

Lateral Cab Motion

M-852-001

(September 2007)

Valid for

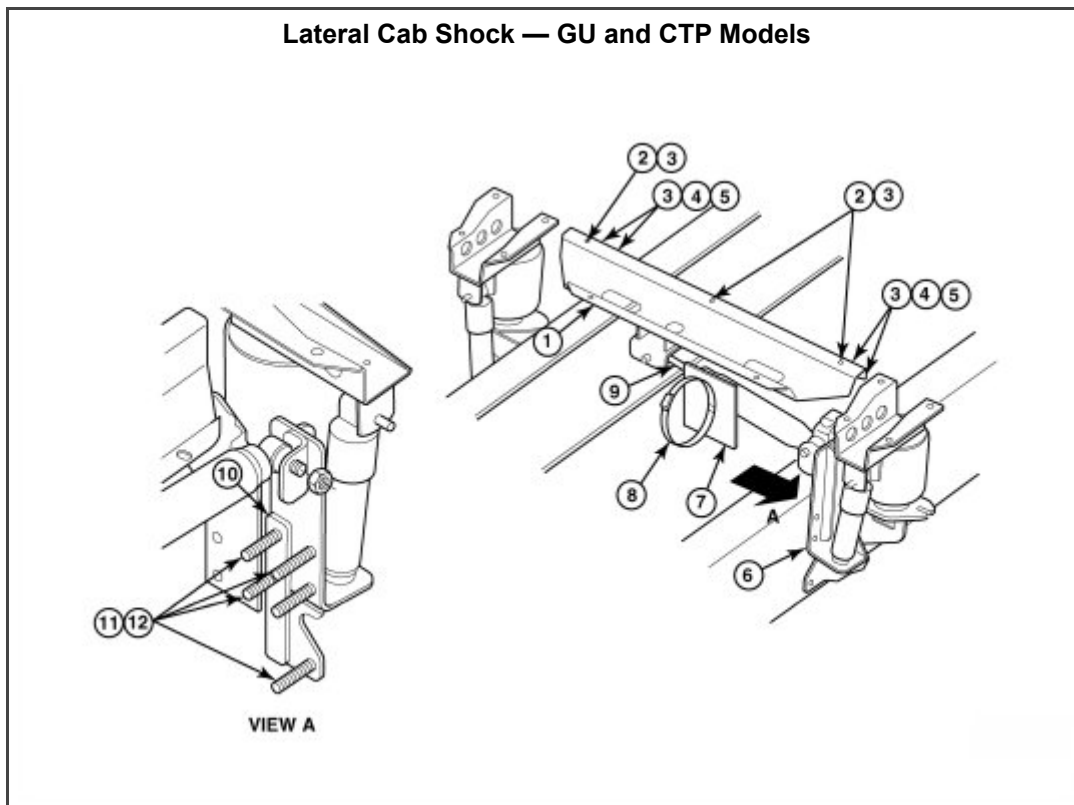
All GU models

Case description

On certain CTP and GU model chassis, lateral motion of the cab may be experienced when entering, during and exiting a turn. To dampen this lateral motion, a cab lateral damper and mounting arrangement has been developed and is available through the MACK Parts System. Should lateral cab motion complaints be encountered, installation of the cab lateral damper is recommended.

Note: Does not apply to Mack Trucks Australia.

Required parts



Key	Qty.	Part No.	Description
1	1	30QS5375M	Mounting bracket, cab side
2	9	271AM8	Flat washer, hardened, M8
3	5	26AM13	Bolt, flange-head, M8 x 1.25 - 25 mm long
4	4	26AM14	Bolt, flange-head, M8 x 1.25 - 30 mm long
5	4	191AM2	Flange nut, serrated, prevailing torque, M8 x 1.25
6	1	30QS4613M	Mounting bracket, frame side

7	1	13ME3246M2	Heat shield (required for dual exhaust system)
8	1	83AX698	Heat shield (required for dual exhaust system)
9	1	14QK3111	Cab lateral damper
10	1	30QS3648M	Spacer, required when fuel tank mounting J-bracket is mounted behind the vertical cab shock absorber bracket
11	5	27AM87*	Bolt, flange-head, M14 x 2.00 x 40 mm long
	5	27AM99*	Bolt, flange-head, M14 x 2.00 x 50 mm long
12	5	191AM5	Nut, M14 x 2.00
* Length of bolt depends upon component stack-up (i.e., frame rail thickness, inside frame liner, etc.). Refer to the part number table following figure 11 to determine which bolt must be used.			

Procedures for installing the cab lateral damper are as follows:

1. Secure the chassis for service, apply the parking brakes and block the wheels to prevent the vehicle from moving.
2. Disconnect the fuel line and the vent line from the fuel tank. Plug the lines, and also plug the ports in the tank to prevent dirt entry.
3. Disconnect the fuel level sensor harness connector.
4. Position a suitable lifting device (such as a transmission jack with a suitable cradle) under the fuel tank.



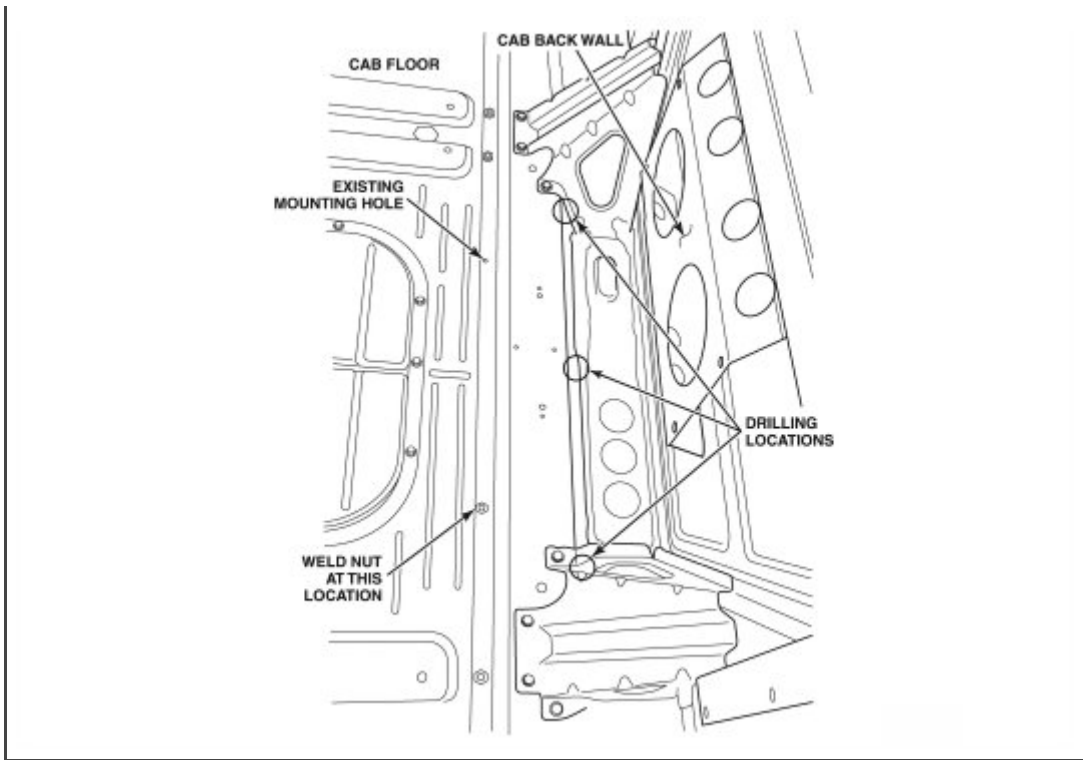
Warning

Be sure the transmission jack is positioned under the center of the tank to keep it properly balanced when it is being removed from the chassis. The fuel in the tank may slosh from side-to-side, resulting in the tank falling from the jack.

5. Remove the nuts from the fuel tank mounting strap T-bolts at the bottom of the fuel tank.
6. Carefully lower the jack. Lift the mounting straps out of the way, and then roll the fuel tank away from the chassis. Place the jack and tank in a safe location where they will not interfere with the remaining procedures, and where the tank cannot be inadvertently knocked off the jack.
7. Installation of the cab lateral damper mounting bracket requires that three holes for the rearward mounting fasteners be drilled in the cab floor panel. Install the cab lateral damper mounting bracket as follows:
 - a. Remove both the driver and rider seats.
 - b. Remove the trim panels from the cab back wall, and also remove the carpeting from the cab floor.
 - c. Clean the silicone sealant from the forward two holes in the cab floor where the cab damper mounting bracket will be secured. It will be necessary to drill the remaining holes in the cab floor for installation of the cab damper mounting bracket.

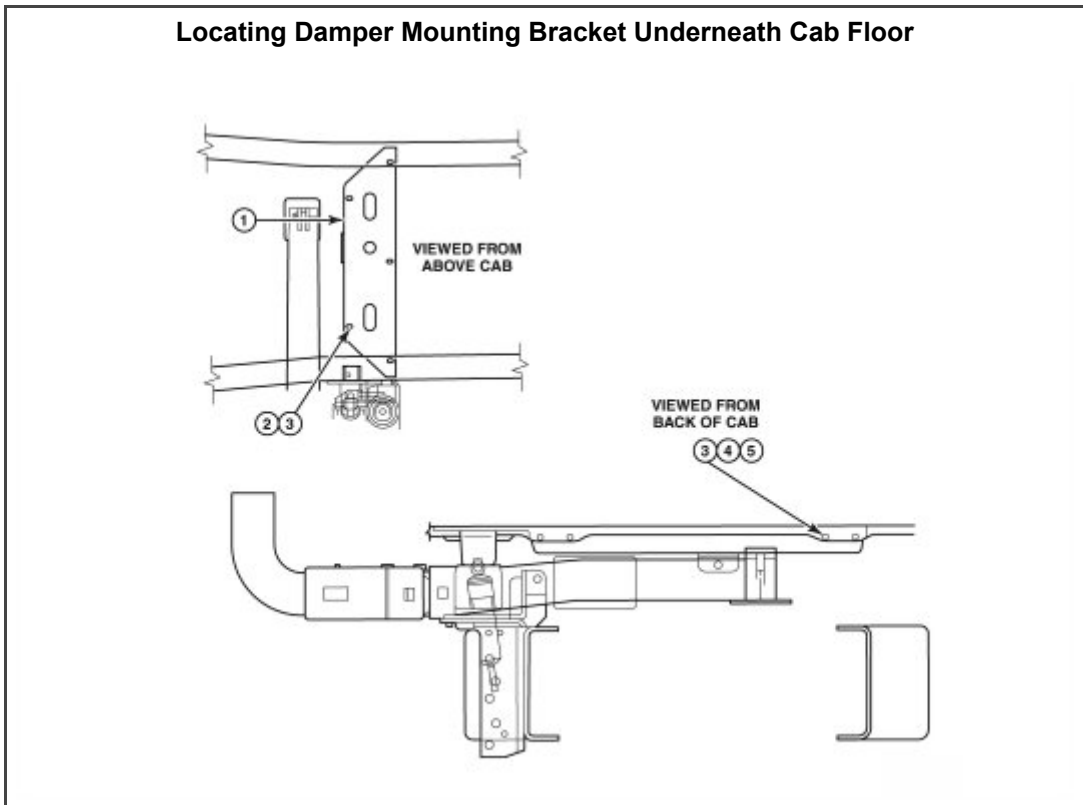
Note: The forward hole on the left-hand side of the cab floor already includes a weld nut for the mounting bracket fastener, whereas the right-hand hole does not include a weld nut.
 - d. Using an M8 x 1.25 tap, clean the silicone sealant from the threads of the weld nut on the left-hand side of the cab floor.

Cab Lateral Damper Mounting Bracket Drilling and Mounting Locations



e. Locate the mounting bracket (part No. 30QS5375M) in place underneath the cab floor, and secure with one bolt (part No. 26AM13) and flat washer (part No. 271AM8) at the forward hole on the left-hand side of the cab floor (location that includes the weld nut). Also install a bolt (part No. 26AM14), washer (part No. 271AM8) and nut (part No. 191AM2) at the right-hand side lower cab flange.

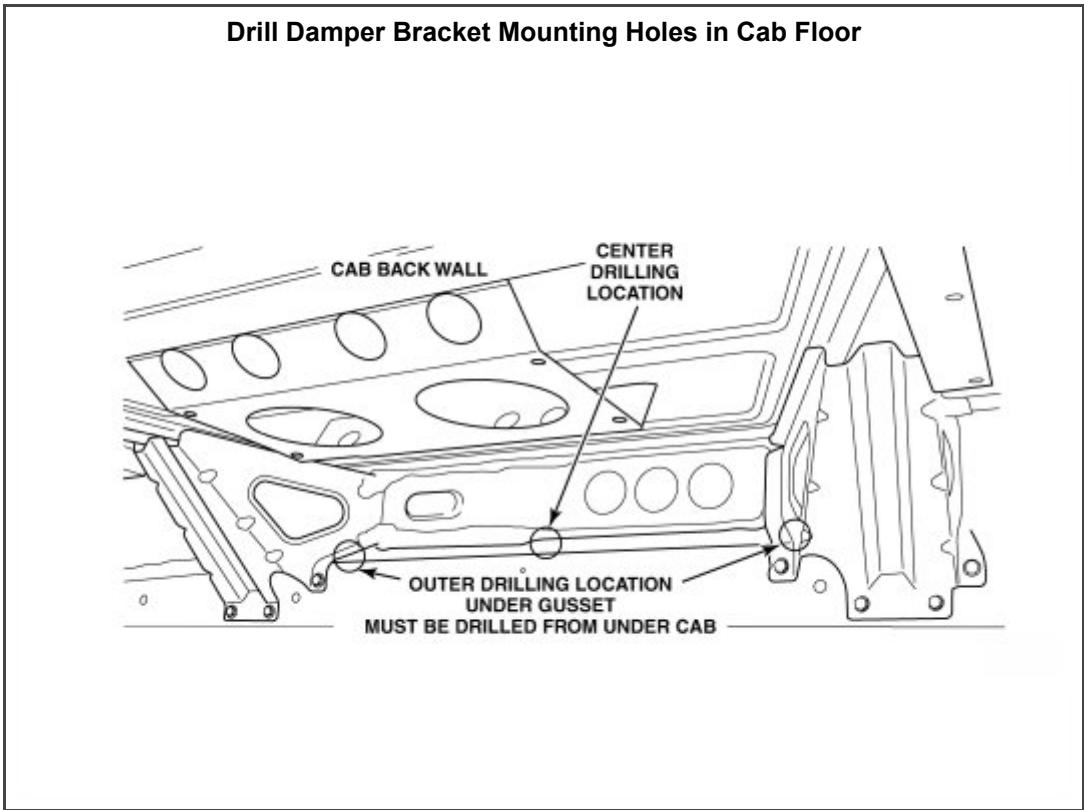
Note: Apply never-seize compound to the threads of the bolts before installing.



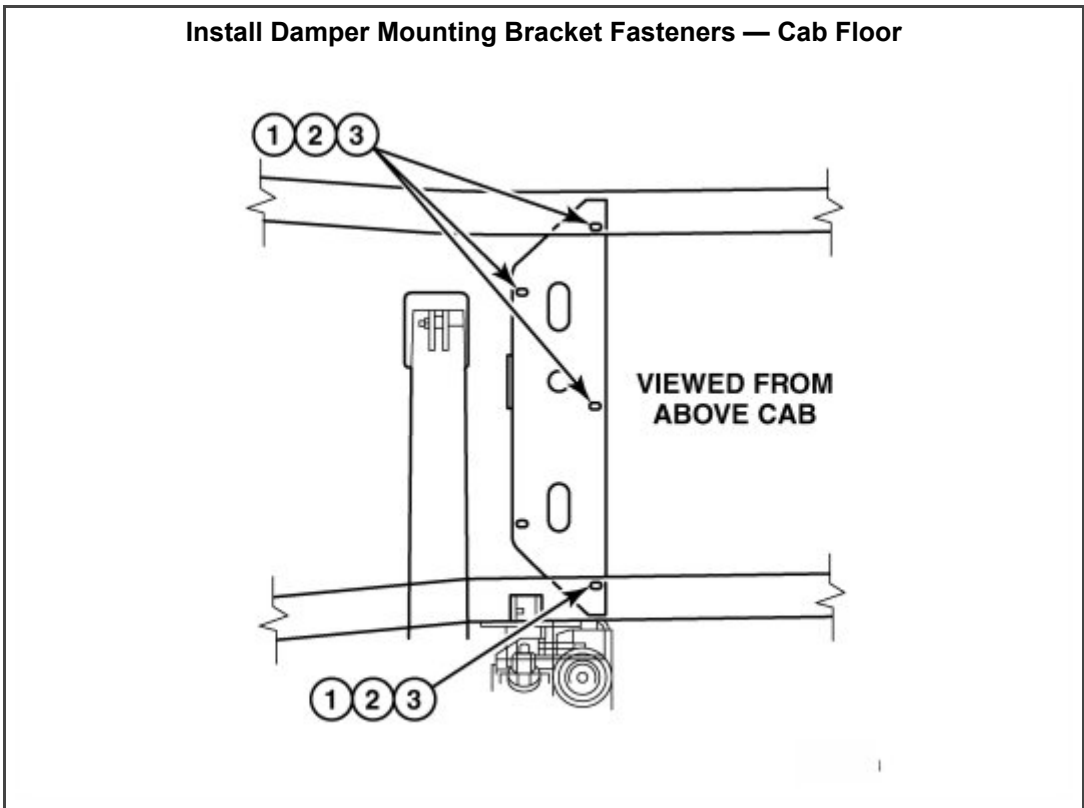
Key	Qty.	Part No.	Description
1	1	30QS5375M	Bracket, cab side, damper mounting
2	1	26AM13	Bolt, flange-head, M8 x 1.25 - 25 mm long
3	2	271AM8	Flat washer, M8
4	1	26AM14	Bolt, flange-head, M8 x 1.25 - 30 mm long

5	1	191AM2	Flange nuts, serrated, prevailing torque, M8 x 1.25
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f. Using the bracket as a guide, drill the three 10 mm (3/8") holes in the cab floor for the rear mounting bolts. Drill the holes from underneath the cab floor.



g. Secure the mounting bracket to the floor panel using four bolts (part No. 26AM13), flat washers (part No. 271AM8) and nuts (191AM2). Apply never-seize compound to the threads of the bolts before installing. Hand-tighten the fasteners at this time.



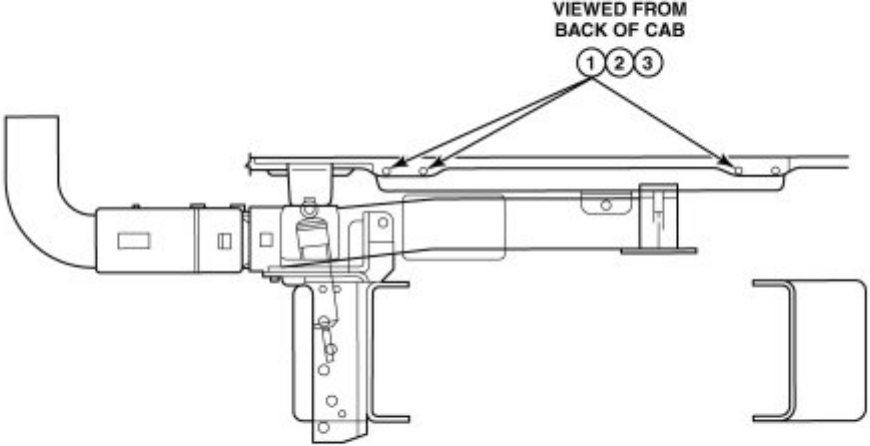
Key	Qty.	Part No.	Description
1	4	26AM13	Bolt, flange-head, M8 x 1.25 - 25 mm long
2	4	271AM8	Flat washer, M8

3	4	191AM2	Flange nuts, serrated, prevailing torque, M8 x 1.25
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h. Secure the mounting bracket to the cab back wall lower flange using three bolts (part No. 26AM14), flat washers (part No. 271AM8) and nuts (part No. 191AM2). Apply never-seize compound to the threads of the bolt before installing, and be sure to install the cab leveling linkage rod mounting bracket to the left-hand side lower cab flange mounting bolt.

To prevent bending the cab lower flange, hand-tighten the bolts under the cab first, and then completely tighten the fasteners at the cab lower flange. Once the cab lower flange nuts are tightened, completely tighten the fasteners underneath the cab.

Install Damper Mounting Bracket Fasteners — Cab Lower Flange

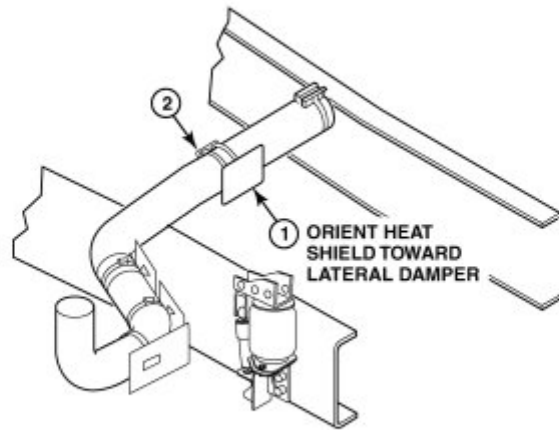


Key	Qty.	Part No.	Description
1	3	26AM14	Bolt, flange-head, M8 x 1.25 - 30 mm long
2	3	271AM8	Flat washer, M8
3	3	191AM2	Flange nuts, serrated, prevailing torque, M8 x 1.25

i. Reinstall the carpeting, the cab back wall trim panel and the driver and rider seats.

8. For CTP models equipped with a dual exhaust, install the heat shield (part No. 13ME3246M2) on the exhaust pipe using a clamp (part No. 83AX698). Position the heat shield as shown in the following illustration.

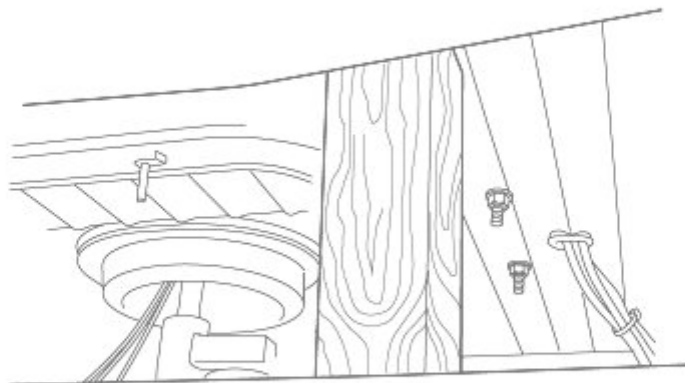
Installing Heat Shield (Chassis with Dual Exhausts Only)



Key	Qty.	Part No.	Description
1	1	13ME3246M2	Heat shield
2	1	83AX698	Clamp, size No. 60 (4.25" max. dia., 3.31" min. dia.)

9. Cut a 4" x 4" wooden block approximately 222 mm (8-3/4") long.
10. Move the cab leveling arm UP to raise the cab slightly, and then place the 4" x 4" block of wood between the cab floor and the frame rail on the left-hand side of the cab.
11. Move the cab leveling arm DOWN to lower the cab onto the wooden block.

Block of Wood Positioned Between Frame Rail and Cab Floor



12. Completely drain the air system.
13. With the cab suspension air bag completely deflated, remove the cab vertical shock absorber from the left-hand side of the vehicle.

Remove Cab Vertical Shock Absorber



14. Remove and discard the left-rear cab shock absorber mounting bracket from the frame rail. The bracket is secured to the frame rail with Huck-Spin® frame fasteners. For information on removing Huck® fasteners, refer to the Frame, Axle and Suspension Service and Total Vehicle Alignment service manual, 14-103.

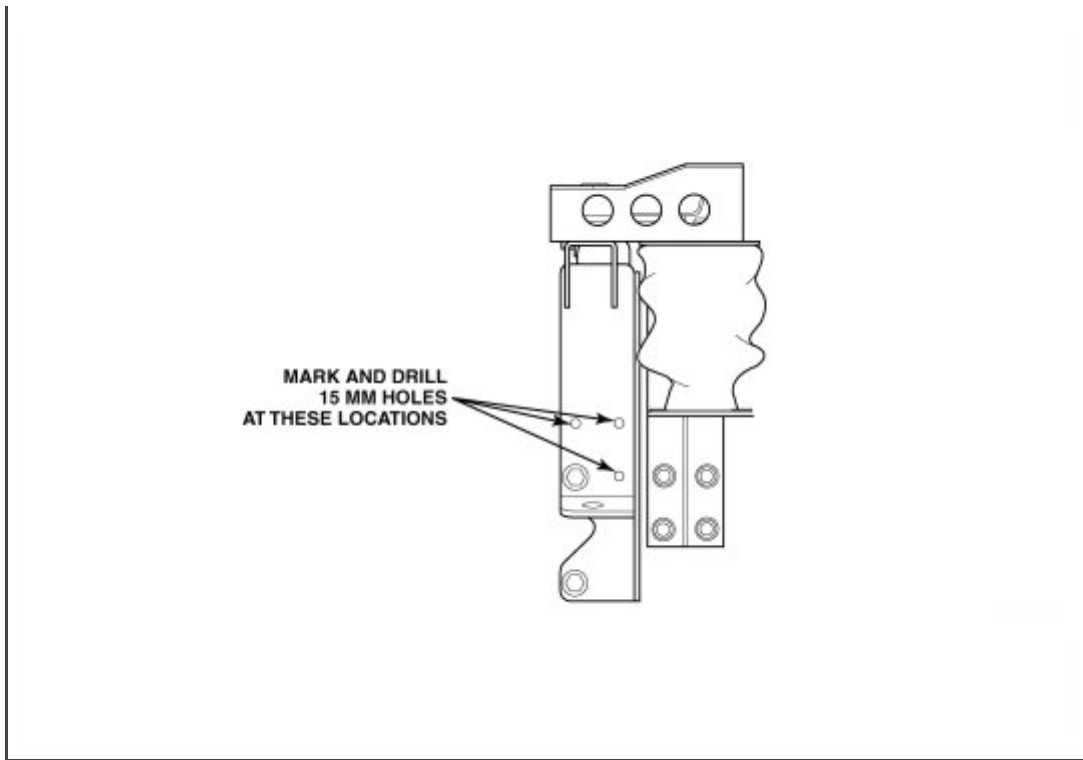


Caution

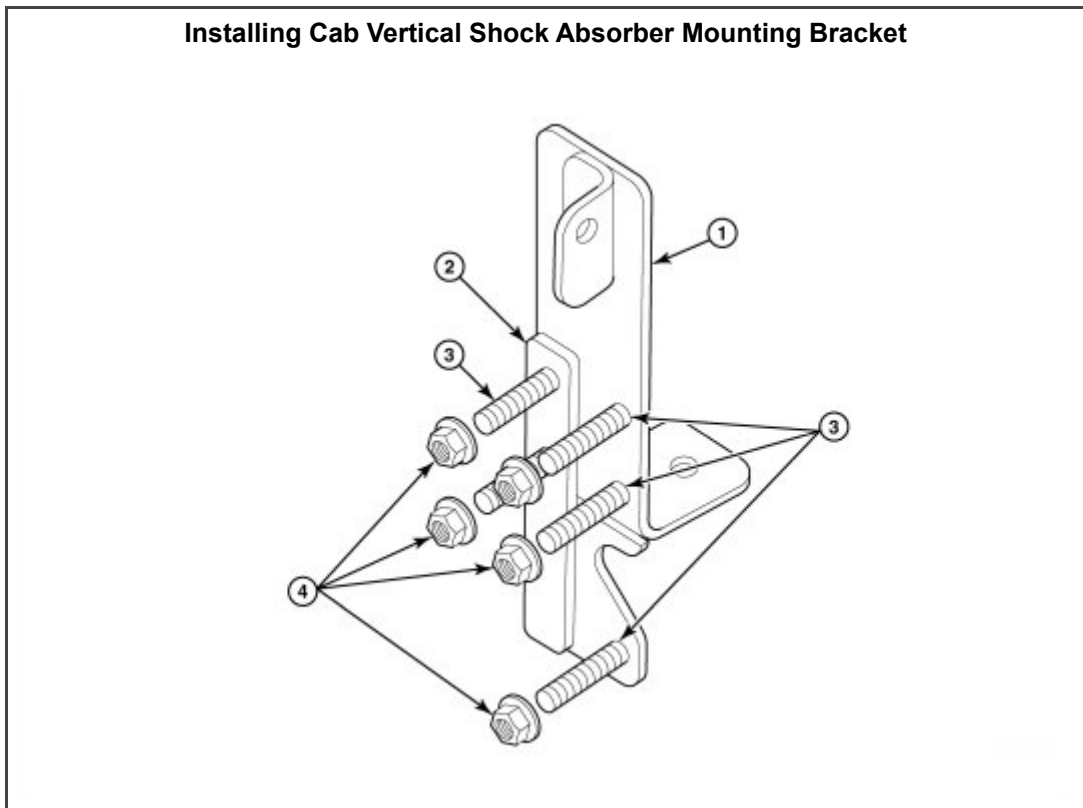
If a torch is used to cut the fasteners, use caution, as there are air lines and wire harnesses routed inside the frame rail directly behind the cab mounting bracket. The air lines and harnesses can be damaged by the hot pins as they are being cut and removed.

15. Temporarily install the new cab shock absorber mounting bracket (part No. 30QS4613M) on the frame rail, and then mark the location where the three additional mounting holes must be drilled.

Marking Location for Additional Mounting Holes



16. Remove the frame bracket and then drill the three 15 mm diameter mounting holes in the frame.
17. Install the cab vertical shock absorber mounting bracket (part No. 30QS4613M) to the frame. If the fuel tank mounting bracket is located under the shock absorber mounting bracket, a spacer (part No. 30QS3648M) will be required. The length of the bolts depends upon frame rail thickness, if equipped with an inside liner and if the 30QS3648M spacer is required. Select the proper bolt part numbers from the chart below, and use five nuts (part No. 191AM5) to secure the bracket to the frame rail. Tighten the fasteners to 183 N•m (135 lb-ft).

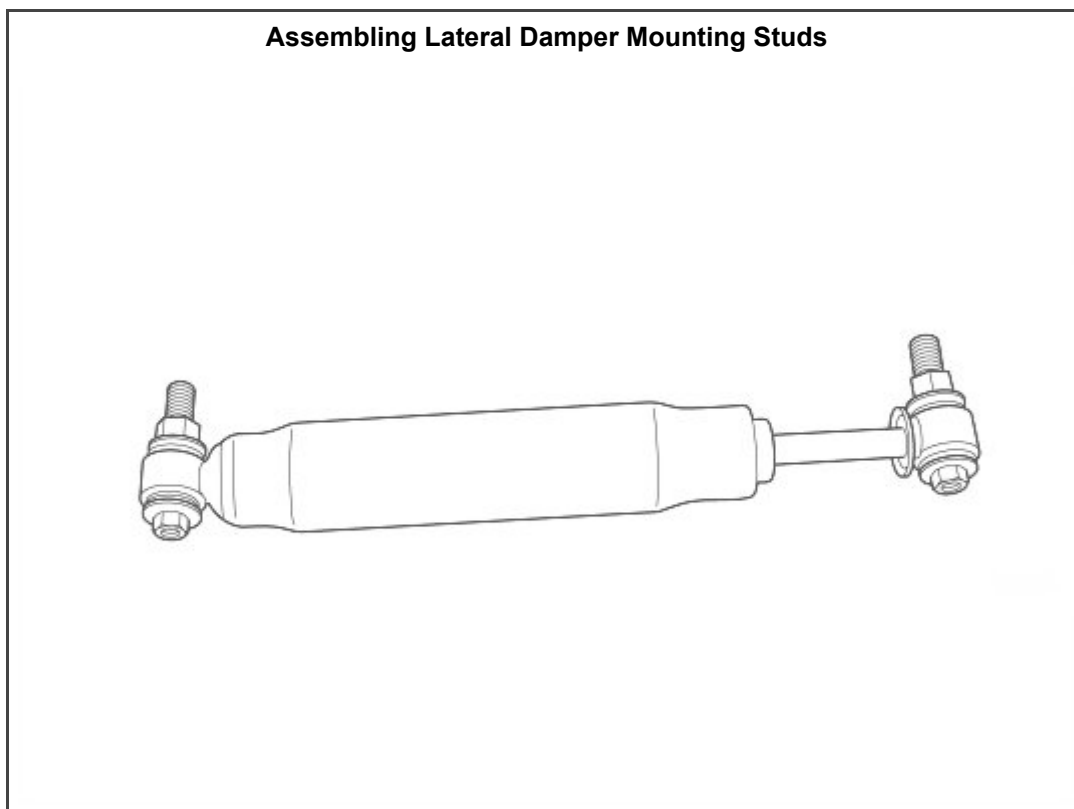


Key	Qty.	Part No.	Description
1	1	30QS4613M	Mounting bracket, cab vertical shock absorber
2	1	30QS3648M	Spacer (required if fuel tank mounting bracket is located under the vertical shock absorber mounting bracket)
3	5	-	Refer to table below for proper part numbers

4	5	191AM5	Nut, M14 x 2.00
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Bolt Part Nos.				
Frame Rail Thickness	Bracket Only	Bracket and Spacer	Bracket and Inside Frame Liner	Bracket, Spacer and Inside Fame Liner
7 mm	27AM87	27AM87	Not Applicable	Not Applicable
8 mm	27AM87	27AM87	27AM87	27AM99
9.5 mm	27AM87	27AM87	27AM87	27AM99
11.1 mm	27AM87	27AM99	27AM99	27AM99

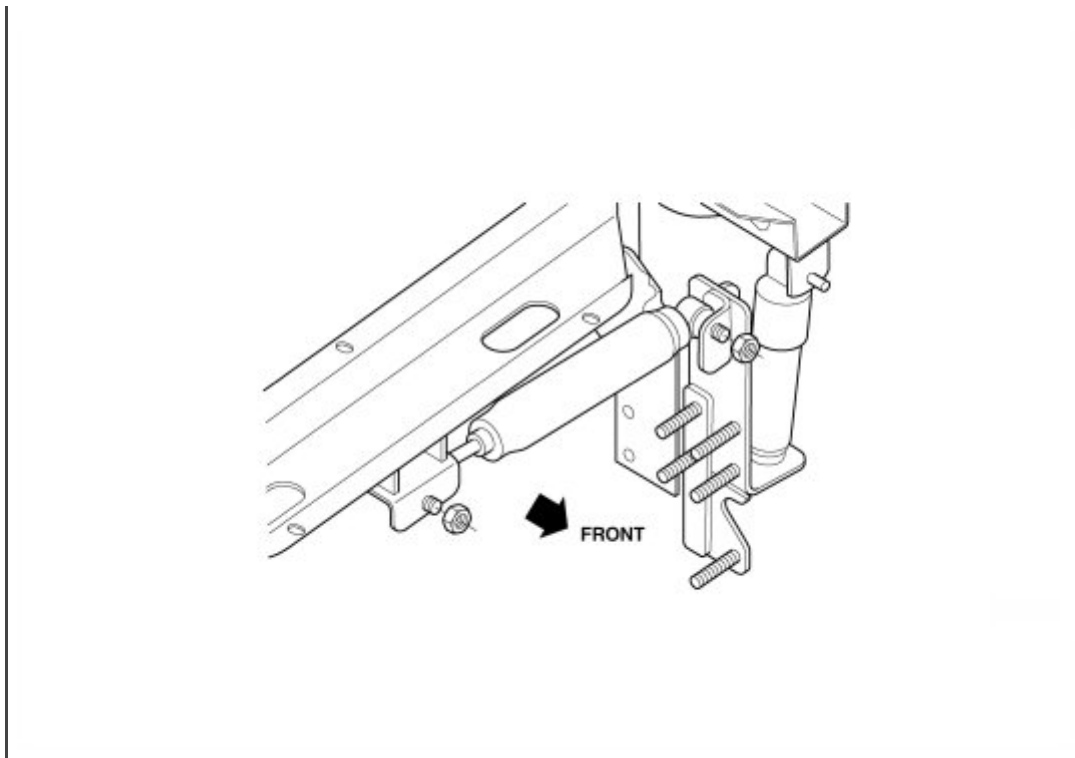
18. Assemble the mounting studs onto both ends of the lateral damper (part No. 14QK3111). The studs are supplied with the damper.



19. Install the lateral damper to the mounting brackets. For the damper to function properly, the rod end must be installed on the cab mounting bracket as shown below. Install the damper with the mounting studs installed into the brackets from the back.

Note: To facilitate installation of the damper, extend the rod from the body so that the length of the damper from the center of the two mounting holes is approximately 18" (457 mm).

Installing Cab Lateral Damper

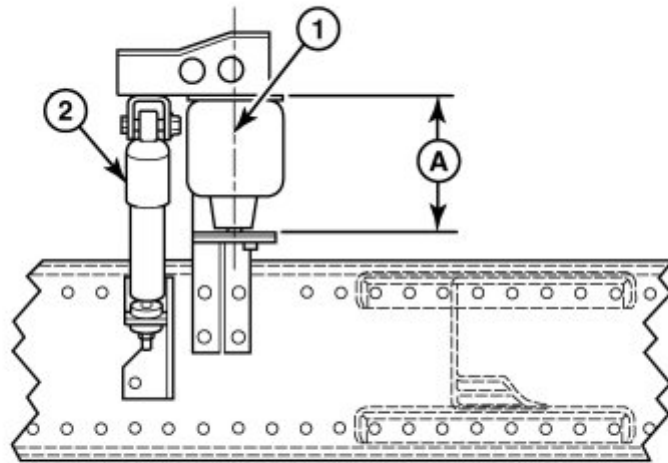


20. Reinstall the cab vertical shock absorber.
21. Position the fuel tank alongside the frame, and then raise the jack into position so that the mounting strap T-bolts can be installed to the J-bracket. Install new nuts (part No. 190AM4) to the T-bolts and tighten to the following torque specification:
 - Steel Fuel Tanks — 61 N•m (45 lb-ft)
 - Aluminum Fuel Tanks — 54 N•m (40 lb-ft)

Note: Do not reuse the existing fuel tank mounting nuts. New nuts (part No. 190AM4) must be used. Install the nuts dry. Do not lubricate the nut or T-bolt threads.

22. Reconnect the fuel line, vent line and fuel level sensor harness connector.
23. Reinstall the fasteners between the fender extension and lower step.
24. Start the engine and build air system pressure to governor cut-out.
25. When the cab air bags are fully inflated, remove the wooden block from under the cab.
26. Check cab ride height. Ride height dimension is 187 mm \pm 3 mm (7.36" \pm 0.12"), dimension "A" in the illustration below. If ride height is not within specifications, adjust as follows:

Cab Ride Height Measurement



1. AIR SPRING
2. SHOCK ABSORBER

- a. Loosen the linkage rod at the cab bracket.
- b. Manually operate the leveling valve arm to raise or lower the rear of the cab as required to obtain the proper ride height dimension (187 mm ± 3 mm [7.36" ± 0.12"]).



Warning

Keep hands and arms out of the way to avoid injury when performing this procedure.

- c. With the cab at proper ride height, tighten the linkage rod mounting nut at the cab bracket without allowing the leveling valve arm to move.
- d. Recheck cab ride height. If not within specifications, readjust as required.

Warranty information

Reimbursement

This repair may be eligible for reimbursement if a product failure was experienced within time and mileage limits of the applicable Warranty coverage. Reimbursement is obtained via the normal claim handling process.	Reimbursement
Claim Type (used only when uploading from the Dealer Bus. Sys.)	W
Labour Code	

Primary Labor Code	668 3A 00 80 – 3.5 hrs. — Time allowed to install cab lateral shock absorber on CTP and GU models without dual exhaust. Does not include “take-charge” time.
	668 3B 00 80 – 3.7 hrs. — Time allowed to install cab lateral shock absorber on CTP model chassis with dual exhaust. Does not include “take-charge” time.

Issued by

Technical Service

Mack Trucks, Inc. engages in a continuous program of testing and evaluating to provide the best possible product. Mack Trucks, Inc., however, is not committed to, or liable for updating existing chassis.