

March 2021  
FL873A-E  
NHTSA #21V-018 (Non-School Bus)  
NHTSA #21V-017 (School Bus)  
Transport Canada #2021-013

**Subject: Brake Caliper Mounting Bolts**

**Models Affected: Specific Model Year 2021 Freightliner Business Class M2 and Cascadia vehicles; Freightliner Custom Chassis XC chassis; Thomas Built Buses Saf-T-Liner EFX and HDX buses; and Western Star 4700 and 5700 vehicles manufactured March 19, 2020, through August 17, 2020.**

**General Information**

Daimler Trucks North America LLC (DTNA), on behalf of its Freightliner Trucks Division, and wholly owned subsidiaries, Freightliner Custom Chassis Corporation, Thomas Built Buses, and Western Star Truck Sales, Inc., has decided that a defect that relates to motor vehicle safety exists on the vehicles mentioned above.

On certain vehicles, insufficiently torqued left front caliper mounting bolts may not provide adequate clamping force between the brake caliper and brake anchor plate, potentially resulting in reduced brake effectiveness, which could increase the risk of a crash.

The caliper mounting bolts will be torqued and replaced as needed.

There are approximately 150 vehicles involved in this campaign.

**Additional Repairs**

Dealers must complete all outstanding Recall and Field Service campaigns prior to the sale or delivery of a vehicle. A Dealer will be liable for any progressive damage that results from its failure to complete campaigns before sale or delivery of a vehicle.

Owners may be liable for any progressive damage that results from failure to complete campaigns within a reasonable time after receiving notification.

**Work Instructions**

Please refer to the attached work instructions. Prior to performing the campaign, check the vehicle for a completion sticker (Form WAR260).

**Replacement Parts**

Replacement parts are now available and can be obtained by ordering the kit and/or part number(s) listed below from your facing Parts Distribution Center.

If our records show your dealership has ordered any vehicle(s) involved in campaign number FL873, a list of the customers and vehicle identification numbers will be available on DTNAConnect. Please refer to this list when ordering parts for this recall.

**Table 1** - Replacement Parts for FL873

Campaign Number	Part Description	Part Number	Qty.
FL873A-E	WASHER-HRDN,0.81X1.47X.177,ZN	23-09114-004	6 ea
	SCREW-CAP,HEX,M20X60,10.9,P/O	N210931 020001	
	BLANK COMPLETION STICKER	WAR260	1 ea

**Table 1**

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## Removed Parts

U.S. and Canadian Dealers, please follow Warranty Failed Parts Tracking shipping instructions for the disposition of all removed parts. Export distributors, please destroy removed parts unless otherwise advised.

## Labor Allowance

**Table 2** - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Corrective Action
FL873A,C-E	Torque LH front caliper bolts	0.6	996-R022A	12-Repair Recall/Campaign
FL873B	Torque LH front caliper bolts, RV	0.9	996-R022B	12-Repair Recall/Campaign
FL873A-E	Remove and replace caliper bolts on LH front caliper	0.5	996-R022C	12-Repair Recall/Campaign

**Table 2**

**IMPORTANT:** When the Recall has been completed, locate the base completion label in the appropriate location on the vehicle, and attach the red completion sticker provided in the recall kit (Form WAR260). If the vehicle does not have a base completion label, clean a spot on the appropriate location of the vehicle and first attach the base completion label (Form WAR259). If a recall kit is not required or there is no completion sticker in the kit, write the recall number on a blank sticker and attach it to the base completion label.

## Claims for Credit

You will be reimbursed for your parts, labor, and handling (landed cost for Export Distributors) by submitting your claim through the Warranty system within 30 days of completing this campaign. Please reference the following information in OWL:

- Claim type is **Recall Campaign**.
- In the Campaign field, enter the campaign number and appropriate condition code (e.g. **FL873-A, FL873-B, etc.**).
- In the Primary Failed Part Number field, enter **25-FL873-000**.
- In the Parts field, enter the appropriate kit or part number(s) as shown in the Replacement Parts Table.
- In the Labor field, first enter the appropriate SRT from the Labor Allowance Table. Administrative time will be included automatically as SRT 939-6010A for 0.4 hours for RVs or 0.3 hours for all other vehicles.
- The VMRS Component Code is **F99-999-005** and the Cause Code is **A1 - Campaign**.
- **U.S. and Canada -- Reimbursement for Prior Repairs.** When a customer asks about reimbursement, please do the following:
  - Accept the documentation of the previous repair.
  - Make a brief check of the customer's paperwork to see if the repair may be eligible for reimbursement. (See the "Copy of Owner Letter" section of this bulletin for reimbursement guidelines.)
  - Submit an OWL Recall Pre-Approval Request for a decision.
  - Include the approved amount on your claim in the Other Charges section.
  - Attach the documentation to the pre-approval request.
  - If approved, submit a based on claim for the pre-approval.
  - Reimburse the customer the appropriate amount.

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**IMPORTANT:** OWL must be viewed prior to performing the recall to ensure the vehicle is involved and the campaign has not been previously completed. Also, check for a completion sticker prior to beginning work.

U.S. and Canadian dealers, contact the Warranty Campaigns Department via Web inquiry at [DTNACconnect.com/WSC](http://DTNACconnect.com/WSC), if you have any questions or need additional information. Export distributors, submit a Web inquiry or contact your International Service Manager.

U.S. and Canadian Dealers: To return excess kit inventory related to this campaign, U.S. dealers must submit a Parts Authorization Return (PAR) to the Memphis PDC. Canadian dealers must submit a PAR to their facing PDC. All kits must be in resalable condition. PAR requests must include the original purchase invoice number. Export Distributors: Excess inventory is not returnable.

The letter notifying U.S. and Canadian vehicle owners is included for your reference.

Please note that the National Traffic and Motor Vehicle Safety Act, as amended (Title 49, United States Code, Chapter 301), requires the owner's vehicle(s) be corrected within a reasonable time after parts are available to you. The Act states that failure to repair a vehicle within 60 days after tender for repair shall be prima facie evidence of an unreasonable time. However, circumstances of a particular situation may reduce the 60 day period. Failure to repair a vehicle within a reasonable time can result in either the obligation to (a) replace the vehicle with an identical or reasonably equivalent vehicle, without charge, or (b) refund the purchase price in full, less a reasonable allowance for depreciation. The Act further prohibits dealers from selling a vehicle unless all outstanding recalls are performed. Any lessor is required to send a copy of the recall notification to the lessee within 10 days. Any subsequent stage manufacturer is required to forward this notice to its distributors and retail outlets within five working days.

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## Copy of Notice to Owners

### Subject: Brake Caliper Mounting Bolts

**For the Notice to U.S. Customers:** This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act. **For the Notice to Canadian Customers:** This notice is sent to you in accordance with the requirements of the Motor Vehicle Safety Act. This is to inform you that your vehicle may contain a defect that could affect the safety of a person.

Daimler Trucks North America LLC (DTNA), on behalf of its Freightliner Trucks Division, and wholly owned subsidiaries, Freightliner Custom Chassis Corporation, Thomas Built Buses, and Western Star Truck Sales, Inc., has decided that a defect that relates to motor vehicle safety exists on specific Model Year 2021 Freightliner Business Class M2 and Cascadia vehicles; Freightliner Custom Chassis XC chassis; Thomas Built Buses Saf-T-Liner EFX and HDX; and Western Star 4700 and 5700 vehicles manufactured March 19, 2020, through August 17, 2020.

On certain vehicles, insufficiently torqued left front caliper mounting bolts may not provide adequate clamping force between the brake caliper and brake anchor plate, potentially resulting in reduced brake effectiveness, which could increase the risk of a crash.

The caliper mounting bolts will be torqued and replaced as needed. Repairs will be performed by Daimler Trucks North America authorized service facilities.

Please contact an authorized Daimler Trucks North America dealer to arrange to have the Recall performed and to ensure that parts are available at the dealership. To locate an authorized dealer, go to [Daimler-TrucksNorthAmerica.com/contact-us/](http://Daimler-TrucksNorthAmerica.com/contact-us/). Scroll down to "Locate a Dealer," and select the appropriate brand. The Recall will take approximately 1 hour and will be performed at no charge to you. You may also confirm your vehicle's involvement in this recall at this URL: <https://dtna-dlrinfo.prd.freightliner.com:48518/VinLookup/vin-module/getVinLookupPage>.

You may be liable for any progressive damage that results from your failure to complete the Recall within a reasonable time after receiving notification.

If you do not own the vehicle that corresponds to the identification number(s) which appears on the Recall Notification, please return the notification to the Warranty Campaigns Department with any information you can furnish that will assist us in locating the present owner. If you have leased this vehicle, Federal law requires that you forward this notice to the lessee within 10 days. If you are a subsequent stage manufacturer, Federal law requires that you forward this notice to your distributors and retail outlets within five working days. If you have paid to have this recall condition corrected prior to this notice, you may be eligible to receive reimbursement. Please see the reverse side of this notice for details.

If you have questions about this Recall, please contact the Warranty Campaigns Department at (800) 547-0712, 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, e-mail address [DTNA.Warranty.Campaigns@Daimler.com](mailto:DTNA.Warranty.Campaigns@Daimler.com). **For the Notice to U.S. Customers:** If you are not able to have the defect remedied without charge and within a reasonable time, you may wish to submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; or call the Vehicle Safety Hotline at (888) 327-4236 (TTY: 800-424-9153); or to <http://www.safercar.gov>. **For the Notice to Canadian Customers:** If you wish to submit a complaint about this recall, you can contact Transport Canada road safety, 80 rue Noel, Gatineau, Quebec J8Z 0A1 or call (800) 333-0510.

We regret any inconvenience this action may cause but feel certain you understand our interest in motor vehicle safety.

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

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## **Reimbursement to Customers for Repairs Performed Prior to Recall**

If you have already **paid** to have this recall condition corrected you may be eligible to receive reimbursement.

Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by an authorized Daimler Trucks North America LLC dealer. The following documentation must be presented to your dealer for consideration for reimbursement.

Please provide original or clear copies of all receipts, invoices, and repair orders that show:

- The name and address of the person who paid for the repair
- The Vehicle Identification Number (VIN) of the vehicle that was repaired
- What problem occurred, what repair was done, when the repair was done
- Who repaired the vehicle
- The total cost of the repair expense that is being claimed
- Proof of payment for the repair (such as the front and back of a cancelled check or a credit card receipt)

Reimbursement will be made by check from your Daimler Trucks North America LLC dealer.

Please speak with your Daimler Trucks North America LLC authorized dealer concerning this matter.

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## Work Instructions

### Subject: Brake Caliper Mounting Bolts

**Models Affected: Specific Model Year 2021 Freightliner Business Class M2 and Cascadia vehicles; Freightliner Custom Chassis XC chassis; Thomas Built Buses Saf-T-Liner EFX and HDX buses; and Western Star 4700 and 5700 vehicles manufactured March 19, 2020, through August 17, 2020.**

### General Information

See **Table 3** to determine the type of caliper installed on the vehicle and the page number for the instructions. The work instructions shall be carried out on the **front-left calipers only**.

Caliper Type	Vehicle Type	Campaign Number	Page Number
Bendix Axial	Truck and Bus	FL873A, E	6
Meritor Axial	Truck	FL873C	12
Wabco Axial	Truck	FL873D	15
Bendix Axial	RV	FL873B	17

Table 3, Caliper Type and Instruction Page Number

### Front-Left Caliper/Carrier Assembly Torque and Replacement - Bendix Axial Mounted Calipers

1. Check the base label (Form WAR259) for a completion sticker for FL873 (Form WAR260) indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a sticker is present for FL873, no work is needed. If there is no sticker, proceed with the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.



**Before working under the vehicle, always place jack stands under the frame rails to ensure the vehicle cannot drop. Failure to follow these steps could result in serious personal injury or death.**

3. Raise the front axle and support it on jack stands.
4. Remove the front-left wheel assembly.

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NOTE: In all steps that require a torque wrench, use a Snap On torque wrench ATECH4RS600, or an equivalent, with a center to handle length of 47 inches (119 cm).

5. Set a torque wrench to 350 lbf-ft (475 N·m) and tighten the caliper mounting bolts. If they do not turn, go to step 13. If they turn, go to step 6. Due to limited caliper bolt access, it may be necessary to use tool DDC DSNCHA018005 referenced in tool letter 18TL18. If the tool is needed, use tool DDC DSN-CHA018005 only and no other tools. See [Fig. 1.](#) for a 47 in (119 cm) long wrench, see [Table 4.](#) for torque specifications.



**Fig. 1, DDC DSNCHA018005 30mm Air Disc Brake  
Caliper Brake Bolt Torque Adaptor**

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Torque Check with 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005			
Angle View	Extension Angle (degrees)	Target Torque [lb·ft (N·m)]	Tool Setting [lb·ft (N·m)]
 <p>0° 11/28/2016 f422613</p>	0	350 (475)	296 (401)
 <p>45° 11/28/2016 f422614</p>	45		310 (420)
 <p>60° 11/06/2018 f422668</p>	60		320 (434)
 <p>90° 11/28/2016 f422615</p>	90		350 (475)
 <p>120° 11/06/2018 f422669</p>	120		386 (523)
 <p>135° 11/28/2016 f422616</p>	135		402 (545)

**Table 4, Torque Check with 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005**



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## WARNING

When replacing brake pads, shoes, rotors, or drums, always replace components as an axle set.

- Always reline both sets of brakes on an axle at the same time.
- Always replace both rotors/drums on an axle at the same time.
- Always install the same type of linings/pads or drums/rotors on both axle ends of a single axle, and all four axle ends of a tandem axle, at the same time. Do not mix component types.

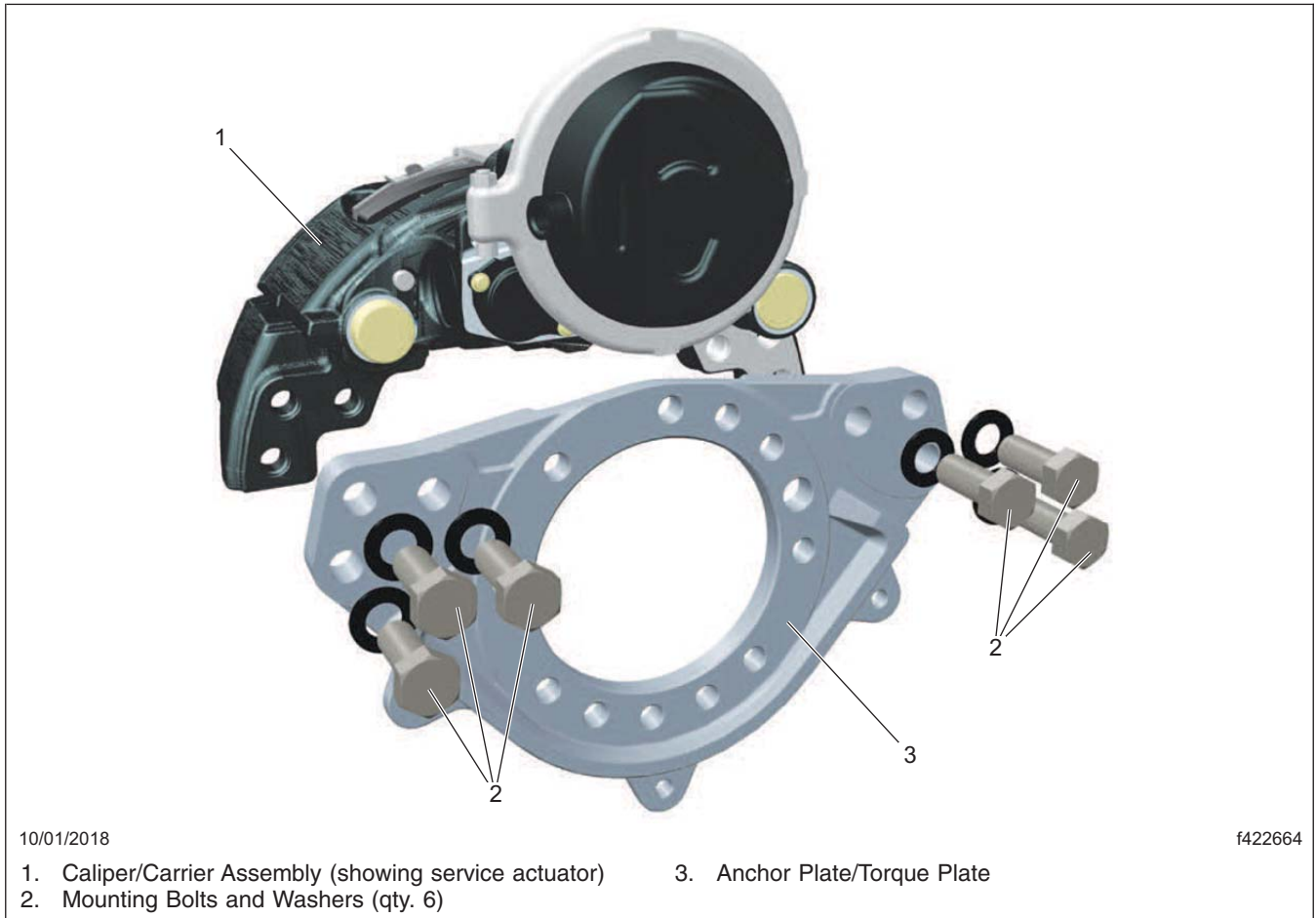
Failure to do so could cause uneven braking and loss of vehicle control, resulting in property damage, personal injury, or death.

6. Remove the retainer pin, cotter pin, and brake pad retainer. Inspect the brake pad hardware to ensure it is in good condition. If it is, reuse the brake pad hardware. If the brake pad hardware is not in good condition, replace brake pad sets on both ends of the axle.
7. Remove the brake pads.
8. Remove caliper bolts.

IMPORTANT: The caliper/carrier assemblies are left and right handed. Ensure that the correct assembly (left or right) is installed on each side of the vehicle.

9. Align the caliper/carrier assembly with the rotor by pushing the caliper against the shelf on the torque plate, then install the caliper/carrier assembly using new caliper mounting bolts. See [Fig. 2](#).
10. Tighten the carrier mounting bolts in two steps as follows.
  - 10.1 Start on one side of the caliper and tighten all three bolts  $40\pm 20$  lbf·ft ( $54\pm 27$  N·m), beginning with the inner-most bolt and moving to the outer-most bolt. Then tighten the three bolts on the other side of the caliper  $40\pm 20$  lbf·ft ( $54\pm 27$  N·m), beginning with the inner-most bolt and moving to the outer-most bolt. See [Fig. 3](#).
  - 10.2 Repeat this process, increasing the torque value to  $375\pm 25$  lbf·ft ( $508\pm 34$  N·m). If tool DDC DSNCHA018005 referenced in tool letter 18TL18 is used, see [Table 5](#) for torque specifications.

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10/01/2018

f422664

- 1. Caliper/Carrier Assembly (showing service actuator)
- 2. Mounting Bolts and Washers (qty. 6)
- 3. Anchor Plate/Torque Plate

**Fig. 2, Bendix Axial Mounted Caliper**



**Fig. 3, Tightening Pattern, Front-Left Bendix Axial Caliper**

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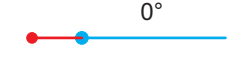

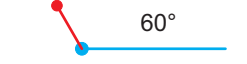



Bendix/Wabco Installation with a 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005			
Angle View	Extension Angle (degrees)	Target Torque [lbf·ft (N·m)]	Tool Setting [lbf·ft (N·m)]
 <p>0° 11/28/2016 f422613</p>	0	375 (508)	317 (430)
 <p>45° 11/28/2016 f422614</p>	45		332 (450)
 <p>60° 11/06/2018 f422668</p>	60		343 (465)
 <p>90° 11/28/2016 f422615</p>	90		375 (508)
 <p>120° 11/06/2018 f422669</p>	120		413 (560)
 <p>135° 11/28/2016 f422616</p>	135		431 (584)

Table 5, Bendix/Wabco Installation with a 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005

## NOTICE

**Do not use a motor driven tool to tighten the manual brake adjuster nut, or use excessive force to tighten the nut. Doing so could damage the manual brake adjuster nut.**

11. Install the brake pads. Provided it is in good condition, use the brake pad hardware removed earlier.
12. Back off the adjuster nut three clicks.
13. Install the front-left wheel assembly.

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14. Raise the front axle, remove the jack stands, then lower the front axle.
15. Charge the air system and check for leaks.

## WARNING

**Do not operate the vehicle until the brakes have been adjusted and checked for proper operation. To do so could result in inadequate or no braking ability, which could cause personal injury or death, and property damage.**

16. In a safe area, check for proper brake operation, as follows, before putting the vehicle in service.
  - 16.1 Apply and release the brakes several times to check for air leaks and proper operation.
  - 16.2 Perform six low-speed stops to ensure proper parts replacement and full vehicle control.
  - 16.3 Immediately after doing the above stops, check the rotor temperatures. Any rotors that are significantly cooler than others indicates a lack of braking effort on those wheels.
17. Clean a spot on the base label (Form WAR259). Write the recall number, FL873, on a completion sticker (Form WAR260), and attach it to the base label to indicate this recall has been completed.

## Front-Left Caliper/Carrier Assembly Inspection and Installation - Meritor Axial Mounted Calipers

1. Check the base label (Form WAR259) for a completion sticker for FL873 (Form WAR260) indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a sticker is present for FL873, no work is needed. If there is no sticker, proceed with the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

## DANGER

**When working on the vehicle, shut down the engine, set the parking brake, and chock the tires. Before working under the vehicle, always place jack stands under the frame rails to ensure the vehicle cannot drop. Failure to follow these steps could result in serious personal injury or death.**

3. Raise the front axle and support it on jack stands.
4. Remove the front-left wheel assembly.

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NOTE: In all steps that require a torque wrench, use a Snap On torque wrench ATECH4RS600, or an equivalent, with a center to handle length of 47 inches (119 cm).

5. Set a torque wrench to 350 lbf-ft (475 N·m) and tighten the caliper mounting bolts. If they do not turn, go to step 13. If they turn, go to step 6. Due to limited caliper bolt access, it may be necessary to use tool DDC DSNCHA018005 referenced in tool letter 18TL18. If the tool is needed, use tool DDC DSNCHA018005 only and no other tools. See [Fig. 1](#). See [Table 4](#) for torque specifications.

 **WARNING**

**When replacing brake pads, shoes, rotors, or drums, always replace components as an axle set.**

- Always reline both sets of brakes on an axle at the same time.
- Always replace both rotors/drums on an axle at the same time.
- Always install the same type of linings/pads or drums/rotors on both axle ends of a single axle, and all four axle ends of a tandem axle, at the same time. Do not mix component types.

**Failure to do so could cause uneven braking and loss of vehicle control, resulting in property damage, personal injury, or death.**

6. Remove the retainer pin, cotter pin, and brake pad retainer. Inspect the brake pad hardware to ensure it is in good condition. If it is, reuse the brake pad hardware. If the brake pad hardware is not in good condition, replace brake pad sets on both ends of the axle.
7. Remove the brake pads.
8. Remove caliper bolts.

**IMPORTANT:** The caliper/carrier assemblies are left and right handed. Ensure that the correct assembly (left or right) is installed on each side of the vehicle.

NOTE: The Meritor axial mounted caliper is similar to the Bendix axial mounted caliper shown in [Fig. 2](#).

9. Align the caliper/carrier assembly with the rotor by pushing the caliper against the shelf on the torque plate, then install the caliper/carrier assembly using new caliper mounting bolts.
10. Tighten the carrier mounting bolts in two steps as follows.
  - 10.1 Start on one side of the caliper and tighten all of the bolts 45±5 lbf-ft (61±7 N·m). Then tighten the bolts on the other side of the caliper 45±5 lbf-ft (61±7 N·m). See [Fig. 3](#).
  - 10.2 Repeat this process, increasing the torque value to 400±50 lbf-ft (542±68 N·m). If tool DDC DSNCHA018005 referenced in tool letter 18TL18 is used, see [Table 6](#) for torque specifications.

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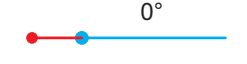

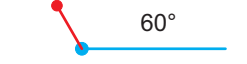



Meritor Installation with a 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005			
Angle View	Extension Angle (degrees)	Target Torque [lbf·ft (N·m)]	Tool Setting [lbf·ft (N·m)]
 <p>11/28/2016 f422613</p>	0	400 (542)	338 (458)
 <p>11/28/2016 f422614</p>	45		354 (480)
 <p>11/06/2018 f422668</p>	60		366 (496)
 <p>11/28/2016 f422615</p>	90		400 (542)
 <p>11/06/2018 f422669</p>	120		441 (598)
 <p>11/28/2016 f422616</p>	135		460 (624)

Table 6, Meritor Installation with a 47 Inch (119 cm) Torque Wrench and Tool DDC DSNCHA018005

## NOTICE

**Do not use a motor driven tool to tighten the manual brake adjuster nut, or use excessive force to tighten the nut. Doing so could damage the manual brake adjuster nut.**

11. Install the brake pads. Provided it is in good condition, use the brake pad hardware removed earlier.
12. Back off the adjuster nut three clicks.
13. Install the front-left wheel assembly.

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14. Raise the front axle, remove the jack stands, then lower the front axle.
15. Charge the air system and check for leaks.

## WARNING

**Do not operate the vehicle until the brakes have been adjusted and checked for proper operation. To do so could result in inadequate or no braking ability, which could cause personal injury or death, and property damage.**

16. In a safe area, check for proper brake operation, as follows, before putting the vehicle in service.
  - 16.1 Apply and release the brakes several times to check for air leaks and proper operation.
  - 16.2 Perform six low-speed stops to ensure proper parts replacement and full vehicle control.
  - 16.3 Immediately after doing the above stops, check the rotor temperatures. Any rotors that are significantly cooler than others indicates a lack of braking effort on those wheels.
17. Clean a spot on the base label (Form WAR259). Write the recall number, FL873, on a completion sticker (Form WAR260), and attach it to the base label to indicate this recall has been completed.

## Front-Left Caliper/Carrier Assembly Inspection and Installation - WABCO Maxxus Axial Mounted Calipers

1. Check the base label (Form WAR259) for a completion sticker for FL873 (Form WAR260) indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a sticker is present for FL873, no work is needed. If there is no sticker, proceed with the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

## DANGER

**When working on the vehicle, shut down the engine, set the parking brake, and chock the tires. Before working under the vehicle, always place jack stands under the frame rails to ensure the vehicle cannot drop. Failure to follow these steps could result in serious personal injury or death.**

3. Raise the front axle and support it on jack stands.
4. Remove the front-left wheel assembly.

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NOTE: In all steps that require a torque wrench, use a Snap On torque wrench ATECH4RS600, or an equivalent, with a center to handle length of 47 inches (119 cm).

5. Set a torque wrench to 350 lbf-ft (475 N·m) and tighten the caliper mounting bolts. If they do not turn, go to step 13. If they turn, go to step 6. Due to limited caliper bolt access, it may be necessary to use tool DDC DSNCHA018005 referenced in tool letter 18TL18. If the tool is needed, use tool DDC DSNCHA018005 only and no other tools. See [Fig. 1](#) for a 47 in (119 cm) long wrench, see [Table 4](#) for torque specifications.

## WARNING

**When replacing brake pads, shoes, rotors, or drums, always replace components as an axle set.**

- Always reline both sets of brakes on an axle at the same time.
- Always replace both rotors/drums on an axle at the same time.
- Always install the same type of linings/pads or drums/rotors on both axle ends of a single axle, and all four axle ends of a tandem axle, at the same time. Do not mix component types.

**Failure to do so could cause uneven braking and loss of vehicle control, resulting in property damage, personal injury, or death.**

6. Remove the retainer pin, cotter pin, and brake pad retainer. Inspect the brake pad hardware to ensure it is in good condition. If it is, reuse the brake pad hardware. If the brake pad hardware is not in good condition, replace brake pad sets on both ends of the axle.
7. Remove the brake pads.
8. Remove caliper bolts.

IMPORTANT: The caliper/carrier assemblies are left and right handed. Ensure that the correct assembly (left or right) is installed on each side of the vehicle.

NOTE: The Wabco axial mounted caliper is similar to the Bendix axial mounted caliper shown in [Fig. 2](#).

9. Align the caliper/carrier assembly with the rotor by pushing the caliper against the shelf on the torque plate, then install the caliper/carrier assembly using new caliper mounting bolts.
10. Tighten the carrier mounting bolts in two steps as follows.
  - 10.1 Start on one side of the caliper and tighten all of the bolts 45±5 lbf-ft (61±7 N·m). Then tighten the bolts on the other side of the caliper 45±5 lbf-ft (61±7 N·m). See [Fig. 3](#).
  - 10.2 Repeat this process, increasing the torque value to 375±25 lbf-ft (508±34 N·m). If tool DDC DSNCHA018005 referenced in tool letter 18TL18 is used, see [Table 5](#) for torque specifications.

## NOTICE

**Do not use a motor driven tool to tighten the manual brake adjuster nut, or use excessive force to tighten the nut. Doing so could damage the manual brake adjuster nut.**

11. Install the brake pads. Provided it is in good condition, use the brake pad hardware removed earlier.
12. Back off the adjuster nut three clicks.
13. Install the front-left wheel assembly.
14. Raise the front axle, remove the jack stands, then lower the front axle.



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15. Charge the air system and check for leaks.

## WARNING

**Do not operate the vehicle until the brakes have been adjusted and checked for proper operation. To do so could result in inadequate or no braking ability, which could cause personal injury or death, and property damage.**

16. In a safe area, check for proper brake operation, as follows, before putting the vehicle in service.
  - 16.1 Apply and release the brakes several times to check for air leaks and proper operation.
  - 16.2 Perform six low-speed stops to ensure proper parts replacement and full vehicle control.
  - 16.3 Immediately after doing the above stops, check the rotor temperatures. Any rotors that are significantly cooler than others indicates a lack of braking effort on those wheels.
17. Clean a spot on the base label (Form WAR259). Write the recall number, FL873, on a completion sticker (Form WAR260), and attach it to the base label to indicate this recall has been completed.

## Bendix Axial Caliper/Carrier Assembly Inspection and Installation - XC chassis Vehicles

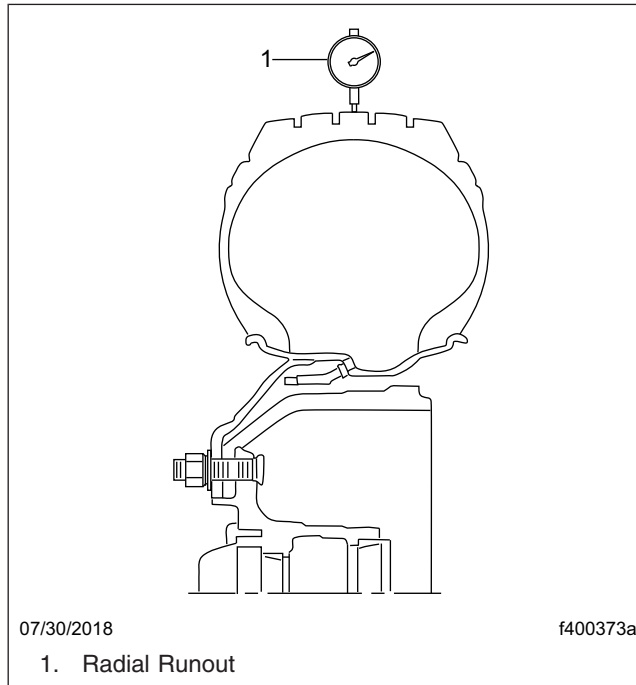
1. Check the base label (Form WAR259) for a completion sticker for FL873 (Form WAR260) indicating this work has been completed. The base label is usually located on the front wall under the dash for RVs and over the drivers window on buses. If a sticker is present for FL873, no work is needed. If there is no sticker, proceed with the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

## DANGER

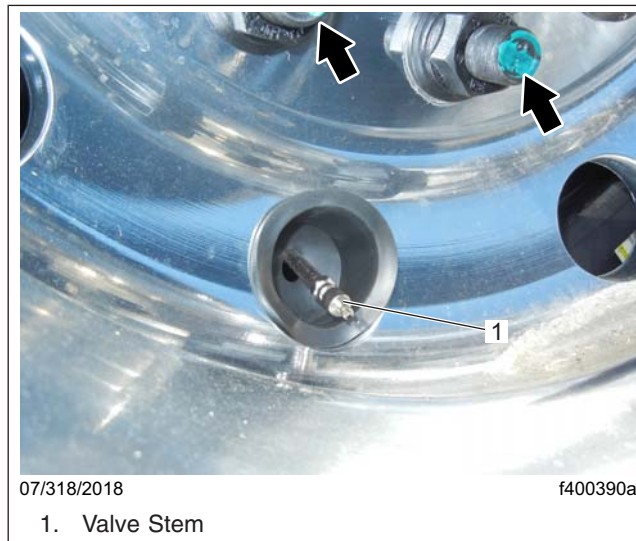
**When working on the vehicle, shut down the engine, set the parking brake, and chock the tires. Before working under the vehicle, always place jack stands under the frame rails to ensure the vehicle cannot drop. Failure to follow these steps could result in serious personal injury or death.**

3. Raise the front axle and place jack stands under the frame rails to ensure the vehicle cannot drop.
4. Beginning with the front-left wheel, use a tire runout gauge to check the radial runout. See [Fig. 4](#). Write down the measurement for later use to avoid vibration complaints.
5. Mark the two studs closest to the valve stem as shown in [Fig. 5](#), for proper wheel assembly location when reinstalling the wheel assembly on the hub.

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**Fig. 4, Radial Runout Check for Tires**



**Fig. 5, Marking Wheel Studs**

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6. Remove the lug nuts, then remove the wheel assembly.

**IMPORTANT:** Before removing the brake pads, it is recommended to check the adjuster mechanism for proper operation.

**NOTE:** In all steps that require a torque wrench, use a Snap On torque wrench ATECH4RS600, or an equivalent, with a center to handle length of 47 inches (119 cm).

7. Set a torque wrench to 350 lbf-ft (475 N·m) and tighten the caliper mounting bolts. If they do not turn, go to step 15. If they turn, go to step 8. Due to limited caliper bolt access, it may be necessary to use tool DDC DSNCHA018005 referenced in tool letter 18TL18. If the tool is needed, use tool DDC DSNCHA018005 only and no other tools. See [Fig. 1](#). See [Table 4](#) for torque specifications.

## **WARNING**

**When replacing brake pads, shoes, rotors, or drums, always replace components as an axle set.**

- **Always reline both sets of brakes on an axle at the same time.**
- **Always replace both rotors/drums on an axle at the same time.**
- **Always install the same type of linings/pads or drums/rotors on both axle ends of a single axle, and all four axle ends of a tandem axle, at the same time. Do not mix component types.**

**Failure to do so could cause uneven braking and loss of vehicle control, resulting in property damage, personal injury, or death.**

8. Remove the retainer pin, cotter pin, and brake pad retainer. Inspect the brake pad hardware to ensure it is in good condition. If it is, reuse the brake pad hardware. If the brake pad hardware is not in good condition, replace brake pad sets on both ends of the axle.

9. Remove the brake pads.

10. Remove the caliper bolts and washers (if installed) and discard.

**IMPORTANT:** The caliper/carrier assemblies are left and right handed. Ensure that the correct assembly (left or right) is installed on each side of the vehicle.

11. Align the caliper/carrier assembly with the rotor, pushing the caliper against the shelf on the torque plate, then install the caliper/carrier assembly using new caliper mounting bolts and washers. See [Table 1](#) for parts information. See [Fig. 2](#) for an example of the front caliper/carrier assembly.

12. Tighten the M20 X 2.5 carrier mounting bolts as follows. See [Fig. 3](#).

- 12.1 Start on one side of the caliper and tighten all three bolts 40±20 lbf-ft (54±27 N·m), beginning with the inner-most bolt and moving to the outer-most bolt. Then tighten the three bolts on the other side of the caliper 40±20 lbf-ft (54±27 N·m), beginning with the inner-most bolt and moving to the outer-most bolt.
- 12.2 Repeat this process, increasing the torque value to 375±25 lbf-ft (508±34 N·m). If tool DDC DSNCHA018005 referenced in tool letter 18TL18 is used, see [Table 5](#) for torque specifications.

## **NOTICE**

**Do not use a motor driven tool to tighten the manual brake adjuster nut, or use excessive force to tighten the nut. Doing so could damage the manual brake adjuster nut.**

13. Install the brake pads. Provided it is good condition, use the brake pad hardware removed earlier.

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14. Back off the adjuster nut three clicks.
15. Using the two studs marked earlier as a guide, install the wheel assembly. When correctly installed, a line drawn from the valve stem through the center of the wheel assembly should go between the two marked studs.
16. Using a tire runout gauge, measure and record the radial runout of the tire and wheel assembly. Mark the highest point on the tire and wheel assembly. Rotate the tire and wheel assembly until the high spot is at the 12 o'clock position (without allowing the assembly to turn). Loosen all lug nuts to let the assembly settle, then tighten the lug nuts in the proper sequence. See **Group 40** of the applicable vehicle maintenance manual for the tightening sequence. The radial runout should be very close to what was recorded in step 3. If not, repeat this step. **Record the "final" radial runout, note the wheel location, and include the information in the recall claim in OWL.**
17. Raise the front axle, remove the jack stands, then lower the front axle.
18. Charge the air system and check for leaks.

 **WARNING**

**Do not operate the vehicle until the brakes have been adjusted and checked for proper operation. To do so could result in inadequate or no braking ability, which could cause personal injury or death, and property damage.**

19. In a safe area, check for proper brake operation, as follows, before putting the vehicle in service.
  - 19.1 Apply and release the brakes several times to check for air leaks and proper operation.
  - 19.2 Perform six low-speed stops to ensure proper parts replacement and full vehicle control.
  - 19.3 Immediately after doing the above stops, check the rotor temperatures. Any rotors that are significantly cooler than others indicates a lack of braking effort on those wheels.
20. Clean a spot on the base label (Form WAR259), write the recall number, FL873, on a red completion sticker (Form WAR260), and attach it to the base label, indicating this work has been completed.