench (Figure 6, Item 1) to prevent T-fitting rotation.

14. Remove brake switch wrench (Figure 6, Item 1) from T-fitting once the switch has been loosened.

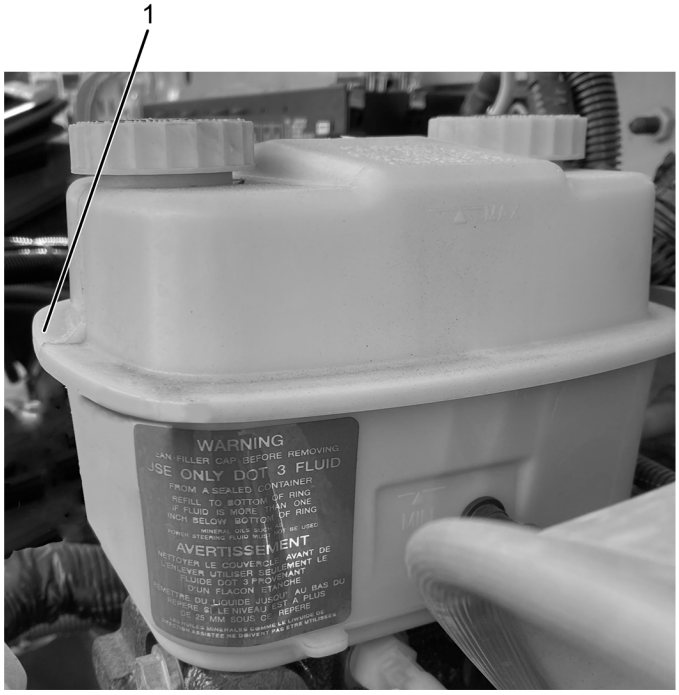

Figure 7. Brake Fluid Reservoir – Fluid Mid-Level Measurement

1. Reservoir ring

NOTE: Verify brake fluid level is filled to the mid-level of the reservoir (at the reservoir ring) with NEW DOT 3 or DOT 3 compatible brake fluid before performing brake bleeding procedure.

15. Ensure brake fluid level is at mid-level point of the brake fluid reservoir ring (Figure 7, Item 1).

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Figure 8. Gravity Bleed

1. Master cylinder cap
2. Hydraulic brake switch port
3. Brake fluid flow

NOTE: Ensure that brake fluid does not drop below MIN fill line on master cylinder reservoir. Refill master cylinder reservoir with brake fluid if necessary.

16. Start gravity bleed between master cylinder and switch port by removing master cylinder cap (Figure 8, Item 1).

NOTE: Allow brake fluid to flow from switch for minimum of 15 seconds.

17. Remove the hydraulic brake switch port (Figure 8, Item 2) and allow brake fluid to flow for 15 seconds or until air bubbles can no longer be seen.

CAUTION! To prevent damage to property, use brake switch wrench to stabilize T-Fitting while removing and securing hydraulic brake switch. Failure to do so can result in damage to brake line T-Fitting, and may necessitate a brake bleed.

18. Install new hydraulic brake switch until finger tight.

19. Install brake switch wrench and ensure full engagement with flats of flare fitting nut.

20. Using torque wrench, tighten hydraulic brake switch to 35 lb-ft (48 N·m) while using brake switch wrench to prevent T-fitting rotation.

21. Rotate T-fitting 180 degrees back to original orientation.

22. Using torque wrench, tighten inner tube nut connecting T-fitting to master cylinder to 13–17 lb-ft (17–23 N·m).

23. Using torque wrench, tighten outer tube nut connecting T-fitting to brake line to 13–17 lb-ft (17–23 N·m) using 19 mm wrench as counter hold.

24. Reinstall master cylinder brake fluid reservoir cap, ending the gravity bleed.

25. Using torque wrench and reinstall bracket and two 9/16 hex nuts previously removed from master cylinder to 37.3 lb-ft (3.4 N·m).

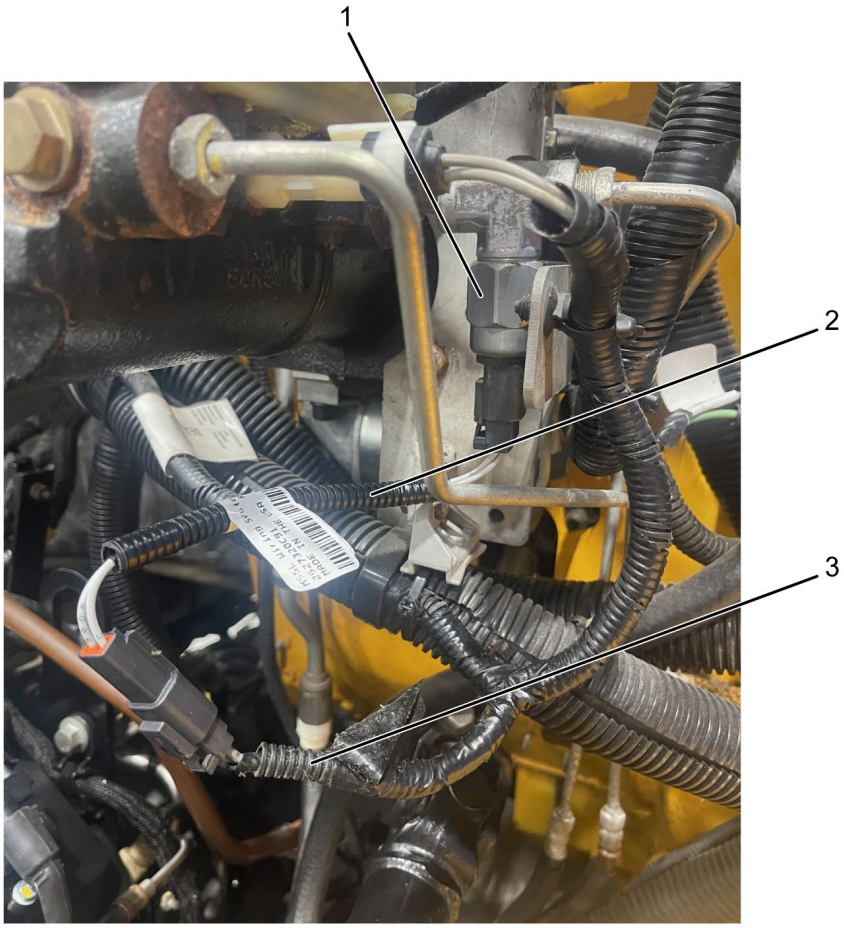

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Figure 9. Hydraulic Brake Pressure Switch Extension Harness

1. Brake pressure switch
2. Extension harness
3. Brake harness

26. Install extension harness (Figure 9, Item 2) to brake pressure switch (Figure 9, Item 1) and brake harness (Figure 9, Item 3). Using cable tie strap, secure extension harness to main harness.

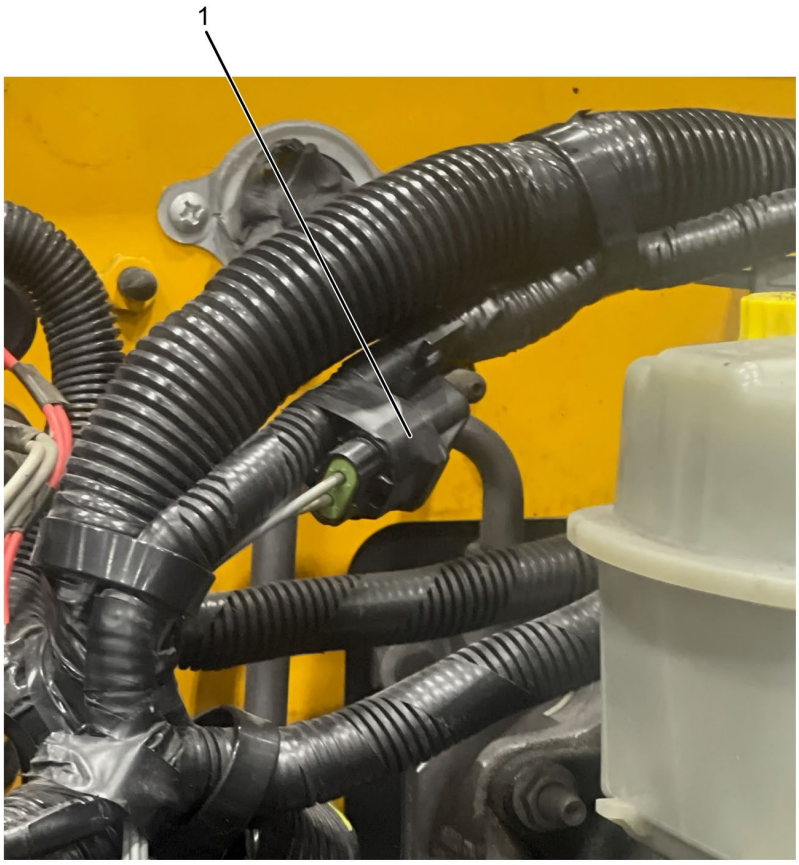

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Figure 10. 5 Amp Hydro-Max Pressure Fuse Location
1. 5 amp Hydro-Max pressure fuse

27. Locate 5 amp Hydro-Max pressure fuse (Figure 10, Item 1) on the left-side of master cylinder.

28. Using proper cutting tool, cut the electrical tape.

29. Remove cap and fuse from electrical connector.

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Figure 11. 5 Amp Hydro-Max Pressure Fuse Harness Extension

1. 5 amp Hydro-Max pressure fuse connector
2. Extension harness

30. Install extension harness (Figure 11, Item 2) to 5 amp Hydro-Max pressure fuse connector (Figure 11, Item 1). Using cable tie strap, secure extension harness to main harness.

31. In Step 15, was the brake fluid below the add line?

    a. Yes, brake fluid level was below the minimum fill level. Proceed to Bleed Primary Brake Procedure.

    b. No, brake fluid level was above the minimum fill level. Proceed to Step 65.

Bleed Primary Brake Procedure (Front Axle) Only if Brake Level Was Below Minimum Fill Level in Step 15

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.

CAUTION! To prevent damage to property, ensure brake fluid does not contact painted surfaces. Failure to do so can result in damage to property.

CAUTION! To prevent damage to property, ensure brake fluid reservoir and reservoir cap are kept clear of any debris entering the system.

NOTE: Brake bleed procedure is only required if brake fluid level was below minimum fill level in Step 15.

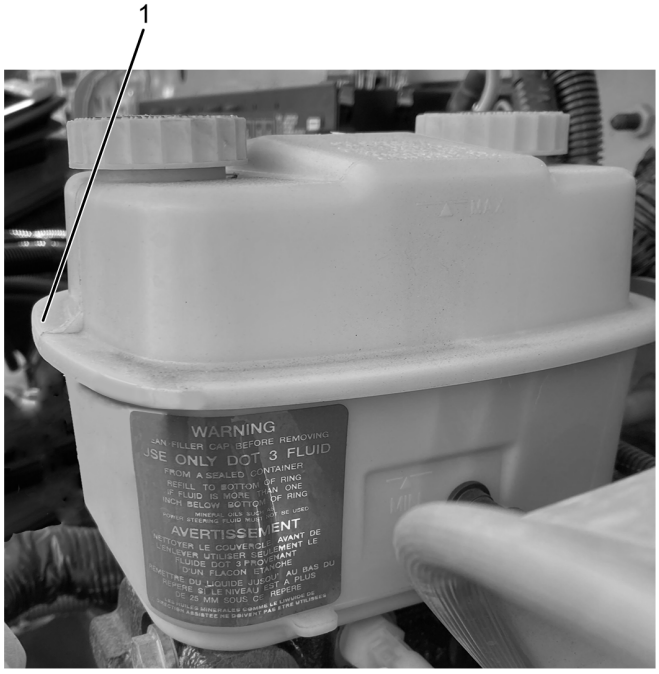

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Figure 12. Brake Fluid Reservoir – Fluid Mid-Level Measurement
1. Reservoir ring

NOTE: Verify brake fluid level is filled to the mid-level of the reservoir (at the reservoir ring) with NEW DOT 3 or DOT 3 compatible brake fluid before performing brake bleeding procedure.

32. Ensure brake fluid level is at mid-level point of the brake fluid reservoir ring (Figure 12, Item 1).

33. Lift front axle of vehicle and support on jack stands.

34. Remove lug nuts and front wheels to access brake calipers.

35. Ensure Hydraulic Clutch and Brake Bleeder tool (Brake Bleeder) has the proper brake bleed adapter installed and that the tool is clean and free of debris or contaminants.

36. Remove cap from fluid reservoir on master cylinder.

37. Attach Brake Bleeder cap to vehicle master cylinder fluid reservoir, ensuring that gasket is properly installed, and gasket is not worn or cracked.

38. Pressurize the Brake Bleeder tool to 20–30 psi by pumping tool handle and check for leaks at fluid reservoir and at Brake Bleeder tool fluid hose connections.

NOTE: DO NOT remove reservoir cap before depressurizing Brake Bleeder tank.

39. If reservoir cap or hose connections are leaking, release accumulated pressure in Brake Bleeder tool by slowly unscrewing the pump cap from fluid reservoir on master cylinder.

40. Reattach Brake Bleeder tool reservoir cap or tighten hose connections and repressurize the tool to 20–30 psi.

41. If no leaks are found, slowly unscrew pump cap and add up to 2 quarts of new brake fluid from a sealed container.

NOTE: Ensure brake fluid in Brake Bleeder tool reservoir is above minimum fill level at all times.

42. Fill brake master cylinder reservoir to mid-level.

CAUTION! To prevent damage to property, limit Hydraulic Clutch and Brake Bleeder pressure to 30 psi or less.

43. Tighten cap on Brake Bleeder tool and pressurize to 20–30 psi by pumping the tool handle.

44. Open Brake Bleeder valve on Brake Bleeder tool.

NOTE: ALWAYS start bleed procedure on brake calipers farthest from ABS Module and ALWAYS start bleed procedure on inboard brake bleed fitting, followed by the outboard fitting, and ending on inboard fitting.

45. Start bleed procedure on the passenger-side (farthest from ABS module).

46. Attach hose to inboard caliper brake bleed fitting and submerge end of hose in suitable container. If necessary, add new brake fluid to bottom of container to observe air bubbles.

47. Loosen bleeder fitting until fluid begins to flow. Allow fluid to flow until flow is free of bubbles and contamination.

48. Close bleeder fitting.

49. Pressurize Brake Bleeder tool to 20–30 psi by pumping the tool handle.

50. Attach hose to outboard caliper brake bleed fitting and submerge end of hose in suitable container.

51. Loosen bleeder fitting until fluid begins to flow. Allow fluid to flow until flow is free of bubbles and contamination.

52. Close bleeder fitting.

53. Pressurize Brake Bleeder tool to 20–30 psi by pumping the tool handle.

54. Attach hose to inboard caliper brake bleed fitting and submerge end of hose in suitable container.

55. Loosen bleeder fitting until fluid begins to flow. Allow fluid to flow until flow is free of bubbles and contamination.

56. Close bleeder fitting.

57. Repeat Steps 46–56 for each brake caliper bleeder on driver-side starting with inboard brake bleed fitting.

58. When brake bleeder procedure is complete, release pressure from Brake Bleeder by slowly loosening pump cap.

59. Remove Brake Bleeder assembly from fluid reservoir on master cylinder.

NOTE: Verify brake fluid level is filled to the mid-level of the reservoir (at the ring of reservoir) with NEW DOT 3 or DOT 3 compatible brake fluid before performing brake bleeding procedure.

60. Check that fluid level is at mid-level of reservoir (Figure 12, Item 1). Add or remove brake fluid if necessary.

61. Clean and install fluid reservoir cap on reservoir.

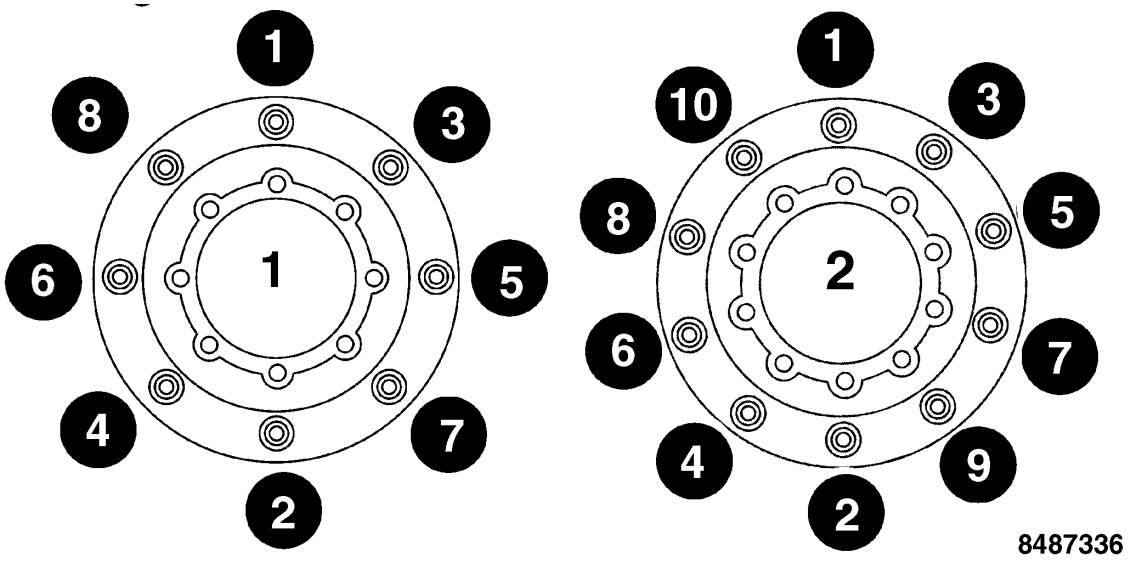


Figure 13. Wheel Nut Torque Sequence

NOTE: To ensure uniform seating of nuts and even face-to-face contact of wheel and hub, DO NOT fully tighten nuts until vehicle has been lowered from jack stands.

62. Install front wheel assemblies and wheel nuts. Tighten wheel nuts alternately following crisscross pattern sequence (Figure 13).

63. Raise vehicle off jack stands, remove stands, and lower front axle of vehicle.

64. Using torque wrench, tighten lug nuts to 400–500 lb-ft (610–678 N·m).

65. Close and latch hood.

66. Remove wheel chocks.

END OF SERVICE PROCEDURE

LABOR INFORMATION

Operation Number	Description	Time
A40-23517-9	Replace Brake Pressure Switch and Install Extension Harnesses	0.5 hrs
A40-23517-10	Bleed Brake if Reservoir was Below Add Line	1.7 hrs
A40-23518-11	Replace Switch and Inspect Harness (Repairs prior to 12/08/2025)	0.5 hrs
A40-23518-12	Replace Harness and Bleed Primary Brakes, MV™ Series / TC commercial bus − if required (Repairs prior to 12/08/2025)	3.3 hrs
A40-23518-13	Replace Harness and Bleed Primary Brakes DuraStar® Series trucks – if required (Repairs prior to 12/08/2025)	3.6 hrs
A40-23518-14	Replace Harness and Bleed Primary Brakes CE commercial bus / FBC 1300 − if required (Repairs prior to 12/08/2025)	3.3 hrs

Table 3 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.

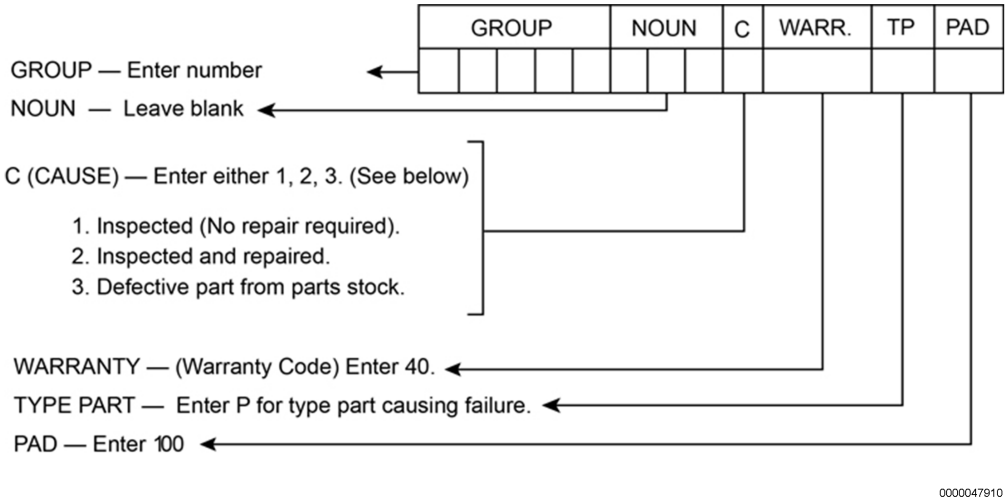
ADMINISTRATIVE / DEALER RESPONSIBILITIES

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 23518.

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.



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. Federal law prohibits a dealer from delivering under a sale or lease, a new motor vehicle or any new or used item of motor vehicle equipment (including a tire) covered by the notification of a recall until the defect or noncompliance is remedied.

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.

IC Bus, LLC