

Subject: Meritor MSF12 Non-Conforming Front Axle Beams

Models Affected: Specific Freightliner Cascadia, 122SD, and Business Class M2 vehicles manufactured March 20, 2014, through April 10, 2014, and equipped with Meritor Front Axles.

General Information

Daimler Trucks North America LLC, on behalf of its Freightliner Trucks Division, has decided that a defect that relates to motor vehicle safety exists on the vehicles mentioned above.

There are approximately 221 vehicles involved in this campaign.

Certain vehicles may have been built with front axle beams that were manufactured with incorrect heat treatment causing a non-conforming metallurgical microstructure, potentially reducing the axle beams' fatigue life. The reduced fatigue life of the axle beam could occur in a location that could potentially lead to bending of the axle beam or possible separation of the wheel. Separation of the wheel from the front axle could increase the risk of a crash.

Front axle beams will be inspected and those manufactured within a certain date range will be replaced as necessary.

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 part number(s) listed below from your facing Parts Distribution Center. **U-Bolts, nuts and washers are not included in kit 25-FL662-000. Please order U-bolts, nuts, and washers per VIN through PartsPro.**

If our records show your dealership has ordered any vehicles involved in campaign number FL662, a list of the customers and vehicle identification numbers will be available on AccessFreightliner.com. Please refer to this list when ordering parts for this recall.

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Table 1 - Replacement Parts for FL662A

NOTE: U-bolts, nuts, and washers are needed, but not included in 25-FL662-000. **Please order U-bolts, nuts, and washers per VIN through PartsPro.**

Campaign Number	Kit Number	Part Description	Part Number	Qty.	Suggested Wholesale*
FL662A	25-FL662-000	Meritor Recall Kit	FRK-14-10159 Kit Contains: <ul style="list-style-type: none"> • Finished I Beam (1 ea) • Hub Cap Gasket (2 ea) • Wheel Seal (2 ea) • Tie Rod End Cotter Pin (6 ea) • Draw Key and Nuts (1 ea) • Brake Backing Plate Bolt (16 ea) • Brake Backing Plate Nut (16 ea) • Brake Backing Plate Washer (16 ea) • Thrust Bearing (2 ea) • Gasket and Shims 	1 Kit	\$1060.46 U.S. \$1156.57 CAN

* Please charge all U.S. and Canadian Direct Warranty Customers the above-listed price for the kit, as they are authorized to perform their own Recalls. This pricing does not apply to Export Distributors.

Table 1

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	Damage Code
FL662A	Inspect Axle Beam	0.4	996-0888A	000-Inspected
	Inspect, Replace, Destroy & Attach photo of Axle Beam	5.9	996-0888B	000-Modified

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 QuickClaim or OWL:

- Claim type is **Recall**.
- In the FTL Authorization field, enter the campaign number and appropriate condition code (**FL662A**).
- In the Primary Failed Part Number field, enter **25-FL662-000**.
- In the Parts field, enter the appropriate kit number(s) as shown in the Replacement Parts Table. The necessary U-bolts, nuts, and washers may be included on your claim.
- In the Labor field, first enter the appropriate SRT from the Labor Allowance Table. For administrative time, enter SRT 939-0010A for 0.3 hours.
- For OWL, the VMRS Component Code is 011-001-033 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 for this recall.)
 - Submit a Campaign Pre-Approval inquiry to the Warranty Campaigns Department for a decision and authorization number.
 - Include the approved amount on your claim in Other Charges section.
 - In the claim story, first note the authorization number and that the claim includes a reimbursement.
 - Retain the documentation and provide it to Warranty Campaigns or Claims Processing if requested.
 - When your claim is paid, reimburse the customer the appropriate amount.

IMPORTANT: ServicePro or 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 from 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, via Web inquiry at AccessFreightliner.com / Support / My Tickets and Submit an Inquiry, or the Customer Assistance Center at (800) 385-4357, after normal business hours, 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. 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: Meritor MSF12 Non-Conforming Front Axle Beams

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Daimler Trucks North America LLC, on behalf of its Freightliner Trucks Division, has decided that a defect which relates to motor vehicle safety exists on specific Freightliner Cascadia, 122SD, and Business Class M2 vehicles manufactured March 20, 2014, through April 10, 2014, and equipped with Meritor Front Axles.

Certain vehicles may have been built with front axle beams that were manufactured with incorrect heat treatment causing a non-conforming metallurgical microstructure, potentially reducing the axle beams' fatigue life. The reduced fatigue life of the axle beam could occur in a location that could potentially lead to bending of the axle beam or possible separation of the wheel. Separation of the wheel from the front axle could increase the risk of a crash.

Front axle beams will be inspected and those manufactured within a certain date range will be replaced as necessary.

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, search online at www.Daimler-TrucksNorthAmerica.com / Contact Us / Find a Dealer. The Recall will take approximately a half hour for the inspection. If, after inspection, the axle beam needs to be replaced, the dealer will order the axle beam. Please plan for this when arriving at the dealership. The replacement of the axle beam will take approximately six hours. The inspection and axle beam replacement will be performed at no charge to you.

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, or the Customer Assistance Center at (800) 385-4357 after normal business hours. 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>.

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

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

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: Meritor MSF12 Non-Conforming Front Axle Beams

Models Affected: Specific Freightliner Cascadia, 122SD, and Business Class M2 vehicles manufactured March 20, 2014, through April 10, 2014, and equipped with Meritor Front Axles.

Axle Beam Inspection

1. Check the base label (Form WAR259) for a completion sticker for FL662 (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 completion sticker is present, no work is needed. If a completion sticker is not present, continue with the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

NOTE: It may be necessary to clean paint and debris from the axle to see the following information.

3. Find and record the following verification information to determine the axle beam identification. See **Fig. 1**.
 - The Meritor part number (8140).
 - The stamped date code located on the front right side of the axle. The date code is one of the following: 07714, 07814, 07914, 08014, 08114, 08214, or 08314. (This code represents the Julian date. "07714" indicates the 77th day of 2014.)
 - The forging part number (8020 QL).
4. If the axle beam does not meet **ALL** of the verification criteria, no further work is needed. Go to the final step in these instructions, step 38 on page 12.

If the axle beam meets **ALL** of the verification criteria, replace it and destroy the removed axle beam according to the following instructions.

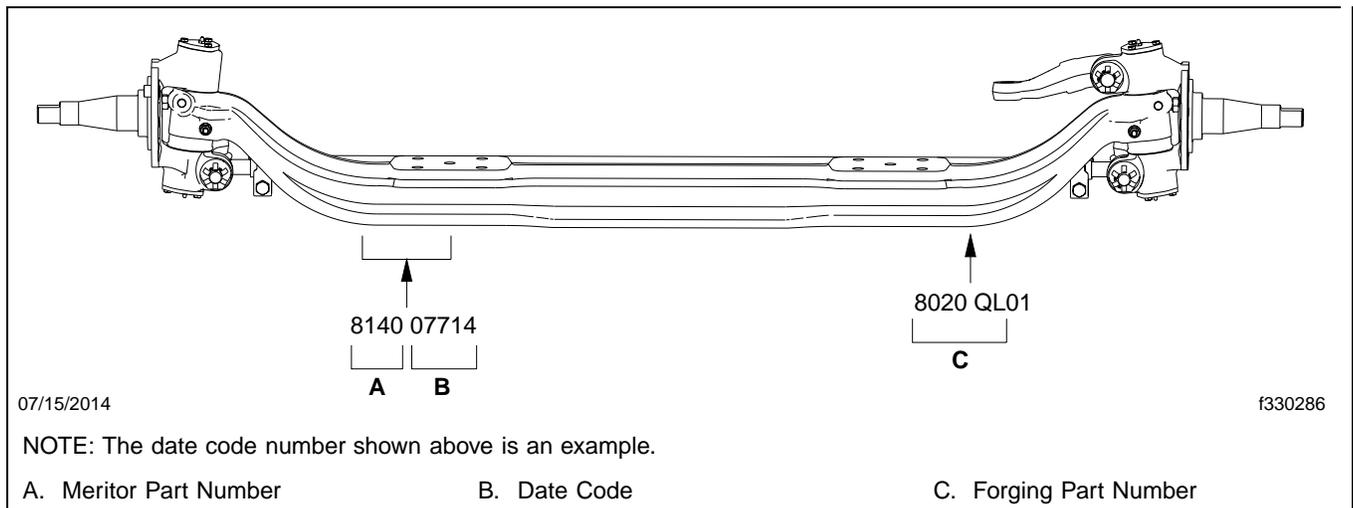


Fig. 1, Meritor Axle Beam Identification

Axle Beam Replacement and Destruction

NOTE: U-bolts, nuts, and washers are needed, but not included in kit 25-FL662-000. Please order U-bolts, nuts, and washers per VIN through PartsPro.

1. Raise the vehicle, then support the frame rails with safety stands.
2. Remove the front wheel and tire assemblies. For instructions, see **Group 40** in the vehicle Workshop Manual.
3. Disconnect the air lines from the front brake chambers.
4. Remove the hubs from the axle. For instructions, see **Section 33.01, Subject 100** in the vehicle Workshop Manual.
5. If needed, remove the brake shoes or pads. For instructions, see the applicable service brake section in **Group 42** in the vehicle Workshop Manual.
6. Disconnect the ABS sensors from the chassis.
7. Remove the brake spider assemblies, including the brake air chambers and the slack adjusters, from the axle flanges. For instructions, see the applicable service brake section in **Group 42** in the vehicle Workshop Manual.
8. Remove the cotter pins and nuts from both tie rod ends. See **Fig. 2**.
9. Mark one side of the tie rod assembly "L" or "R" to reference when orienting it for installation.
10. Remove both tie rod ends from the tie rod arms. Leave the tie rod assembly itself intact.

NOTE: It is not necessary to remove the drag link from the axle steering arm.

11. At the top and bottom of both king pins, remove the knuckle caps and gaskets.
12. Note the orientation of the two draw keys, then remove them from each knuckle assembly and discard them.

NOTE: If a king pin is seized, remove the axle assembly from the vehicle as described in the following steps, then use a shop press to remove it from the knuckle assembly.

13. Using a brass drift, remove the king pin from each knuckle assembly. Set the knuckle and shims aside, and keep the shim pack with each knuckle for later reuse.
14. If you cannot support the vehicle high enough for the axle to clear the bumper, remove the front bumper. For instructions, see **Group 31** in the vehicle Workshop Manual.
15. Using a suitable jack, support the front axle.
16. Disconnect the axle from the leaf springs, as follows (see **Fig. 3**).
 - 16.1 Take the weight off the leaf springs by raising the axle.
 - 16.2 On one side of the axle, remove all of the U-bolt nuts and washers, then remove the two U-bolts.
 - 16.3 Do the same on the other side of the axle.
 - 16.4 Remove the axle stops and spacers.
17. Using a suitable axle jack, remove the axle by sliding it out from the front of the vehicle.
18. Remove the dowel pins from the axle.

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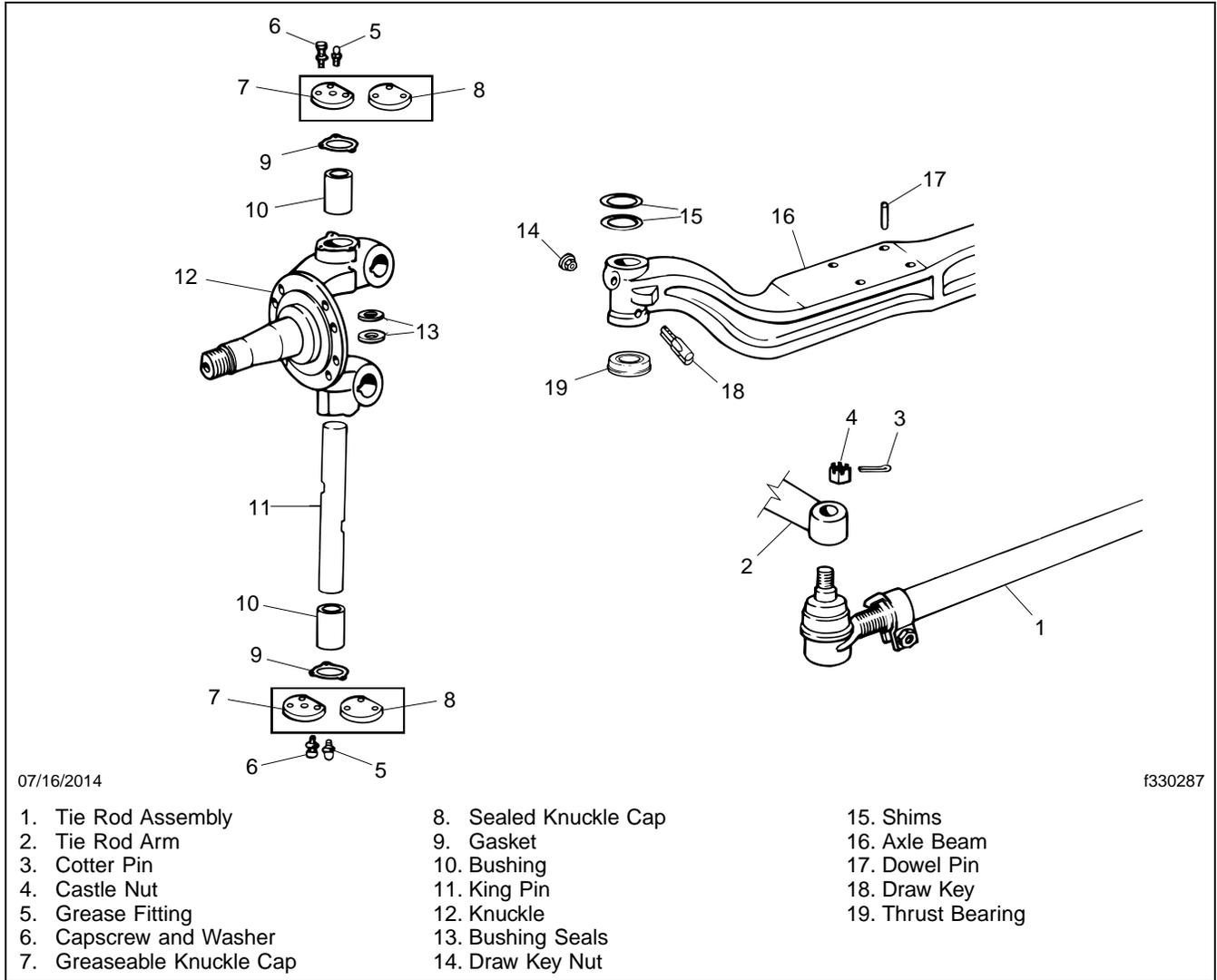
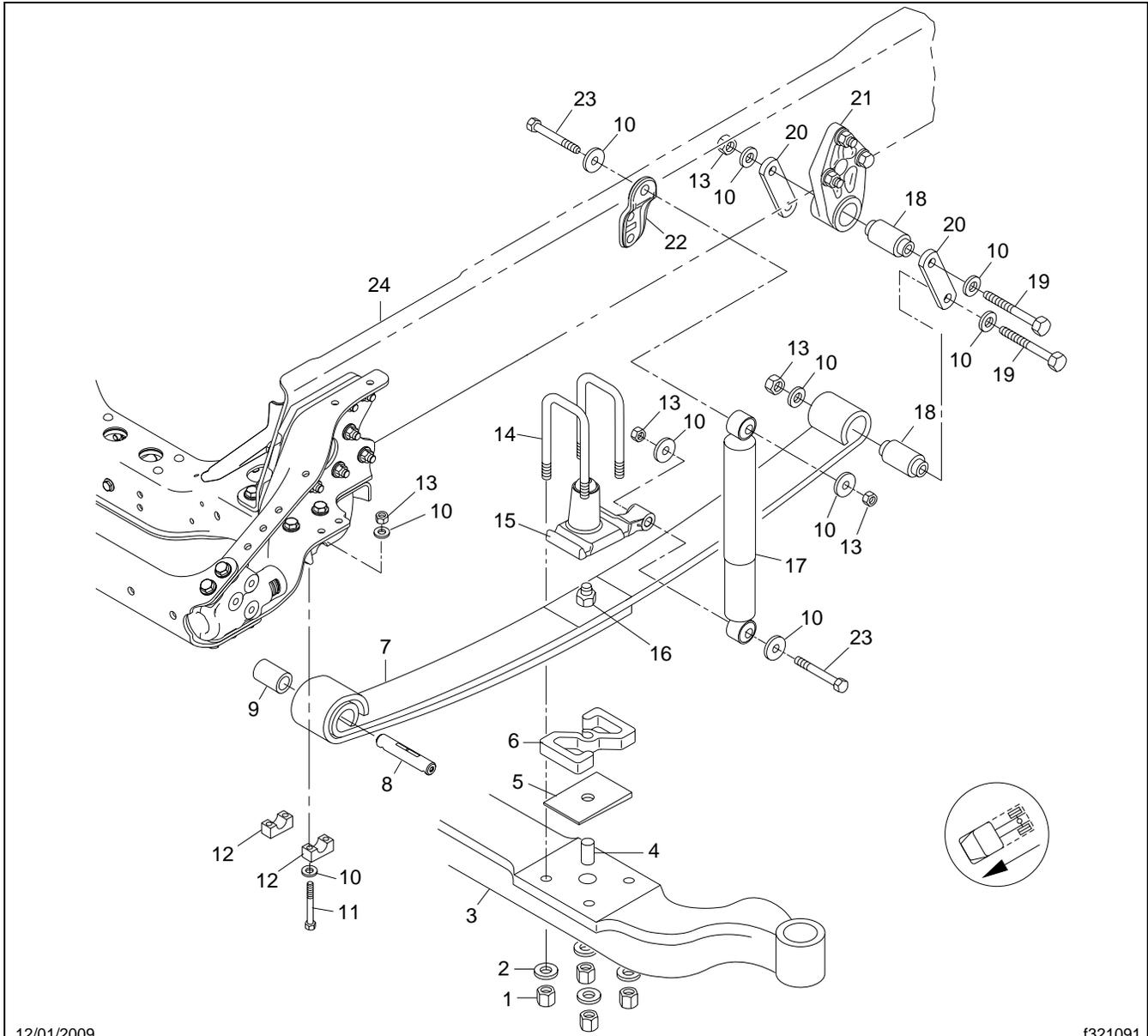


Fig. 2, Axle Beam and Components



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|-----------------------------------|---|---|
| 1. U-Bolt High Nut | 9. Spring-Eye Bushing | 17. Shock Absorber |
| 2. Bearing Washer | 10. Hardened Washer | 18. Rubber Bushing Assembly |
| 3. Axle | 11. Hexbolt | 19. Shackle Bolt, 3/4-10 |
| 4. Dowel | 12. Spring Pin Retainer | 20. Spring Shackle |
| 5. Caster Adjustment Shim | 13. Hexnut | 21. Shackle Bracket |
| 6. Spacer | 14. U-Bolt | 22. Shock-Absorber Upper Mounting Bracket |
| 7. Spring Assembly | 15. Axle Stop and Shock-Absorber Lower Mounting Bracket | 23. Hexbolt, 3/4-10 |
| 8. Spring Pin, Forward Spring Eye | 16. Spring Center-Bolt and Nut | 24. Frame Rail |

Fig. 3, Front Suspension

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19. Destroy the axle beam and take a photo for the claim, as follows.
 - 19.1 Cut off one king pin eye and place it next to the axle ID tag (see **Fig. 4**).
 - 19.2 Take a photo containing both the removed eye and the ID tag. When submitting the claim, attach this photo.
- Note: Once the claim is approved scrap the I Beam .

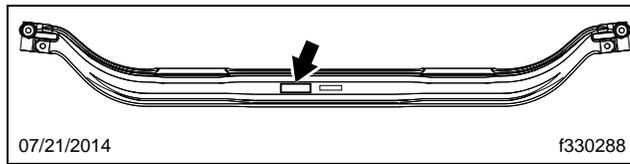


Fig. 4, Meritor Axle Identification Tag

20. Install the dowel pins into the new axle beam.
21. Using a suitable axle jack, roll the new axle beam into place under the leaf springs. Ensure that the ID tag faces the front of the vehicle.
22. Install the axle spacers.
23. Slowly raise the axle up to the bottom of the leaf springs, making sure the dowels on top of the axle beam line up with the holes in the axle spacers.
24. Install the axle stops onto the tops of the leaf springs.
25. Install new U-bolts, as follows.
 - 25.1 Install the U-bolts, U-bolt nuts and washers. Tighten the nuts finger-tight.
 - 25.2 Repeat on the other side of the vehicle.
 - 25.3 Fully tighten each of the U-bolts; see **Table 3** for torque values and **Fig. 5** for the tightening pattern.

Torque Values, U-Bolt High Nuts	
Size	Torque: lbf-ft (N·m)
5/8-18	Stage 1: Hand-tighten Stage 2: 60 (81) Stage 3: 180-230 (245-313)
3/4-16	Stage 1: Hand-tighten Stage 2: 60 (81) Stage 3: 200 (271) Stage 4: 270-330 (367-449)
7/8-14	Stage 1: Hand-tighten Stage 2: 60 (81) Stage 3: 200 (271) Stage 4: 420-500 (571-680)
1-14	Stage 1: Hand-tighten Stage 2: 60 (81) Stage 3: 200 (271) Stage 4: 520-600 (707-816)

Table 3, Torque Values, U-Bolt High Nuts

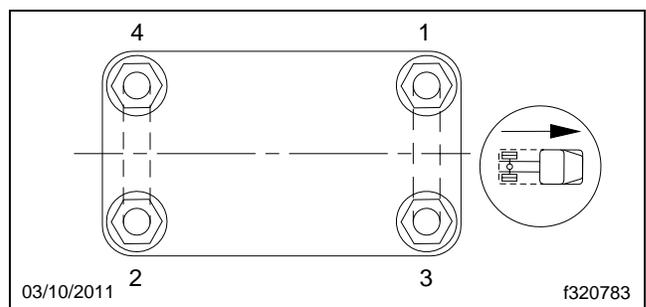


Fig. 5, Tightening Pattern for U-Bolt High Nuts

26. Install both knuckles on the axle beam, as follows.
 - 26.1 Install the thrust bearing, oriented with the seal at the top. See **Fig. 6**.
 - 26.2 Install the original shims, as removed. See **Fig. 7**.
 - 26.3 Slide the king pin into place, ensuring the top marking is at the top.
 - 26.4 Install the new draw keys as removed; tighten them 30 to 45 lbf-ft (41 to 61 N·m).
 - 26.5 The vertical knuckle end play should be 0.001 to 0.01 inch (0.0254 to 0.254 mm). Check it, and add shims if necessary.
 - 26.6 Install the knuckle caps with new gaskets; tighten the fasteners 20 to 30 lbf-ft (27 to 41 N·m).

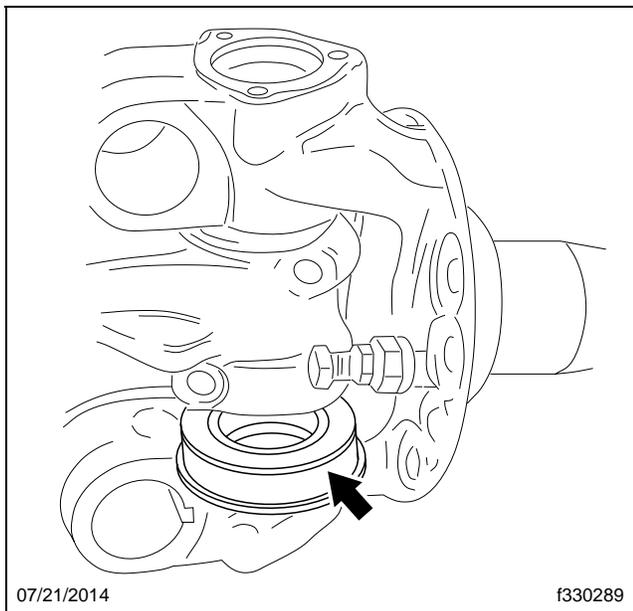


Fig. 6, Installing the Thrust Bearing

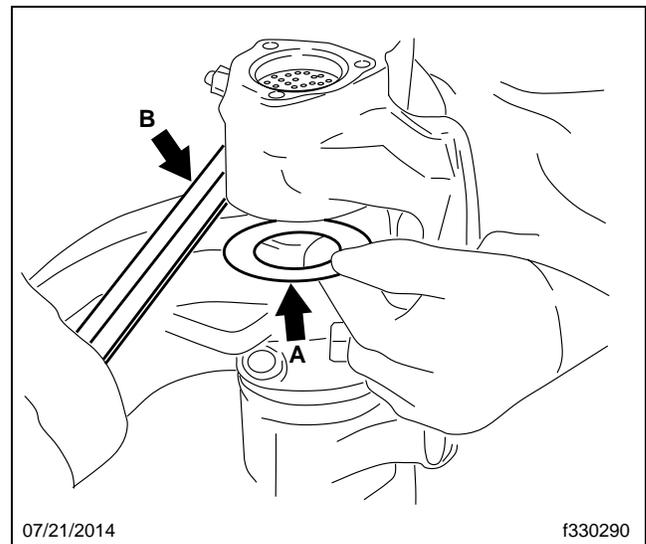


Fig. 7, Installing the Shims

27. Install the tie rod as removed. Tighten the tie rod end nuts 160 to 300 lbf-ft (217 to 407 N·m), and install the cotter pins.
28. Install the brake spider assemblies, including the brake air chambers and the slack adjusters, on the axle flanges. For instructions, see the applicable service brake section in **Group 42** in the vehicle Workshop Manual.
29. Install the ABS sensors.
30. If removed, install the brake shoes or pads. For instructions, see the applicable service brake section in **Group 42** in the vehicle Workshop Manual.
31. Install the hubs and adjust the wheel bearings. For instructions, see **Section 33.01, Subject 100** in the vehicle Workshop Manual.
32. Install the brake drums.

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33. Adjust the slack adjusters. For instructions, see the applicable section in **Group 42** in the vehicle Workshop Manual.
34. Install the tire and wheel assemblies. For instructions, see **Group 40** in the vehicle Workshop Manual.
35. If removed, install the bumper. For instructions, see **Group 31** in the vehicle Workshop Manual.
36. Raise the vehicle, remove the safety stands, and lower the vehicle.
37. Align the vehicle. For instructions, see **Section 33.00** in the vehicle Workshop Manual.
38. Clean a spot on the base label (Form WAR259). The base label is usually located on the passenger-side door about 12 inches (30 cm) below the door latch. Write campaign number FL662 on a blank red completion sticker (Form WAR 260) and attach it to the base label.