

April 2024
FL995 AB
NHTSA #24V-093

Subject: Steering Gear

Models Affected: Specific model year 2024 Freightliner Cascadia; and Freightliner Custom Chassis MT45, and MT45G vehicles, manufactured April 25, 2023, through December 20, 2023, equipped with an RH Sheppard steering gear.

General Information

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

On the affected vehicles, the steering gears were assembled incorrectly with a fewer number of recirculating balls than required. This may result in a loss of steering control and can increase the risk of a crash.

The steering gear will be replaced as needed.

There are approximately 11 vehicles involved in this campaign.

Additional Repairs

In addition to this recall, check OWL for any other open campaigns. 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 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 FL995, a list of the customers and vehicle identification numbers will be available on the DTNA Portal via OWL. Please refer to this list when ordering parts for this recall.

Table 1 - Replacement Parts for FL995

Campaign Number	Part Number	Part Description	Qty.
FL995A	RHS MD83PB3Y	STEERING GEAR	1 ea
FL995B	RHS HD94PBE3Y	STEERING GEAR	1 ea
FL995AB	WAR260	BLANK COMPLETION STICKER	1 ea

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.

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Labor Allowance

Table 2 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Corrective Action
FL995A	Inspect and replace steering gear	1.4	996-R162B	12-Repair Recall/Campaign
FL995B	Inspect and replace steering gear	2.5	996-R163B	12-Repair Recall/Campaign

Table 2

IMPORTANT - Before Beginning Work:

- Check OWL to ensure the vehicle is involved and the campaign has not previously been completed.
- Check the vehicle for a completion sticker.

IMPORTANT - After Repair is Complete:

- Attach a red completion sticker (Form WAR260) to the base completion label (Form WAR259). If the vehicle does not already have a base completion label, clean a spot on the appropriate location of the vehicle, and attach a base completion label, prior to installing the completion sticker.
- Failure to install a recall completion sticker may result in a chargeback of the recall claim.

Claims for Credit

You will be reimbursed for your parts, labor, and handling (landed cost for Export Distributors) by submitting a claim. Please reference the following information in OWL:

- All claims must be submitted within 30 days of the repair date.
- Claim type is **Recall Campaign**.
- In the Campaign field, enter the campaign number and appropriate population/group code (**FL995-A** or **FL995-B**).
- In the Primary Failed Part Number field, enter **25-FL995-000**.
- In the Parts section, enter the appropriate part number as shown in the Replacement Parts table.
- In the Labor field, enter the appropriate SRT from the Labor Allowance table. Administrative time will be included automatically as SRT 939-6010A for 0.3 hours.
- 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 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.)
 - Attach the documentation to a pre-approval recall claim, and submit the pre-approval claim for a decision.
 - If approved, submit a based-on payment claim (based on the pre-approval.)
 - After the claim has been paid, reimburse the customer.

Excess Inventory: U.S. and Canadian dealers, excess inventory related to this campaign, in resalable condition, may be returned to the appropriate PDC. U.S. dealers, submit a Parts Authorization Return (PAR) to the Memphis PDC. Canadian dealers, submit a PAR to your facing PDC. PAR requests must include the original purchase invoice number. Export Distributors, excess inventory is not returnable.

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For Support: Contact the Warranty Campaigns Department via the Warranty Support Center (WSC) located on the DTNA Portal, or contact the Customer Assistance Center at (800) 385-4357. Export distributors, submit a WSC ticket or contact your International Service Manager.

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

IMPORTANT SAFETY RECALL

This notice applies to your vehicle(s), see enclosed VIN list.

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Subject: STEERING GEAR

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

Daimler Truck North America LLC (DTNA), on behalf of its Freightliner Trucks Division, and wholly owned subsidiary, Freightliner Custom Chassis Corporation, has decided that a defect which relates to motor vehicle safety exists on certain model year 2024 Freightliner Cascadia, Freightliner Custom Chassis MT45, and MT45G vehicles. See below for additional detail on vehicle applicability:

Make	Model	Model Yr.	Prod. Start Date	Prod. End Date
Freightliner	Cascadia	2024	July 20, 2023	November 17, 2023
FCCC	MT45G CHASSIS	2024	April 25, 2023	December 11, 2023
FCCC	MT45 CHASSIS	2024	December 20, 2023	December 20, 2023

On the affected vehicles, the steering gears were assembled incorrectly with a fewer number of recirculating balls than required. This may result in a loss of steering control and can increase the risk of a crash.

A Daimler Truck North America authorized service facility will inspect and replace the steering gear as needed. The Recall will take approximately 3 hours and will be **performed free of charge**.

Please contact an authorized Daimler Truck 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 <https://northamerica.daimlertruck.com/contact-us>. Scroll down to "Locate a Dealer" and select the appropriate brand. You may also confirm your vehicle's involvement in this recall at the following 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@Daimlertruck.com. For other concerns, you may contact the Customer Assistance Center at (800) 385-4357. If your manufacturer, distributor, or dealer fails to remedy the defect or noncompliance 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 go to <http://www.nhtsa.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 Truck 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 Truck North America LLC dealer.

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

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Work Instructions

Subject: Steering Gears

Models Affected: Specific model year 2024 Freightliner Cascadia; and Freightliner Custom Chassis MT45, and MT45G vehicles, manufactured April 25, 2023, through December 20, 2023, equipped with an RH Sheppard steering gear.

Steering Gear Inspection and Classification

1. Check the base label (Form WAR259) for a recall completion sticker for FL995 (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, 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.
3. Locate the steering gear on the front-left frame rail of the vehicle.
4. Locate the serial number on the steering gear. See **Fig. 1**.



Fig. 1, Steering Gear Identification

5. To determine if the steering gear needs replacement, go to <https://qa-recall.rhsheppard.com/USA/en/USD>.

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6. Select the 'Select Vehicle Make' option. From the drop-down menu, select 'FREIGHTLINER, DAIMLER TRUCK.' See [Fig. 2](#).
7. Enter the steering gear serial number, noted in **step 4**, in the designated field. Select 'Search.' See [Fig. 2](#).

Please select your vehicle make and enter the full 8-character serial number before the dash (-) as shown below without any spaces or the "-C" at the end.

SERIAL NUMBER EXAMPLE:

21E07957-C

- 21 represents the year the steering gear was built.
- E indicates the month the steering gear was built (A = January, B = February, C = March, D = April, E = May, etc.).
- 07957 is the sequential serial number for gears built that month.
- C indicates the steering gear has a snap ring style sector cover with a retainer clip.

THE INPUT OF ACCURATE DATA AND ASSUMES ALL RISKS ASSOCIATED WITH FAILURE TO DO SO.

Information

INITIATES A VOLUNTARY SHEPPARD™ STEERING GEAR RECALL ACTION

Safety and customer satisfaction are top priorities at R.H. Sheppard Co., Inc. (Sheppard). The company has identified Sheppard™ steering gears – models HD94E™, HD94P™, M80P™, M83P™, M90P™, M100P™, M110P™, MD83P™, SD110P™, between June 1, 2021, and February 1, 2022, inclusive. This action does not affect Sheppard remanufactured steering gears manufactured prior to or after the stated dates.

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A. Select 'FREIGHTLINER, DAIMLER TRUCK.' C. Select 'Search.'

B. Enter the gear serial number.

Fig. 2, Sheppard Steering Gear Classification Tool

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8. Check for the result received, and note the serial number for claim submission.

Good, as shown in **Fig. 3** → No further action is required. Clean a spot on the base label (Form WAR259) and attach a recall completion sticker for FL995 (Form WAR260), indicating this work has been completed.

The screenshot displays the Sheppard Steering Gear Classification Tool interface. At the top left is the Sheppard logo. Below it is a title bar for the tool. A warning section states: "STOP !! - READ THIS BEFORE BEGINNING. Sheppard remanufactured steering gears, slave gears ARE NOT affected by this recall. Refer to the Identification Guideline for identification of affected steering gears as well as interpretation of the serial and part number. Please select your vehicle make and enter the full 8-character serial number before the dash (-) as shown below without any spaces or the '-C' at the end." Below this is a "SERIAL NUMBER EXAMPLE:" section with a diagram of the serial number "21E07957-C". The diagram explains: "21 represents the year the steering gear was built.", "E indicates the month the steering gear was built (A = January, B = February, C = March, D = April, E = May, etc.)", "-C indicates the steering gear has a snap ring style sector cover with a retainer clip.", and "07957 is the sequential serial number for gears built that month." Below the example is a search form with a dropdown menu set to "FREIGHTLINER, DAIMLER TRUCK", a text input field containing "21E07957", and "Search" and "Reset" buttons. Below the form is a disclaimer: "USER IS SOLELY RESPONSIBLE FOR THE INPUT OF ACCURATE DATA AND ASSUMES ALL RISKS ASSOCIATED WITH FAILURE TO DO SO." The "Result" section shows a green box with the text: "Steering Gear serial number : Good" and "Vehicle can be returned to service with no further remedy action", with a black arrow pointing to the text. Below the result is a "Details" section with the following information: "Serial Number: 21105802", "Vehicle Make (OEM) or AM: FREIGHTLINER, DAIMLER TRUCK", and "11/29/2022". The number "f462488" is located in the bottom right corner of the screenshot.

Fig. 3, Result Received: Good

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Suspect, as shown in **Fig. 4** → Replace the steering gear. Go to **Steering Gear Replacement** procedure.

SHEPPARD

Sheppard Steering Gear Classification Tool

STOP !! - READ THIS BEFORE BEGINNING.

Sheppard **remanufactured steering gears, slave gears ARE NOT** affected by this recall.

Refer to the [Identification Guideline](#) for identification of affected steering gears as well as interpretation of the serial and part number.

Please select your vehicle make and enter the full 8-character serial number before the dash (-) as shown below without any spaces or the "-C" at the end.

SERIAL NUMBER EXAMPLE:

21E07957-C

- 21 represents the year the steering gear was built
- E indicates the month the steering gear was built (A = January, B = February, C = March, D = April, E = May, etc.)
- 07957 is the sequential serial number for gears built that month.
- C indicates the steering gear has a snap ring style sector cover with a retainer clip.

FREIGHTLINER, DAIMLER TRUCK

USER IS SOLELY RESPONSIBLE FOR THE INPUT OF ACCURATE DATA AND ASSUMES ALL RISKS ASSOCIATED WITH FAILURE TO DO SO.

Result

Steering Gear serial number : **Suspect**
Remove and replace gear per the vehicle manufacturer's instructions

Details

Serial Number: 21h01741

Vehicle Make (OEM) or AM: FREIGHTLINER, DAIMLER TRUCK

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Fig. 4, Result Received: Suspect

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Steering Gear Replacement

1. What is the make of the vehicle?

Freightliner → For instructions to replace the steering gear, see **Section 46.04, Subject 100** of the *New Cascadia workshop manual*. Then go to step 33.

FCCC → Follow the steps 2 through 33 to replace the steering gear.

NOTE: Ensure the wheels are facing straight ahead throughout the steering gear replacement procedure.

2. Remove the cotter pin from the castle nut at the steering arm-to-draglink connection. See **Fig. 5**.

3. Use a 1-1/8 inch socket to remove the castle nut. Retain the castle nut for installation in the later step. Remove the draglink from the pitman arm.

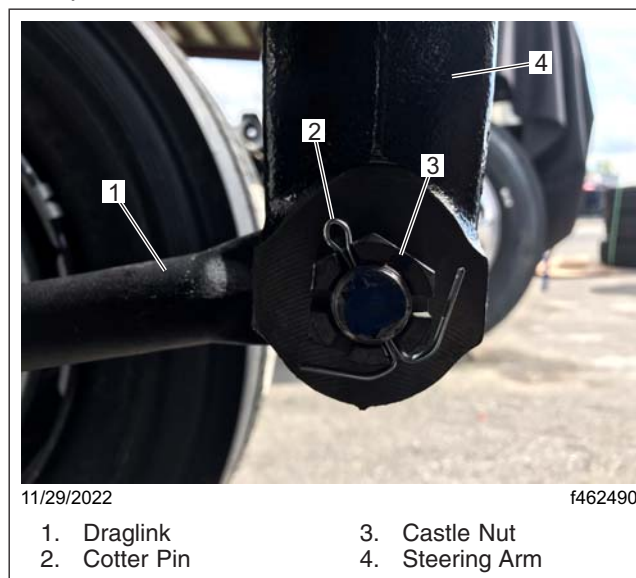


Fig. 5, Cotter Pin Removal

4. At the pitman arm-to-steering gear connection, use a punch to bend the retaining tabs out of the pitman arm retainer. See **Fig. 6**.

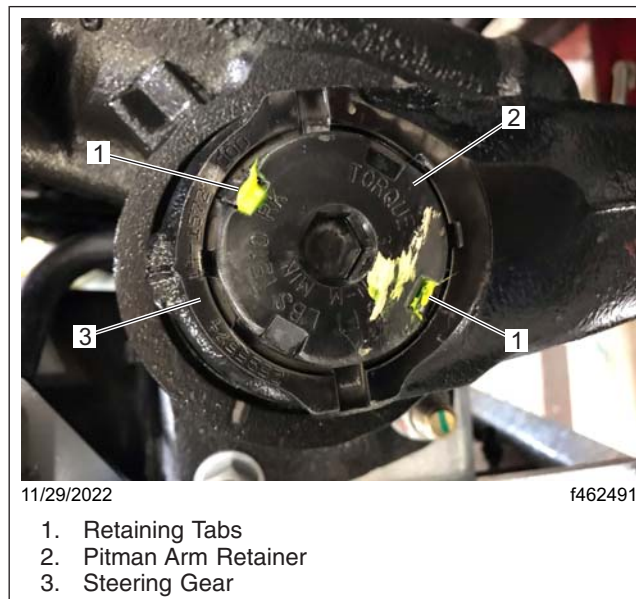


Fig. 6, Bending the Pitman Arm Retaining Tabs

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IMPORTANT: To avoid difficulty in removing the pitman arm, ensure to lubricate the face of the retainer.

5. Lubricate the face of the retainer with a clean chassis lube.
6. Disconnect the pitman arm from the steering gear.
 - 6.1 Slide the pitman arm puller over the pitman arm. Align the hole in the puller with the Allen socket in the retainer.
 - 6.2 Insert the Allen drive socket through the puller and into the retainer socket. Use an impact wrench to back off the retainer. The retainer will act as a jackscrew to disconnect the pitman arm from the steering gear.
7. Use a 5/8-inch wrench and a 11/16-inch socket to remove the pinch bolt that attach the steering linkage to the top of the steering gear. Discard the fasteners. See **Fig. 7**.

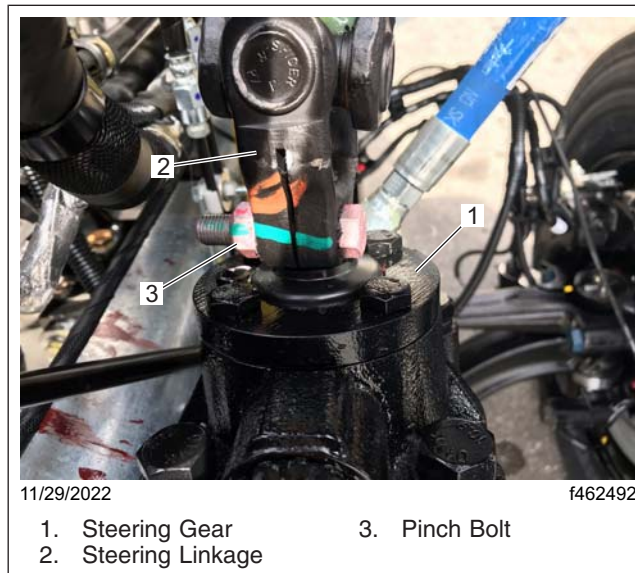


Fig. 7, Pinch Bolt Removal

8. Remove the steering linkage from the gear by sliding the shaft upwards, away from the steering gear.

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9. Use a 7/8-inch wrench to loosen and remove the hydraulic lines from the fittings on the rearward-facing side of the steering gear. See **Fig. 8**.



Fig. 8, Hydraulic Lines Removal

10. Use a 7/8-inch wrench to remove the fittings from the steering gear. Retain the fittings for installing on the replacement gear.

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11. Use a 1-1/8 inch socket and wrench to remove the three bolts and washers that attach the steering gear to the rail. Discard the fasteners. See [Fig. 9](#).
12. Remove the steering gear.

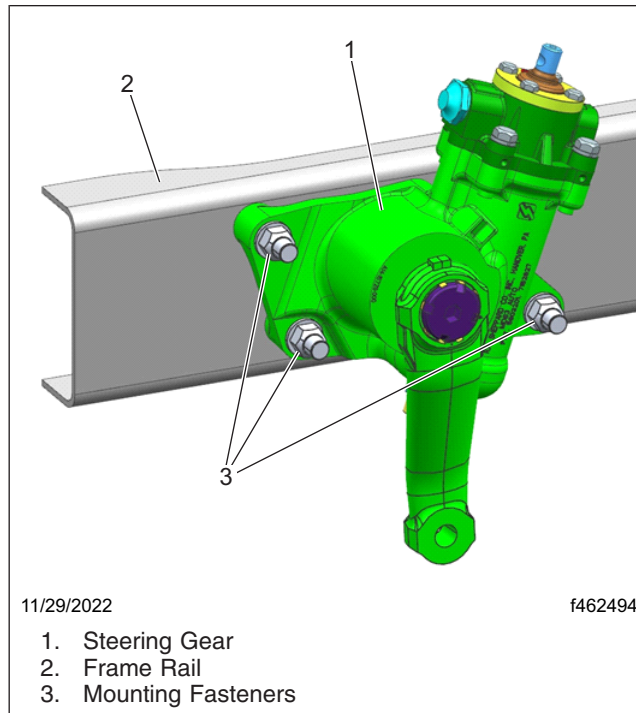


Fig. 9, Steering Gear Removal

NOTICE

The head side of bolts needs to be inboard, inside the rail flange.

13. Install the washer (23-09114-004) on the new bolts (23-11757-350), then install the bolts into the three holes in the rail.
14. Install the new steering gear (RHS MD83PB3Y) on the bolts in the rail. Install the washer (23-09114-004) first, and then install the nut (23-13833-112). Hand tighten the fasteners.
15. Use a 1-1/8 inch socket and wrench to tighten the fasteners that attach the steering gear to the rail. Tighten the fasteners 221 lbf-ft (300 N·m).
16. Install the hydraulic hose fittings in the gear, oriented as shown in [Fig. 8](#). Tighten the hose fittings 45 lbf-ft (61 N·m).
17. Install the hose on the fittings, and hand tighten them.
18. While holding the small part of the fittings using a 3/4-inch wrench, use a 7/8-inch wrench to tighten the hose fittings. Tighten the hose fittings 45 lbf-ft (61 N·m).

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19. Make sure the bolt hole in the steering linkage, and the groove on the steering gear input shaft align properly. Install the steering linkage on top of the gear. See [Fig. 10](#).



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- A. Make sure the steering shaft input groove aligns with the bolt hole in the steering linkage.

Fig. 10, Steering Linkage Installation

20. Install the new bolt (14-18773-001) and the nut (14-18774-000) on the steering shaft. Tighten the nut 43 lbf·ft (58 N·m).
21. Align the timing marks on the pitman arm with the timing marks on the sector shaft, then install the pitman arm on the sector shaft. The timing marks will appear as shown in [Fig. 11](#) and [Fig. 12](#).

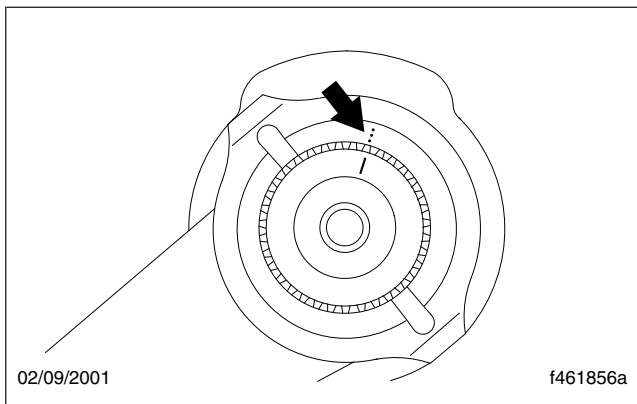


Fig. 11, Aligning the Timing Marks

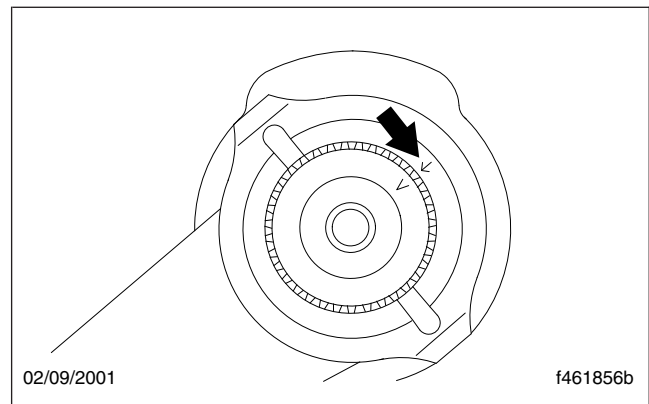


Fig. 12, Aligning the Timing Marks

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22. Install the pitman arm retainer on the sector shaft. Make sure to align the tabs in the notches of the pitman arm.
 23. Coat the threads of the retainer with an antiseize compound. A coating of antiseize should be applied to both sides of the friction washer if a new retainer is being used.
 24. Tighten the retainer 225 lbf-ft (305 N·m).
- NOTE: Do not back off the torque value to align the tabs. If the pitman arm is not tightened to the specified torque, it can come loose.
25. Continue tightening the retainer past the specified value until two of the notches in the retainer align with the tabs of the washer.
 26. Use a punch and hammer to bed the retaining tabs of the washer into the notches on the retainer. Apply the torque seal.
 27. Install the draglink on the pitman arm, then install the castle nut removed in step 2. Hand tighten the castle nut.
 28. Tighten the castle nut 70 lbf-ft (95 N·m).
 29. If the cotter pin hole is not accessible, advance the castle nut to the nearest slot, and install the cotter pin. Bend the split side of cotter pin around the nut as shown in [Fig. 5](#).
 30. Verify no leaks are present, and fill the power steering reservoir with fluid (48-02182-001).
 31. Turn the steering wheel to extremities in clockwise and counter clockwise directions to check the clearance and function of steering components.
 32. Road test the vehicle to ensure proper steering functionality.
 33. Clean a spot on the base label (Form WAR259) and attach a recall completion sticker for FL995 (Form WAR260), indicating this work has been completed.