

ATTENTION: Fleets, Community College and Technical School Air Brake Service Instructors

S-Cam Brake Bias

A POTENTIAL BRAKE FAILURE WAITING TO HAPPEN !

S-Cam Brake Bias can result in:

- Brake Noise and Vibration
- Automatic Brake Adjuster Over Adjustment
- Brake Lining Overheating (wheel *FIRES*)
- Brake Lining Deterioration (break-down)
- Uneven Brake Lining Wear
- Reduced Service & Spring Brake Performance
- Potential Due Diligence and Liability

Q: Do your heavy duty vehicle service students or fleet service technicians understand the issues of brake bias?

Q: Are they aware of the impact that brake bias can have on s-cam brake performance and service life?

Q: Do they have the knowledge necessary to identify and effectively compensate for brake bias?

A: If the answer to any, or all, of these questions is **NO**, read on.....

What is S-Cam Brake Bias?

Brake bias is a fairly common s-cam brake issue. Although more common to trailer axles, it can also occur on truck, bus and tractor drive and steer axles. Brake Bias is caused by the misalignment of the stationary wheel brake components and the actual center of rotation of the brake drum and wheel. The resulting off-center position of the internal brake components results in uneven brake application.

Brake bias usually goes undiagnosed, either as a result of the servicing technician not being aware of the potential problems that brake bias can create or simply not knowing how to identify and correct the condition. In either case, the results can include any or all of the issues listed above.

AIR BRAKE Interactive E-Board S-Cam Brake Bias Edition is a comprehensive teaching resource developed specifically for technical school and fleet air brake service instructors. This program consists of a comprehensive "Instructor's Reference and Presentation Guide" supported by a state-of-the-art multimedia presentation. It is designed to provide service technicians with the knowledge and skills necessary to identify and correct s-cam brake bias.

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Comprehensive Training is the Cornerstone of Due Diligence.

Due Diligence is the Foundation of Effective Risk Management.

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AIR BRAKE Interactive E-Board S-Cam Brake Bias Edition is the most comprehensive teaching resource ever developed on the subject of S-Cam Brake Bias. Although brake bias is more commonly associated with trailer brakes, it also occurs frequently on truck, tractor and bus drive and steer axles. The following is a summary of the program's content. *Contact us to arrange for a live, on-line demonstration:*

Introduction - A Brake Bias Scenario

Presents a typical brake service scenario where brake bias is overlooked and identifies the potential effects on brake performance, durability and vehicle safety.

Precision S-Cam Brake

Illustrates in a detailed animation the components and assembly of a perfect s-cam brake.

Typical S-Cam Brake

Identifies the manufacturing materials and processes used to produce axles and s-cam brake components, and how inaccuracies in the manufacturing process can combine to create brake bias.

What is Brake Bias?

Identifies in detail what brake bias is, where it occurs and how it can influence brake performance, service life and safety.

What Can Cause Brake Bias?

Identifies the variables in each axle and the S-cam brake components that can contribute to brake bias.

Brake Linings

Identifies and discusses brake lining crowning, coining and initial growth.

Normal Brake Application

Illustrates in animation the function of a non-biased s-cam brake and points out the factors associated with proper brake performance.

Brake Bias Scenarios

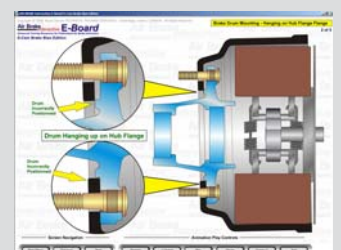
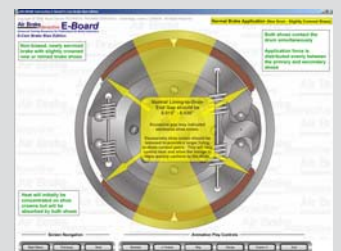
Illustrates in animation cam bias, anchor bias, primary shoe bias, secondary shoe bias and combination bias and identifies the subsequent issues related to s-cam brake performance and service life.

Identifying Brake Bias

Illustrates brake lining wear patterns that indicate brake bias, and details the procedure for measuring brake bias as part of a brake shoe and drum replacement procedure.

Other Potential Factors

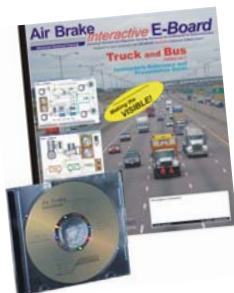
Identifies a common but dangerous procedure often used in attempting to overcome brake noise and/or other brake performance issues. Discusses and illustrates the importance of proper brake drum mounting and discusses how brake bias can cause some automatic brake adjusters to over-adjust.



Other AIR BRAKE Interactive Teaching Resource Programs:



AIR BRAKE Interactive Classroom Edition, Level 1
 (Entry & Intermediate Level Service Technician Training)



AIR BRAKE Interactive E-Board Truck and Bus Edition (Advanced Learning & Diagnostics)



AIR BRAKE Interactive E-Board Tractor-Trailer Edition (Advanced Learning & Diagnostics)



AIR BRAKE Interactive E-Board S-Cam Brake Bias Edition (Foundation Brake Diagnostics)



AIR BRAKE Interactive General Driver Education Edition (Driver Training)