



VEHICLE RECALL

SC288

(Not applicable to Mack Trucks Australia)

Date: 04/13/05 (Supersedes SC288 dated 01/25/05)

To: All MACK Dealers

Subject: Steering Gear Mounting Bolt Torque — CX and CH Model Chassis

Information:

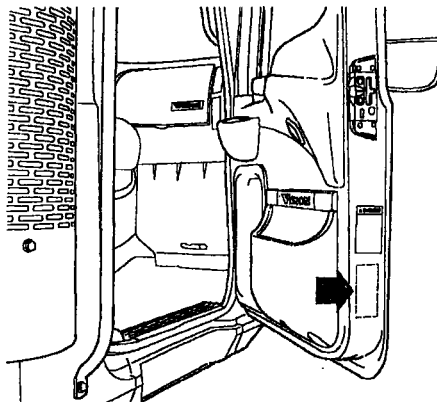
It has been determined that on certain CX and CH model chassis manufactured between May 20, 2004 and May 28, 2004, the three bolts that secure the steering gear to the frame may have been over-torqued at assembly. As a result, the possibility exists for the bolts to break in service. Should two of the three steering mounting bolts break, a loss of control may result. Approximately 220 chassis are involved in this campaign. A list of affected vehicles has been sent to all applicable dealers.

Procedures:

The three steering gear mounting bolts on all affected chassis must be replaced.

NOTE

Before proceeding, check campaign status in the MACKnet system to see if the campaign has already been completed. Campaign status can also be checked by looking at the Campaign Completion Label located on the lower edge of the passenger-side door. If the campaign has been completed, the campaign number (SC288) and the completion date should be written on the label.



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Figure 1 — Campaign Label Location

Steering gear mounting bolt replacement procedures are as follows:

NOTE

On CX and CH models, the two front steering gear mounting bolts are installed from inside of the frame rail. On CX models, clearance between the frame rail and the charge air cooler is not sufficient to allow removal of the two front bolts, making it necessary to move the steering gear away from the frame rail to cut the mounting bolts as close to the frame as possible. On CH models, however, replacing the steering gear mounting bolts is simply a matter of removing each bolt, one at a time, and replacing with new bolts, nuts and hardened flat washers. On both CX and CH models, the replacement bolts are to be installed from the outside of the steering gear. The procedures outlined below that cover moving the steering gear away from the frame rail and cutting the mounting bolts, apply to CX model chassis only.

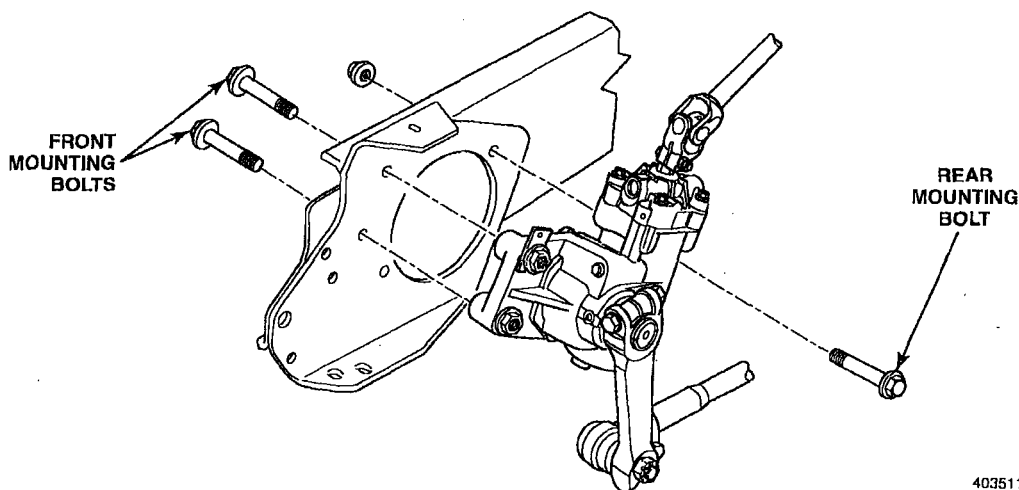


Figure 2 — Steering Gear Mounting Arrangement — CX and CH Models

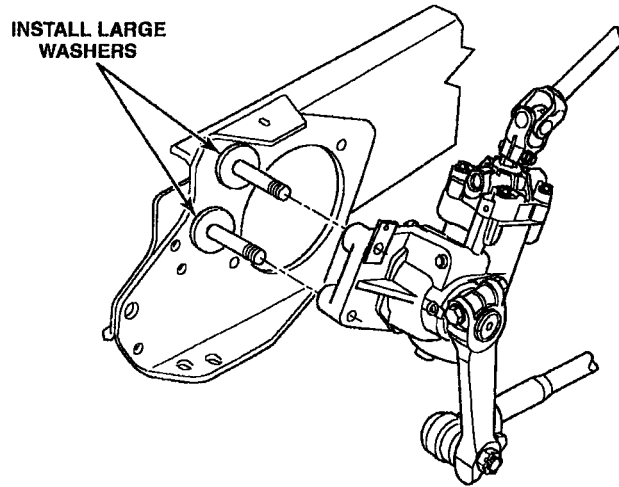
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1. Secure the chassis for service, apply the parking brakes and block the wheels to prevent the vehicle from moving.
2. If the left-side bumper mounting bracket interferes with removal of any of the steering gear mounting bolts, remove the bumper and left-side mounting bracket.
3. Attach a hoist to the steering gear to provide support once the mounting bolts are removed.

CAUTION

The steering gear must NOT be lifted or supported by the input shaft, as internal damage to the steering gear will result.

4. Remove the nuts from the three steering gear mounting bolts, and then remove the rear mounting bolt from the steering gear.
5. With the hoses and linkages (input shaft and drag link) still attached, pull the steering gear away from the frame rail far enough to clear the two mounting bolts remaining in the frame.
6. Install a large washer (having an inside diameter of at least $5\frac{1}{64}$ ") over each of the two bolts. These washers will help protect the frame rail from damage as the bolts are being cut with the torch.



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Figure 3 — Preparing to Cut Mounting Bolts — CX Models

7. Using a torch, very carefully cut the two mounting bolts flush with the washers.
8. Remove the two bolt heads from the frame rail.

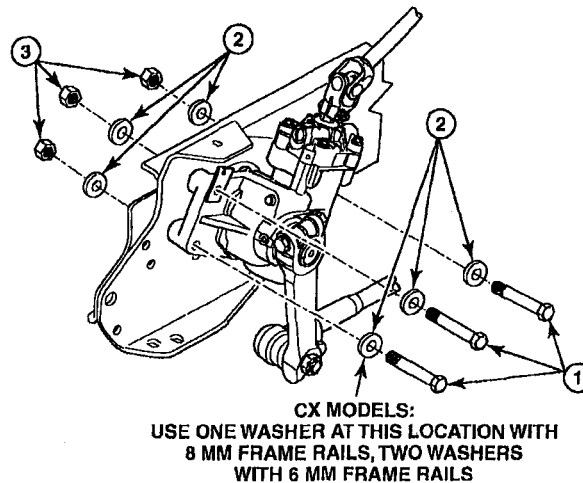
NOTE

If clearance between the inside of the frame rail and the charge air cooler is not sufficient to allow removal of the bolt heads, loosen the charge air cooler mounting bolts on both sides of the chassis and slide the cooler to the right as far as possible. Tighten the charge air cooler mounting bolts to 45 lb-ft (34 N·m).

9. Move the steering gear back into position against the frame rail, and then install new mounting bolts, washers and nuts (refer to the table below for part numbers). The bolts are to be installed from the outside of the frame rail as shown in the following illustration. Install hardened flat washers under the head of each bolt and under each nut.

On CX models regardless of steering gear model, use

- One washer if equipped with 8 mm frame rails
 - Two washers if equipped with 6 mm frame rails
- under the head of the forward most bolt (as shown in the following illustration).



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Figure 4 — Install Steering Gear Mounting Bolts — CX and CH Models

Key	Qty.	Part No.	Description
1	3	2AM93	Steering gear mounting bolt, M20 x 2.5 x 80 mm, CX and CH with Sheppard steering gear
	3	2AM95	Steering gear mounting bolt, M20 x 2.5 x 100 mm, CX with TRW steering gear
	3	2AM94	Steering gear mounting bolt, M20 x 2.5 x 90 mm, CH with TRW steering gear
2	*	271AM21	Flat washers, hardened, M20.2, inside diameter.
3	3	171AM13	Nut, M20 x 2.5

* CH models, use 6 washers.

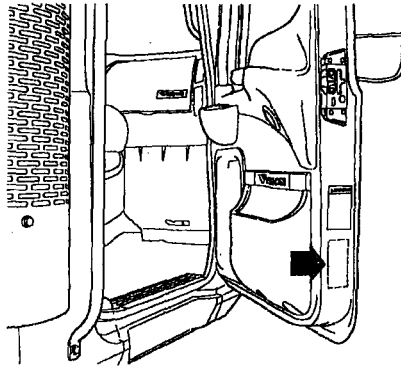
* CX models, use 6 washers with 8 mm frame rails and 7 washers with 6 mm frame rails.

10. Tighten the steering gear mounting bolts to 375 lb-ft (508 N·m). Torque must be applied to the heads of the mounting bolts, not the nuts. Torque the bolts dry; DO NOT apply oil to the threads.
11. If removal of the front bumper and the left-side bumper mounting bracket was necessary, reinstall the bracket and bumper assembly.
12. Remove the hoist.

13. Remove the blocks at the wheels and return the chassis to service.

NOTE

To signify that the campaign has been completed, use a permanent-type marker (such as a Sharpie®) to write the campaign number (SC288) and completion date in the spaces provided on the Campaign Completion label located on the lower edge (below the door latch) of the passenger-side door. If a label is not already affixed to the door, apply a label (part No. TS897) and supply the information as required. Campaign Completion labels are available in packs of 50 and can be ordered by faxing a completed BR313 to Pacesetters Business Services at 610-264-9465.



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Figure 5 — Campaign Label Location

Parts Required:

Order vehicle recall parts on a separate stock order and process through the parts distribution center normally serving your area. Do not include parts on this requisition that are not required for this recall campaign.

International orders are to be prefixed — V.O.R.

Required Part Numbers:

Qty.	Part No.	Description
3	2AM93	Steering gear mounting bolt, M20 x 2.5 x 80 mm, CX and CH with Sheppard steering gear
	2AM95	Steering gear mounting bolt, M20 x 2.5 x 100 mm, CX with TRW steering gear
	2AM94	Steering gear mounting bolt, M20 x 2.5 x 90 mm, CH with TRW steering gear
*	271AM21	Flat washers, M20.2, inside diameter
3	171AM13	Nut, M20 x 2.5

* CH models, use 6 washers.

* CX models, use 6 washers with 8 mm frame rails and 7 washers with 6 mm frame rails

Removed Parts:

The removed steering gear mounting bolts may be scrapped locally.

Reimbursement:

Campaign expenses are to be recovered through normal warranty claim procedures. Enter the following information on the warranty claim:

UNDER	ENTER	
Failed Part No.....	SC0288	
Labor Code/Allowance	411 5A 01 95 — 0.2 hr.	Time allowed to take charge of vehicle and check campaign status. Campaign completed, no further repairs necessary.
	411 5B 01 95 — 0.8 hr.	Time allowed to remove and replace steering gear mounting bolts on CH model chassis. Includes inspection and "take-charge" time.
	— 1.1 hr.	Time allowed to remove and replace steering gear mounting bolts on CX model chassis. Includes inspection and "take-charge" time.
	411 5E 01 95 — 0.4 hr.	Additional time allowed to remove and reinstall front bumper and left-side bumper mounting bracket if necessary.

REV**NOTE**

As required by Federal Motor Vehicle Safety Standards 49 CFR 573.11, no vehicle subject to an open safety campaign shall be delivered to the customer until such time as the defect or noncompliance is remedied.