

PIERCE MANUFACTURING INC.®

AN OSHKOSH CORPORATION® COMPANY



08V-598
(8 Pages)

November 10, 2008

George Person (NVS-215)
Chief of Recall Management
National Highway Traffic Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington DC 20590

Recall: 08V-xxx EX225 Brake Caliper/Firemaax Suspension Interference

Dear Mr. Person:

Pierce has decided that a defect exists in ArvinMeritor EX225 rear disc brakes with Hendrickson Firemaax suspensions used in certain Pierce custom chassis. We therefore furnish notification of the defect to the National Highway Traffic Safety Administration, in accordance with 49 CFR Part 573, *Defect and Noncompliance Reports*.

Manufacturer's Identification Code: 39-0139830

1. Name of Manufacturer and Corporate contact:

Pierce Manufacturing Inc.
Roger Lackore, Director of Research and Development
Phone: 920 832-3249
FAX: 920 832-3092
E-Mail: rlackore@piercemfg.com

2. Identification of Vehicle Classification:

Make:	Pierce
Model Years:	2007 and 2008
Models:	Dash, Enforcer, Impel, Quantum & Velocity
Production Date Beginning:	All models 04/17/2007
Production Date Ending:	All Models 04/25/2008

3. Number of Potentially Affected Vehicles: 15

4. Estimated Percentage of Vehicles Containing the Defect or Noncompliance: 75%

5. Description of the defect or non-compliance:

Interference with the ArvinMeritor EX225 brake caliper adjuster bolt sleeve and the Firemaax suspension beam may occur. This interference may occur if the RH and LH brake components were assembled on the wrong side of the axle. The adjuster bolt is designed to rotate as the brake pads wear. If the sleeve becomes damaged, the sleeve may prevent the adjuster from rotating. If the adjuster can not rotate, brake performance may be compromised and an accident may occur.

If stopping distance or brake performance problems are noticed, inspect the brake caliper assembly. If the adjuster bolt sleeve is damaged, take the vehicle out of service and repair the brake caliper assembly.

6. Chronology of Principal Events:

Customer observed brake caliper adjuster bolt sleeve damage.

June 2008 ArvinMeritor released Technical Bulletin to inspect adjuster bolt sleeve and reconfigure brake calipers if necessary.

November 10, 2008 87% of Pierce apparatus have been inspected and repaired. Three remaining apparatus inspections are in process.

7. Test Results or Data on which the Noncompliance was Determined:

Customer observation.

8. Corrective Action:

ArvinMeritor released Technical Bulletin TP-0884 in June 2008. Customers were instructed to contact the ArvinMeritor OnTrac Customer Service Center. The bulletin describes the adjuster bolt sleeve inspection process. All vehicle inspections and remedies have been verified by Pierce Customer service as either completed or in process.

9. Representative Notices:

All Pierce customers have been notified by ArvinMeritor. Contact: Gordon Hall, Service Manager, Specialty Products 248-435-2704

Sincerely,
Pierce Manufacturing, Inc



Roger Lackore, P.E.
Director of Research and Development

MERITOR WABCO

Technical Bulletin

Caliper Adjusting Bolt Inspection and Caliper Reconfiguration — EX225 Air Disc Calipers

**Air Disc Caliper Models EX225H201XX000
and EX225H202XX000 When Used with the
Hendrickson Firemax Suspension**

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.

⚠ 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 and Service Information

Refer to Maintenance Manual MM-0467, DiscPlus™ EX225 Air Disc Brake. To obtain this publication, visit Literature on Demand at arvinmeritor.com.

If you require technical assistance, contact our Customer Service Center at 800-535-5560. Technical publications for all Meritor WABCO products are available on our website:

www.meritorwabco.com

Introduction

Some EX225 air disc brake calipers may have been installed with an incorrect orientation onto axles equipped with Hendrickson Firemax suspensions. On these installations, contact can occur between the suspension beam and the brake assembly, resulting in damage to the brake assembly.

It is necessary to inspect the EX225 brakes configured with Hendrickson Firemax suspensions to determine their orientation and if damage has occurred. If necessary, follow the service procedures in this technical bulletin to return the brake to correct operating condition.

Call the ArvinMeritor OnTrac Customer Service Center Before Starting the Inspection Procedures

Contact ArvinMeritor's OnTrac Customer Service Center for authorization to proceed with the inspection and caliper reconfiguration at a qualified repair station. If you cannot locate a qualified repair station, OnTrac will work with you and the local ArvinMeritor district manager to find a repair facility for you. In some circumstances, ArvinMeritor may authorize an end user or other repair facility to conduct the inspection and caliper reconfiguration.

You may contact ArvinMeritor's OnTrac Customer Service Center at 866-668-7221 (US and Canada) between 8:00 AM and 8:00 PM ET Monday through Friday, and between 9:00 AM and 6:00 PM ET on Saturday. After selecting "preferred language," select option 3 for wheel ends and braking systems and refer to Program number R8AJ.

The OnTrac Customer Service 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 ArvinMeritor's Program number: R8AJ
- Complete 17-digit vehicle identification number (VIN)
- Vehicle owner's name, address and telephone number
- Vehicle in-service date

- Repair facility's name, address and telephone number
- Repair facility's hourly rate

Labor Time Allowances

Table A: Labor Time Allowances

Description	SRT
Inspection time	1/4 hour per axle wheel end
Repair time if required	2.0 hours per axle wheel end
Protective Cap	1/4 hour per wheel-end caliper

Replacement Parts

Part Number	Description	Quantity per Axle
EX225H201XX000	Right-Hand Caliper*	1 (if required)
EX225H202XX000	Left-Hand Caliper*	1 (if required)
68322655	Protective Cap	2 (if required, 1 per caliper)
*When used with Hendrickson Firemax suspension.		

Replacement parts will be made available after contacting the OnTrac Customer Service Center.

During the call, the Customer Service Center Representative will place an order for the required replacement parts and have them shipped directly to the repair facility.

OnTrac will require a tracking number for any caliper(s) removed due to improper handling configuration or damage before the warranty claim is approved.

OnTrac will schedule a LPS pickup of the caliper(s) after the part is removed. Parts will be returned to ArvinMeritor, 849 Whitaker Road, Plainsfield, IN 46168.

Write the OnTrac case number on the box and include a copy of the OnTrac case notes in the box with the parts.

Required Tools

- Appropriate Capacity Jack Stand
- Appropriate Capacity Jack
- Appropriate Caliper Lifting Device

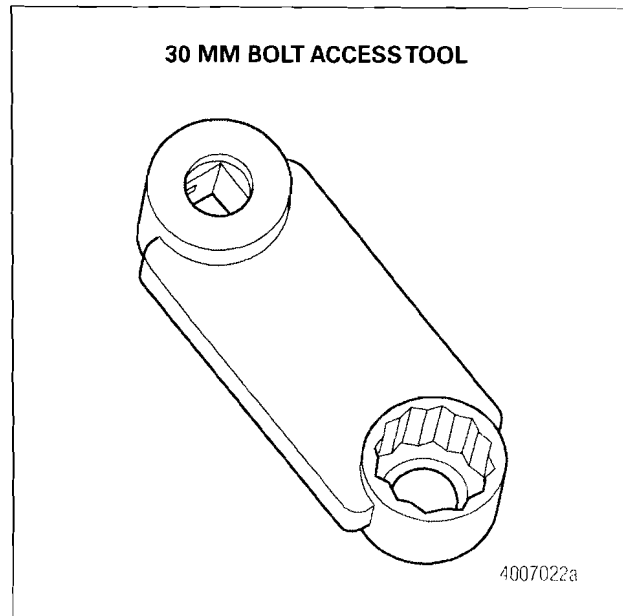


Figure 1

NOTE: When you use this extension tool, you must refer to the torque wrench setting conversion information in Table B to achieve the correct bolt torque.

- 30 mm Bolt Access Tool — Available through ArvinMeritor. Figure 1.
- Air Tools
- Hand Tools
- 1-1/2-inch Lug Nut Socket
- Torque Wrench up to 150 ft-lb
- Torque Wrench up to 450 ft-lb
- 10 mm Socket Wrench
- Maintenance Manual MM-0467, EX225 Air Disc Brakes

Minimum Suspension Configuration Requirements

Minimum suspension configuration requirements must be met prior to beginning the inspection portion of this manual.

If the following requirements are not met, contact the vehicle manufacturer.

ArvinMeritor requires the following suspension configuration.

- Total suspension travel is less than or equal to 6 inches.
- Top of the axle housing to the center of the upper torque arm bolt is 3.626 inches.
 - A distance of 2.625 inches from the axle housing to the center of the upper torque arm bolt is incorrect. Figure 2.

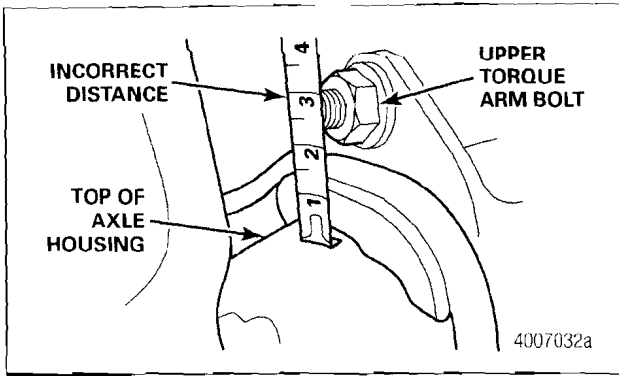


Figure 2

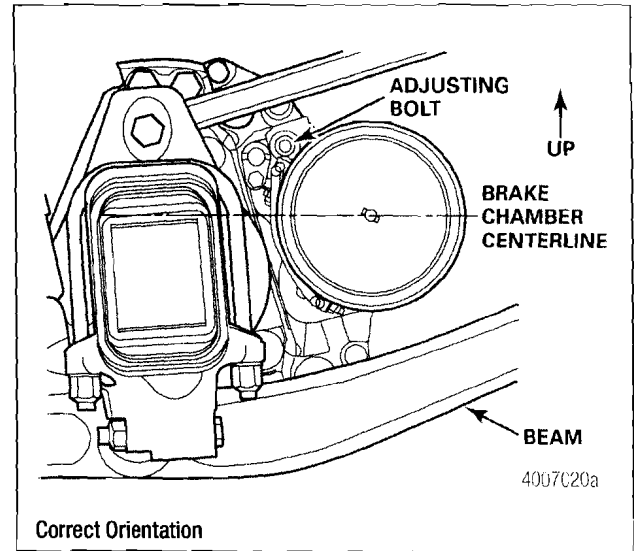
- Frame width is 34 inches.

Inspection Procedures

The purpose of this inspection procedure is to verify that the configuration of the left and right calipers of the air disc brake when used with the Hendrickson Firemax suspension is correct. If the adjusting bolt is above the brake chamber centerline, the configuration is correct. If the calipers are incorrectly configured, it is necessary to determine whether the caliper is damaged and must be replaced.

NOTE: The adjusting bolt must be above the brake chamber center line.

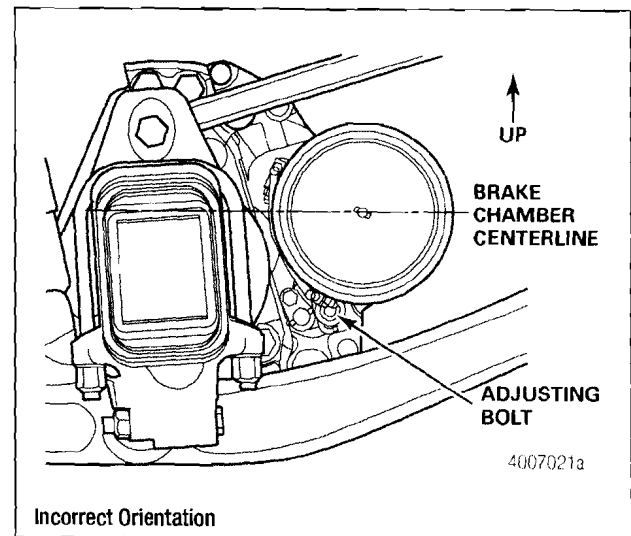
1. Wear safe eye protection.
2. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
3. Inspect the adjusting bolt location relative to the spring brake chamber.
4. If the adjusting bolt is above the brake chamber centerline, the orientation is correct. Check the brake for damage according to Steps 6-7. If no damage exists, no further action is required for this caliper wheel end. Figure 3.



Correct Orientation

Figure 3

5. If the adjusting bolt is undamaged (Steps 6 and 7) and below the brake chamber centerline, remove the caliper and move it to the other side of the axle so that the adjusting bolt is above the centerline. Figure 4.



Incorrect Orientation

Figure 4

6. Inspect the adjusting bolt and sleeves for damage and for the presence of the protective rubber cap. Figure 5.

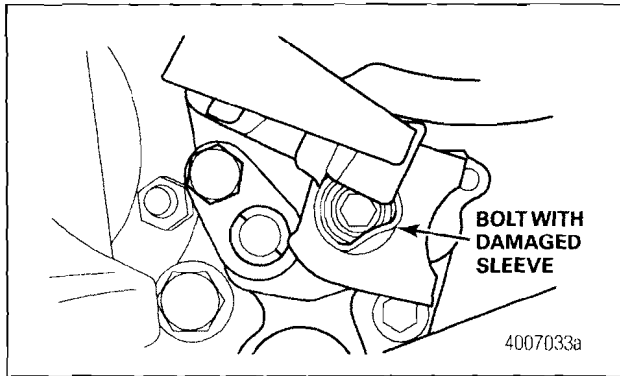


Figure 5

7. If the adjusting bolt or sleeves are damaged, replace the caliper. See Remove the Caliper Assembly in this bulletin. Figure 5.
8. If the caliper is not damaged and the cap is missing, replace the cap.

Remove the Caliper Assembly

⚠ WARNING

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.

NOTE: If a caliper is incorrectly configured and not damaged, you can install it onto the opposite wheel end if needed. If a caliper is damaged, replace the caliper.

1. Wear safe eye protection.
2. 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.
3. Remove the tire and wheel assembly following the manufacturer's instructions.
4. Cage the brake chambers following the instructions in maintenance manual MM-0467.
5. Remove the air hoses from the air chamber. Remove the air chamber nuts and washers.
6. Remove and inspect the air chamber assembly. For Meritor air chambers, refer to MM-0467. For non-Meritor air chambers, refer to the manufacturer's instructions.

7. Cover the exposed air chamber mounting aperture with tape to prevent debris from entering the caliper housing assembly. Figure 6.

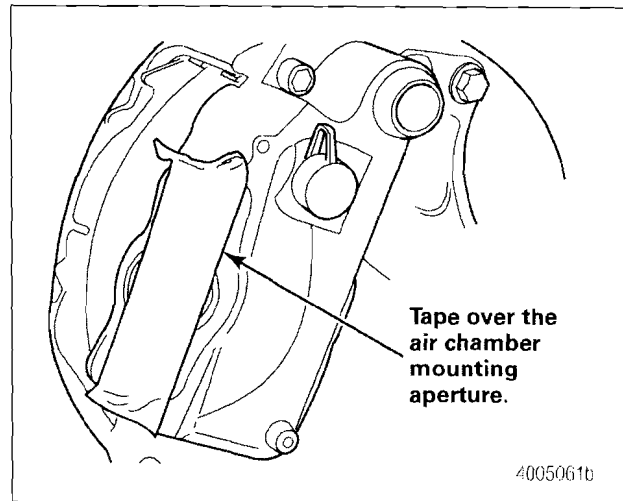


Figure 6

8. Deadadjust the caliper and remove the brake pads.
9. Inspect the brake pads for wear as per MM-0467. If acceptable, set the pads aside to be reinstalled.

NOTE: Install the brake pads in the same position on the same wheel-end rotor from which they were removed.
10. Using the 30 mm bolt access tool (Figure 1), remove the carrier bolts and washers.

NOTE: The 30 mm bolt access tool can be obtained by contacting ArvinMeritor's OnTrac Customer Service Center at 866-668-7221 (US and Canada) between 8:00 AM and 8:00 PM ET Monday through Friday, and between 9:00 AM and 6:00 PM ET on Saturday. After selecting "preferred language," select "Option 1," then "Option 2," and refer to Program number R8AJ.
11. Carefully remove the caliper assembly from the axle using the appropriate lifting device.

Install the Caliper Assembly

⚠ WARNING

To avoid serious personal injury and damage to components, take care when using lifting devices during service and maintenance procedures. Inspect a lifting strap to ensure that it is not damaged. Do not subject the lifting straps to shocks or drop-loading.

NOTE: Before installing the caliper, ensure the configuration is correct. See Inspection Procedures in this bulletin.

NOTE: If changing a caliper from one side of the vehicle to the other, ensure that there is no damage to the adjusting bolt and sleeve. See Inspection Procedures in this bulletin.

NOTE: The correct orientation of a caliper assembly for the Hendrickson Firemax suspension puts the adjusting bolt above the brake chamber centerline on either end of the axle. Figure 7 and Figure 8.

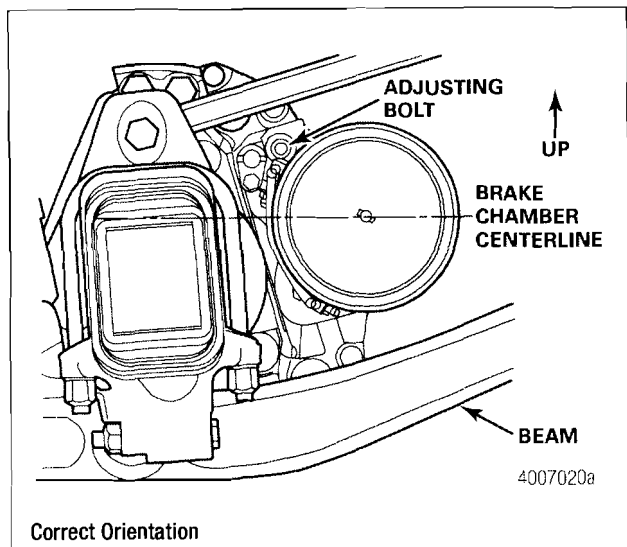


Figure 7

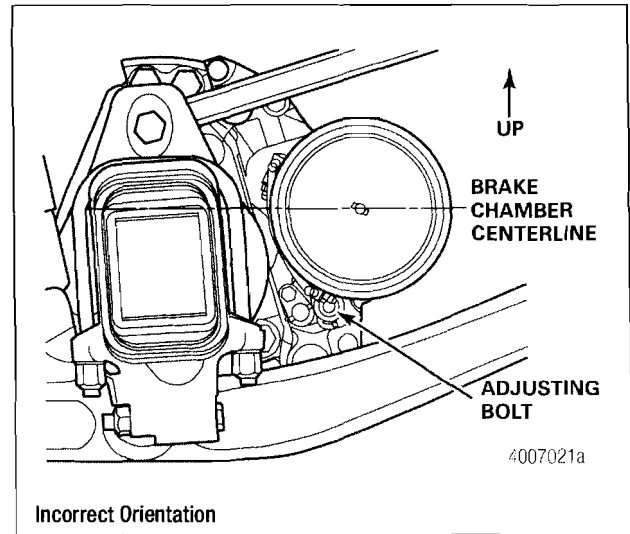


Figure 8

1. Wear safe eye protection.
2. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
3. Using an appropriate lifting device, place the caliper assembly over the rotor.
4. Align the caliper carrier bolt holes. Assemble the caliper to the torque plate using the carrier bolts and washers. Using a torque wrench and the 30 mm bolt access tool, tighten the carrier bolts to the correct torque. The 30 mm bolt access tool and the torque wrench must align along the same center line. Table B. ⓘ

The table shows the torque wrench settings required when using the 30 mm bolt access tool with various lengths of torque wrench in order to achieve 450 ft-lb of bolt torque.

Table B: Torque Wrench Setting Conversions When Using the Access Tool

Torque Wrench Length (in feet)	Torque Wrench Dial Setting (Ft-Lb)	Bolt Torque/ Output Torque
5	422	450 ft-lb
4	416	
3	405	
2	386	

5. Ensure that the caliper assembly slides easily by hand.
6. Ensure that the perforated transit plug is removed from the caliper chamber seal by pulling the tab. Figure 9 and Figure 10.

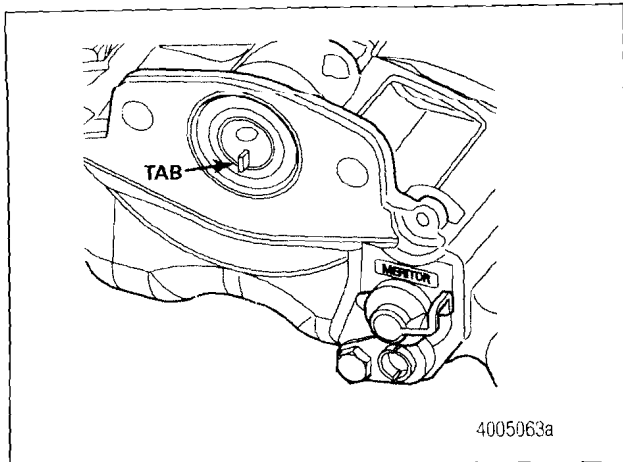


Figure 9

9. Install the tire and wheel assembly according to the manufacturer's instructions.
10. Return the vehicle to service.

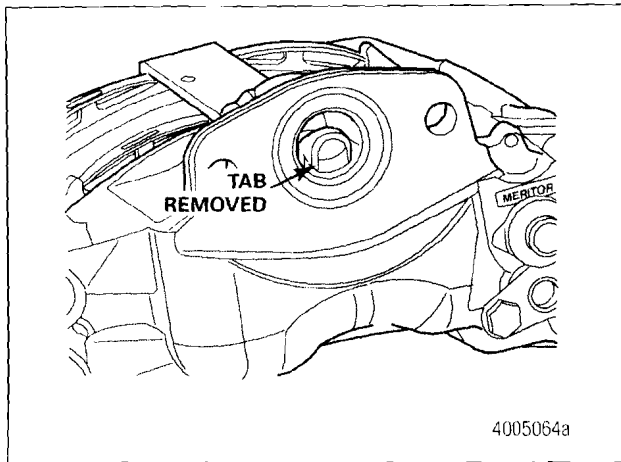


Figure 10

7. Install the air chamber onto the caliper. For Meritor WABCO chambers, refer to MM-0467. For non-Meritor WABCO chambers, refer to the manufacturer's instructions.

NOTE: If reusing original brake pads, install onto the same wheel-end rotor from which they were removed. Install them in the same location from which they were removed.

8. Install new brake pads if required, and set the initial brake pad-to-rotor clearance. Refer to MM-0467.

MERITOR WABCO

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