



## Service Parts Instructions

### Inspecting and Lubricating Meritor's Q Plus™ LX500 and MX500 Cam Brakes on Drive Axles

On Freightliner, Volvo and Mack Vehicles  
Built Between August 2000 and July 2001

Meritor Service Kits MPS-4667 and MPS-4668

#### ASBESTOS AND NON-ASBESTOS FIBERS WARNING

Some brake linings contain asbestos fibers, a cancer and lung disease hazard. Some brake linings contain non-asbestos fibers, whose long-term effects to health are unknown. You must use caution when you handle both asbestos and non-asbestos materials.

#### WARNING

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury can result.

### For Complete Maintenance and Service Instructions for Meritor LX500 Cam Brakes

Refer to Maintenance Manual MM-96173, Q Plus™ LX500 and MX500 Cam Brakes. Call ArvinMeritor's Customer Service Center at 800-535-5560 to order this publication or visit the Tech Library on our web site at the following address:

[arvinmeritor.com/tech\\_library/home.asp](http://arvinmeritor.com/tech_library/home.asp)

### Important Service Notes

Meritor has determined that certain Q Plus™ LX500 drive axle cam brakes with bolt-on stamped spiders may not contain the correct amount of grease in the brake camshaft tube. This includes MX500 drive axle brakes.

Only vehicles built at certain Freightliner assembly plants, and all Volvo and Mack assembly plants, between August 2000 and July 2001 are affected. Refer to the following table.

OEM	Assembly Plant
Freightliner	Cleveland Mt. Holly Gaffney
Volvo	All
Mack	All

Meritor recommends that you perform the procedures in this bulletin during the next regularly scheduled maintenance visit, or earlier, if possible. Immediate service is not required.

### Brakes Not Affected by This Bulletin


- Standard Q Plus brakes
- Steer axle brakes with LX500, including integral knuckle Q Plus LX500 cam brakes on Meritor Easy Steer Plus™ axles
- Q Plus LX500 cam brakes on vehicles built at OEM plants not listed in the table
- Q Plus LX500 cam brakes on vehicles that were not built between August 2000 and July 2001
- Q Plus LX500 cam brakes on trailer axles

### Kits MPS-4667 and MPS-4668

Kits MPS-4667 and MPS-4668 will be used to service brakes not filled with a sufficient amount of grease. To order these kits, call ArvinMeritor's Commercial Vehicle Aftermarket at 888-725-9355.

## Inspection

### Grease Volume in Camshaft Tube

1. Park the vehicle on a level surface and block the wheels.
2. Remove the pressure relief valve in the brake camshaft tube. Inspect the inside of the valve.
  - **If grease is present on the valve:** The camshaft tube is filled with a sufficient amount of grease. Reinstall the pressure relief valve in the tube and tighten to 35-120 lb-in (4-14 N•m). Mark the pressure relief valve with yellow paint to signify that the brake has been inspected. Continue to the next brake. 
  - **If grease is not present on the valve:** The camshaft tube is not filled with a sufficient amount of grease. Discard the pressure relief valve. Proceed to Brake Assembly Function in this bulletin.



### Brake Assembly Function

1. Actuate the brakes.
  - **If the brakes apply and release freely:** The brake requires grease only. Proceed to the Lubrication section.
  - **If the brakes do not return freely to the full-released position:** The brake is not functioning correctly. Continue to the next step.
2. Remove the clevis pins on the clevis, then disconnect the clevis from the automatic slack adjuster.
3. Pull on the automatic slack adjuster to actuate the brakes, then release it.
  - **If the automatic slack adjuster returns freely:** The cam brake operates correctly. Follow instructions in Maintenance Manual MM-96173 to reinstall the automatic slack adjuster and proceed to Lubrication in this bulletin.

This may indicate an air chamber-related issue. Refer immediately to the air chamber manufacturer's instructions.
  - **If the brake does not return freely to the full-released position:** Proceed to Replace the Camshaft in this bulletin.

## Lubrication


Lubrication procedures require service kit MPS-4667. Each kit services one complete axle set of brakes and includes two grease fittings, two pressure relief valves, one cartridge of synthetic camshaft grease, two identification tags and one Service Parts Instruction.

1. Remove the plug located under the lubrication identification tag in the brake camshaft tube. Replace the plug with the grease fitting supplied in the kit and tighten to 3-5 lb-ft (4-7 N•m). 
2. Remove and discard the pressure relief valve. Replace it with the new pressure relief valve supplied in the kit. Tighten the valve to 35-120 lb-in (4-14 N•m). 

**NOTE:** Do not reuse the old pressure relief valve in brake lubrication.

3. Use a manual grease gun to apply grease supplied in the kit to the grease fitting. Continue to apply grease until grease visibly purges through the pressure relief valve in the camshaft tube.

**NOTE:** Q Plus LX500 cam brakes require synthetic grease specified by ArvinMeritor. Do not install standard brake grease or other chassis grease.

4. Reinstall the plug into the brake camshaft tube and tighten to 30-60 lb-in (3-7 N•m). Apply the lubrication identification tag supplied in the kit. 

**NOTE:** You can leave the grease fitting in the camshaft or replace it with the plug.

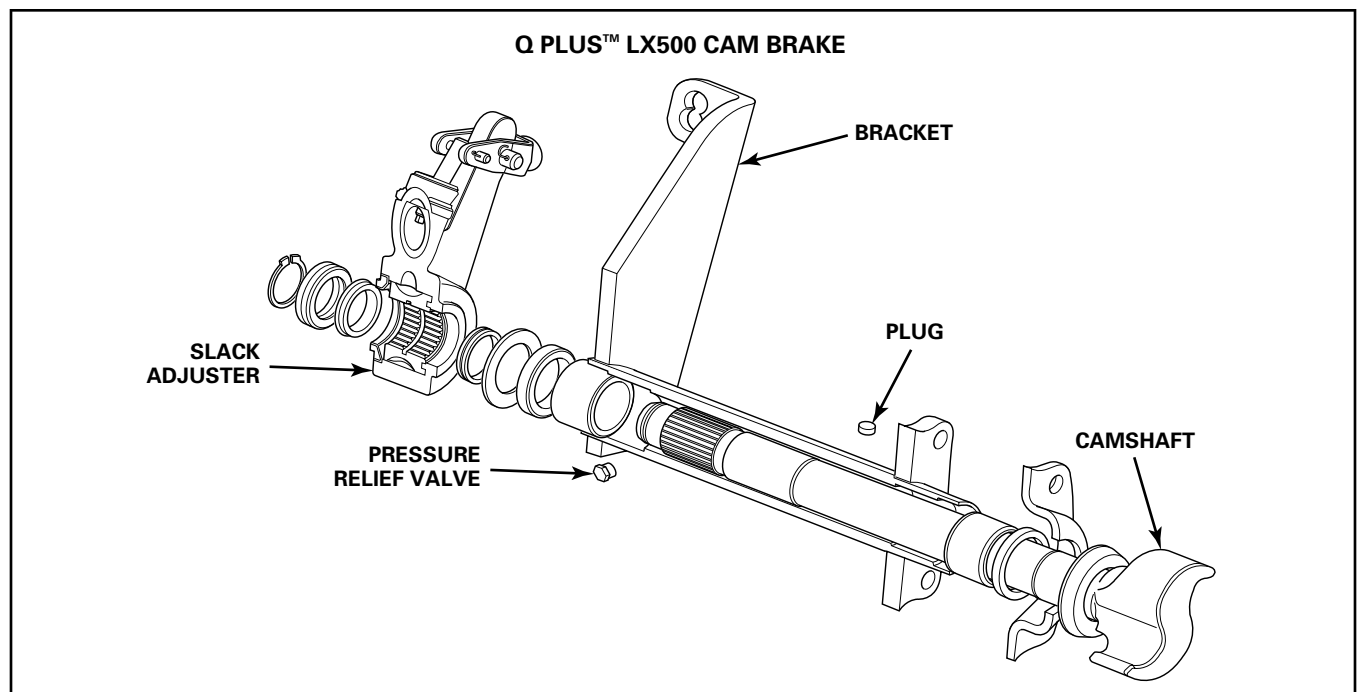
5. Mark the pressure relief valve with yellow paint to signify that the brake has been inspected. Continue to the next brake.

## Replace the Camshaft

**NOTE:** For disassembly, prepare parts for assembly, and assembly procedures, refer to Maintenance Manual MM-96173, Q Plus™ LX500 and MX500 Cam Brakes.

This procedure begins with the automatic slack adjuster removed from the clevis from the previous inspection.

1. Remove the wheel-end components.
2. Inspect the brake for a worn or damaged return spring.
  - **If the spring is worn or damaged, or does not operate correctly:** Replace the spring. Proceed to Step 3.
  - **If the spring is not worn or damaged and operates correctly:** Proceed to Step 4.
3. Pull the slack adjuster to actuate the brake. Release the slack adjuster.
  - **If the slack adjuster still does not return freely:** Proceed to Step 4.
  - **If the slack adjuster returns freely:** The brake is functioning correctly. Assemble the slack adjuster and wheel-end components. Refer to Lubrication in this bulletin.
4. Remove the automatic slack adjuster, brake shoes and camshaft.
5. Inspect the camshaft journals for corrosion, wear and damage.
  - **If the camshaft journals are not corroded, worn or damaged:** Reinstall the camshaft. Refer to Lubrication in this bulletin, then reassemble the brake shoes and automatic slack adjuster. Repeat Step 3 to test brake actuation and verify that the slack adjuster returns freely.
  - **If the camshaft journals are corroded, worn or damaged:** Proceed to Step 6.
6. Remove and discard all camshaft bushings and seals. Use the parts in Kit MPS-4668 along with replacement camshafts to reassemble the brake.
7. Lubricate the camshaft tube with the synthetic grease in Kit MPS-4668. Refer to Lubrication in this bulletin.
8. Reassemble the brake shoes and automatic slack adjuster. Repeat Step 3 to test brake actuation and verify that the slack adjuster returns freely.
9. Assemble the wheel-end components. Continue to the next brake.



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