Table of Contents

Brake Maintenance

Just recently at the Albuquerque Fun Rally. I discovered that my left rear brake was worn beyond the limits and required changing on the road. Yes. we do know how you feel when this happens. I am going to attempt to give you some information from the Rockwell Maintenance manual without rewriting the whole book. This is basic information to give each of you some insight on what is involved in maintaining our brakes in good operating order. For the do-it-yourselfers. you need to order the manual so you will have all the information needed to maintain your brakes yourself.

Lubrication, Preventive Maintenance, and Troubleshooting

Preventive Maintenance

Note: the maintenance schedules shown in the manual are for normal operating conditions.

- Operation under severe conditions can require shorter periods between maintenance.
- Operation over long periods with few stops can permit longer periods between maintenance.

Inspection Schedules

Note: It is recommended all services mentioned here be performed by a **qualified technician** familiar with Meritor air disc brakes.

Inspect and lubricate the caliper and the slack adjuster according to one of the following schedules. Use the schedule that gives the most frequent inspection and lubrication.

- The schedule for chassis lubrication used by your fleet.
- The schedule for chassis lubrication recommended by the manufacturer of the chassis.
- At least 4 times during the life of the linings or every six months.

Brake Inspection

Warning When you work on the spring chamber, carefully follow the service instructions of the chamber manufacturer. Sudden release of a compressed spring can cause serious personal injury.

- Put blocks in front of and behind the wheels to prevent the the vehicle from moving.
- If the vehicle has spring brakes, manually compress and lock the springs to release the brakes.
- Use the correct slack adjuster template for your brakes.
- Check the in-service free stroke and the adjusted chamber stroke.
- Check tor excessive movement between the slack adjuster and the powershaft. If necessary, remove the slack adjuster. Replace a powershaft or slack adjuster gear that is damaged or worn.
- Check for contamination on the slide pins.
- Use a pin gauge (j-34064-54) to check the slide pins bushings for wear. When the linings wear, the caliper slides in along the pins. To check for lining wear, check the position of the inboard bosses of the caliper on the slide pins. The figure below shows what to look for to check for lining Wear.
    - If the bosses are within 1/4 inch of the ends of the pins, remove the wheels and inspect the linings. If the bosses are within 1/8 inch of the ends of the pins, replace the linings.
- Move the air chamber from side to side to check that the caliper moves freely on the slide pins. When the caliper does not move freely, inspect the slide pins, slide pin bushings, the slide pin retainers for wear or

damage.
- Inspect the rotor for cracks, deep scores,or other damage. Replace when necessary.

Lubricating the: Automatic Slack Adjuster

Note: Use NlGI Grade: #1 or #2 or equivalent clay-based grease or NLGI Grade # I or #2 lithium-based grease inside the automatic slack adjuster.

Use grease gun to lubricate automatic slack adjuster through the grease fitting until new grease flows from the pressure relief seal under the pawl assembly.


Meritor Clay Based Grease

Meritor Clay Based Grease

Lubricating the Caliper

Caution Do not use lithium-based grease inside the caliper. Lithium-based grease may not adequately lubricate the caliper. Damage to the caliper can result. Use only NLGI # 1 or #2 clay-based grease inside the caliper.

1. Turn the adjusting nut of the slack adjuster to move the inboard lining against the rotor.
2. Plug the pressure relief valve by holding a finger over the poppet. CAUTION: You must force excess grease from the caliper. Brakes can drag from too much grease in the caliper, which will reduce brake lining life.
3. Apply grease through the grease fittings in the caliper until grease flows out of the seal at the powershaft cap.
4. Remove the pressure relief cap from the caliper. Turn the slack adjuster adjusting nut in the opposite direction to fully retract the caliper piston and force excess grease through the pressure relief hole.
5. Clean excess grease from outside the caliper with a rag.
6. Install the pressure relief valve.
7. Adjust the brake.
8. Install or re-engage the brake on the automatic slack adjuster.

Clean, inspect, and measure the slide pins and bushings

1. Clean the slide pins. Remove any paint or other material from the pin. Replace the pin if you find burrs, nicks, corrosion, or Other damage.
2. Measure the diameter of the pin with a micrometer. Replace the pin if the diameter is less than 0.987 inch.
3. Clean, inspect and measure the bushing in the caliper.
4. Repeat this procedure for the lower pin and bushings after you install the new linings and reinstall the caliper.

I recommend that you document the pin measurement every time you have your brakes inspected. This will give you a baseline measurement of the pins and will allow you to see if anything starts to change between inspections.

As You can see there is a lot to do when maintaining your brake in good operating order. I only took some of the highlights from the manual to give you enough information to understand what is involved in maintaining the brake system and some knowledge for You when You have your brakes inspected by your local service dealer. I hope this will help in maintaining your coach before it's to late and damage is done costing you lots of money that could have been prevented.

By Jack Bradshaw - Reprinted from Summer 2004 Motorcader

Here is the lubrication section from the maintenance manual in PDF format

lubrication_and_maintenance.pdf

as well as the individual pages as images.

Hazard Alert Messages

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.

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

Lubrication

Automatic Slack Adjuster

Use a grease gun to lubricate the automatic slack adjuster through the grease fitting until new grease flows from the pressure relief seal under the panel assembly. Refer to Maintenance Manual 1, Preventive Maintenance and Lubrication, for the approved lithium-based greases for automatic slack adjusters. To obtain this publication, refer to the Service Notes page on the front inside cover of this manual.

Anti-Seize Compound

Meritor lubricant specification S-637, part number 2297-A-4571, is a corrosion control grease. Do not mix this grease with other greases. This compound is also available from the Southwest Petro-Chemical Division of Witco Chemical Corporation, 1408 South Harrison, Olathe, KS 66061, as "Corrosion Control", part number SA 0249498.

- Use anti-seize compound on the sleeve pins of all slack adjusters.
- Also use anti-seize compound on the automatic slack adjuster and cam splines if the slack adjuster gear has no grease groove and holes around its inner diameter.

Caliper

⚠ CAUTION
Only use Meritor specification S-618-A or O-648 grease inside the disc brake caliper. Do not use lithium-base grease, which can melt from high temperatures inside the caliper. Damage to components can result.

Meritor air disc brakes have been manufactured in three different designs. Note that the location of the caliper grease fitting and pressure relief valve is different in brakes manufactured before 1985, from 1985 to 1991, and after 1992. Figure 13.1, Figure 13.2 and Figure 13.3.

Figure 13.1

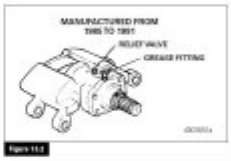

Figure 13.2

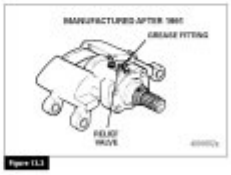

Figure 13.3

NOTE: Lubricate brake actuating components inside the caliper two to four times during the life of the lining, or every six months.

1. Turn the adjusting nut on the automatic slack adjuster to move the inboard lining against the rotor. Figure 13.4.

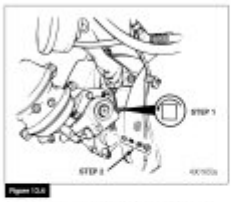

Figure 13.4

2. Plug the pressure relief valve by holding a finger over the popper.

NOTE: For calipers with grease fittings in the caliper and the camshaft cap, first apply grease to the caliper fitting, then apply grease to the camshaft cap fitting.

3. Apply grease through the grease fitting in the caliper until grease flows out of the seal of the camshaft cap.

⚠ CAUTION
You must force excess grease from the caliper. Brakes can drag due to excessive grease in the caliper, which will reduce brake lining life.

4. Remove the pressure relief valve from the caliper. Turn the slack adjuster adjusting nut in the opposite direction to fully retract the caliper piston and force excess grease through the pressure relief hole.
5. Clean the excess grease from the outside of the caliper with a rag.
6. Install the pressure relief valve.
7. Adjust the brake. Refer to Section 11.

Maintenance

The maintenance schedules shown in this manual are for normal operating conditions. Refer below for other operating conditions.

- Operation under severe conditions can require shorter periods between maintenance.
- Operation over long distances with few stops can permit longer periods between maintenance.

A maintenance schedule for each vehicle can be set after the brakes are inspected several times.

Minor Inspections

Inspect and lubricate the brake and automatic slack adjuster according to one of the following schedules. Use the schedule that provides the most frequent inspection and lubrication.

- The chassis lubrication schedule used by your fleet.
- The chassis lubrication schedule recommended by the chassis manufacturer.
- A minimum of four times during the life of the linings.

Air System

- A vehicle equipped with a combination of air disc and drum brakes requires special attention to obtain maximum brake performance.
- Replace air system valves with valves of identical performance characteristics.
- A correctly maintained air system and correct air pressure to each brake can help to ensure maximum brake performance and reduced lining wear.

13 Lubrication and Maintenance

Automatic Slack Adjuster

WARNING

Slack Adjusters Manufactured Before 1993

Slack Adjusters Manufactured in 1993 and Later

Slide Pins and Bushings

Rotors

Further Reading

* Arvin Meritor ADB1560 Air Disc Brake Maintenance.
* Meritor helper springs
* Brake Grease Specifications