



MERITOR®

Technical Bulletin

Brake Chamber Inspection and Replacement

Meritor Front Non-Drive Steer Axle Model FH946KX54

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.

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 and damage to components can result.

Before you service a spring chamber, carefully follow the manufacturer's instructions to compress and lock the spring to completely release the brake. Verify that no air pressure remains in the service chamber before you proceed. Sudden release of compressed air can cause serious personal injury and damage to components.

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.

How to Obtain Additional Maintenance, Service and Product Information

Refer to Maintenance Manual MM-0409, Wheel-End Components; Maintenance Manual 2, Front Non-Drive Steer Axles; and Maintenance Manual MM-0467, EX+™ Air Disc Brake. To obtain these publications, visit Literature on Demand at meritor.com.

How to Obtain Additional Parts

Contact Meritor's Commercial Vehicle Aftermarket at 888-725-9355.

Brake Chamber Inspection and Replacement

This technical bulletin provides procedures for removing, inspecting and replacing the service brake chamber with a new service brake chamber on certain Gillig buses equipped with Meritor FH946KX54 model front non-drive steer axles.

Call the Meritor OnTrac™ Customer Call Center Before Starting the Inspection Procedures

Contact the Meritor OnTrac™ Customer Call Center for authorization to proceed with the inspection and chamber replacement. If you cannot locate a qualified repair station, OnTrac™ will work with you and the local Meritor district manager to find a repair facility for you. In some circumstances, Meritor may authorize an end user or other repair facility to conduct the inspection and chamber replacement.

Call the Meritor OnTrac™ Customer Call Center at 866-668-7221 (US and Canada) between 7:30 AM and midnight PM ET Monday through Friday, between 9:00 AM and 6:00 PM ET on Saturday, and between 10:00 AM and 6:00 PM ET on Sunday. After selecting "preferred language," select option 1 for axles and braking systems and refer to Program number C15AD.

The Meritor OnTrac™ Customer Call Center requires the following information to assign the repair facility or end user a case number and permission to proceed with the work.

- Reference to Meritor's Program number C15AD
- Complete 17-digit vehicle identification number (VIN)
- Vehicle owner's name, address and telephone number
- Axle model and serial number. Figure 1.

- Vehicle in-service date
- Repair facility's name, address and telephone number
- Repair facility's hourly rate, if applicable

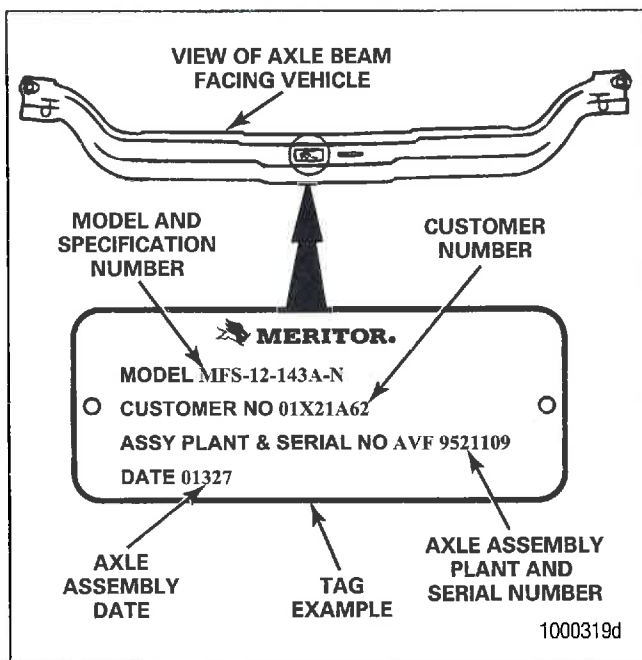


Figure 1

Replacement Parts

Replacement service brake chambers will be provided directly to the OEM for this procedure. If any other parts are needed, call Meritor's Commercial Vehicle Aftermarket at 888-725-9355.

The following parts may be required for the procedures in this technical bulletin.

Parts List

Part Description	Part Number	Quantity Required
Required (Provided by OEM)		
A11 3376 P16	Service Brake Chamber	2 per axle
If Needed (Order from Meritor)		
EX 225H201 BA000	LH Caliper	1 per wheel end
EX 225H202 BA000	RH Caliper	1 per wheel end
A 1205 P 1108	Hub Seal	1 per wheel end
2208Z390	Hub Cap Gasket	1 per wheel end
23123647098	Rotor	1 per wheel end

Part Description	Part Number	Quantity Required
MS 216065M2	Rotor Capscrew, M16x2	10 per wheel end
1229 U 15032	Rotor Washer	10 per wheel end

You must disable a chamber that requires replacement by using a cutting tool, such as a die grinder with a cutting wheel, to remove both brake chamber mounting studs at the face of the brake chamber. Figure 2.

OnTrac™ will require confirmation that the chamber has been disabled before a warranty claim is approved.

Once the push rod is removed, dispose of the chamber according to the chamber manufacturer's guidelines.

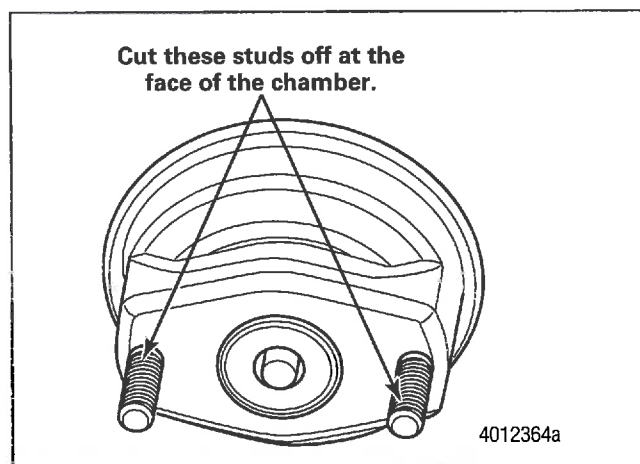


Figure 2

Standard Repair Time (SRT)

- Remove and replace two service brake chambers per vehicle — 1.3 hours
- Administrative time per vehicle — 0.2 hours
- Total allowed time per vehicle — 1.5 hours

Procedures

Remove the Service Brake Chamber

1. Wear safe eye protection. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
2. Raise the vehicle with a suitable lifting device and support the vehicle with safety stands.
3. Remove the wheel and tire assembly.
4. Remove the air hoses from the air ports on the brake chamber. Refer to the manufacturer's instructions.

5. Use a 24 mm wrench to remove the chamber mounting nuts. Remove the service brake chamber from the caliper.

Inspect the Service Brake Chamber, Caliper and Rotor, If Required

1. Inspect the brake chamber and caliper assembly for signs of water entry and corrosion. Figure 3.
 - **If signs of water entry and corrosion are present:** Replace the chamber and caliper assembly. Refer to the brake chamber replacement procedure in this bulletin. For caliper replacement procedures, refer to Maintenance Manual MM-0467.

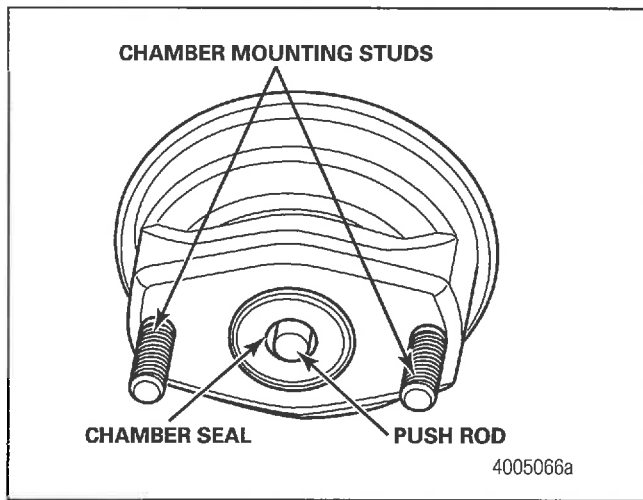


Figure 3

2. Inspect the brake chamber seal for tears, rips or other damage.
 - **If tears, rips or other damage is found on the chamber seal:** Inspect the caliper for contamination.
 - **If evidence of contamination is found on the caliper:** Replace the caliper per the procedures in Maintenance Manual MM-0467. NOTE: Evidence of caliper contamination must be documented with a photograph and submitted to OnTrac™ for a claim.
 - **If no evidence of contamination is found on the caliper:** Perform the caliper operational check in Maintenance Manual MM-0467.
 - **If the caliper does not pass the operational check:** Replace the caliper per the procedures in Maintenance Manual MM-0467. Also, inspect the rotor for damage.

— **If the rotor is damaged:** Replace the rotor. Refer to Maintenance Manual MM-0409. NOTE: Evidence of rotor damage must be documented with a photograph and submitted to OnTrac™ for a claim determination. Typical, normal wear will not be covered.

Install the New Service Brake Chamber

1. Verify that the chamber seal is well seated, free of debris and shows no signs of damage. Do not install a brake chamber that shows signs of debris or excess flash on the seal.
2. Verify that the caliper seal surface and the mounting surface are free of oil, grease and debris and show no signs of damage.
3. Before you install the air chamber onto the caliper assembly, ensure the perforated transit plug is removed from the caliper chamber seal by pulling the tab. Figure 4 and Figure 5.

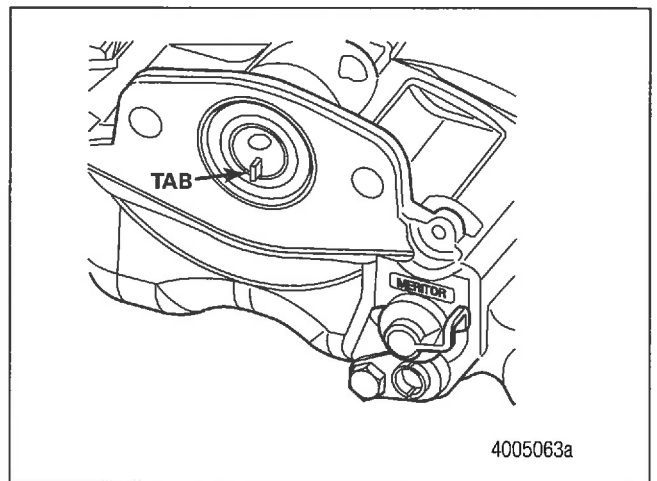


Figure 4

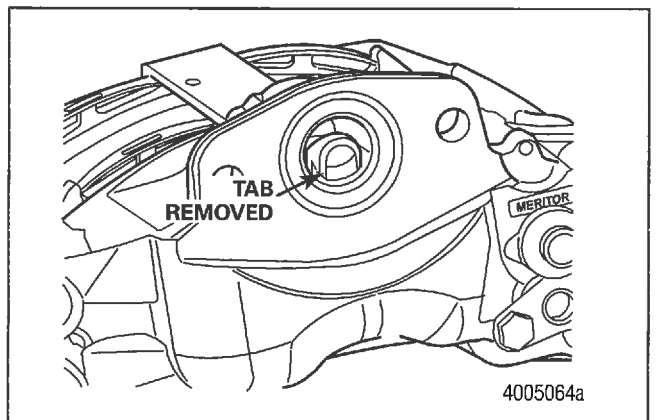


Figure 5

4. Position the chamber onto the caliper. Determine which of the two possible brake chamber orientations places the ports in the most accessible position. Figure 6.

AXLE ASSEMBLY REQUIREMENTS

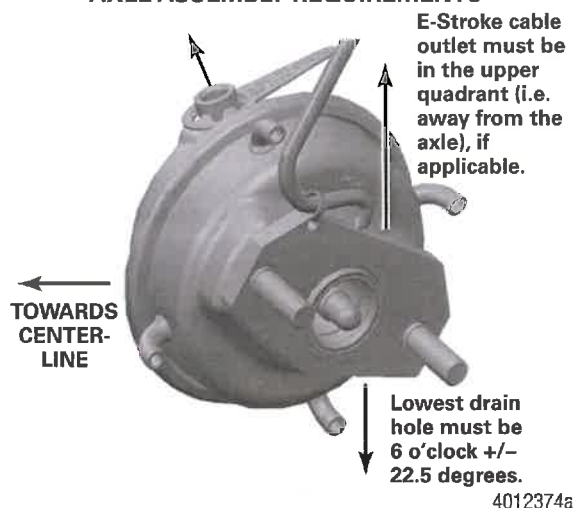


Figure 6

⚠ WARNING

Always install an air chamber with the correct chamber piston length. If an incorrect air chamber is installed, the difference in chamber piston length will result in partial brake application. Serious personal injury and damage to components can result.

5. As you position the chamber onto the caliper, visually check that the chamber push rod is nesting in the pocket of the operating shaft.

The EX+™ air disc brake uses a 0.59-inch (15 mm) chamber piston standout length. Figure 7. The air chamber part number is located on a nameplate.

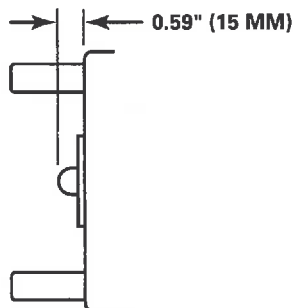


Figure 7

6. Firmly hold the chamber onto the caliper by hand. Place the two washers and nuts onto the mounting studs.
7. Use a 24 mm wrench to tighten the nuts in an alternating sequence.
 - A. Tighten the nuts until the mating surfaces meet. Use minimal torque on the two nuts.
 - B. Use a torque wrench to tighten each nut to 59-75 lb-ft (80-100 N•m). Then, use a torque wrench to tighten each nut to 133-155 lb-ft (180-210 N•m). ⚠
8. Install the air hoses to the air ports on the brake chamber. Refer to the manufacturer's instructions.

Call the Meritor OnTrac™ Customer Call Center After Completing the Inspection and Replacement Procedures

Contact the Meritor OnTrac™ Customer Call Center at 866-668-7221 (US and Canada) between 7:30 AM and midnight PM ET Monday through Friday, between 9:00 AM and 6:00 PM ET on Saturday, and between 10:00 AM and 6:00 PM ET on Sunday. After selecting "preferred language," select option 3 for foundation brake products and refer to Program number C15XX.

Once the repairs have been completed, call the Meritor OnTrac™ Customer Call Center with the following information. You may contact the Meritor OnTrac™ Customer Call Center if you have any questions on the above or repair procedures.

- Vehicle repair date
- Vehicle mileage at the time of the repair
- Repair facility work order number
- Total labor hours required to perform the repairs
- Axle serial number
- Confirmation that the original chamber removed from the axle has been disabled and is not reusable.



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