

## The Case for Electronic Brake Monitoring and Air Disc Brakes

Air disc brakes (ADB) are becoming more and more prevalent in the heavy duty commercial vehicle market. Virtually all public transit buses and over-the-road motor coaches are now being built with an ADB platform. In addition, approximately 15% of over-the-road trailers and 30% of over-the-road tractors are being built with an ADB platform, with those percentages increasing quite swiftly. As those that are familiar with ADB already know, there are quite a few advantages to ADB over traditional S-Cam (Drum Brake) platforms. ADB is more efficient than S-Cam with stopping distances being shorter allowing federal regulations pertaining to these distances being able to be achieved easier.

There are fewer parts involved with ADB than there is with S-Cam, such as the S-Cam itself, S-Cam bushings, brake shoe rollers, springs and anchor pins/bushings. Over-stroke conditions that can be common with S-Cam brakes are rarely an issue with ADB because of the clamping nature of the brake pads to the rotor instead of brake shoes trying to apply to a hot and often expanding brake drum. Also, the labor time involved in doing a brake job on an ADB equipped vehicle typically takes a fraction of the time it takes to reline a vehicle equipped with S-Cam brakes which is obviously of great value in saving money on labor.

With all the positives of ADB over S-Cam, the main negative is the lack of ability to visually inspect the condition of the brakes. Unlike S-Cam brakes, where everything is open and easy to see, an ADB is virtually impossible to visually inspect due to everything being enclosed inside the caliper. This presents a challenge to the fleet vehicle maintenance staff, vehicle operators doing pre-trip inspections and DOT enforcement personnel. Everyone wants safe vehicles on the road and not knowing exactly what the condition of the air brake system is on a heavy duty commercial vehicle is unsettling to most.

This is where “The Case for EBMS for ADB” can be made. A comprehensive EBMS, such as MGM Brakes e•STROKE®, can inform you of the condition of the air brake system. e•STROKE® will detect numerous unsafe braking conditions and send the fault information to the systems ECU (electronic control unit) via the vehicles J1939 network. This information can be retrieved with the system software loaded onto the repair shops laptops and/or with the e•STROKE® EDT, portable handheld diagnostic tool. Fault conditions can also be viewed over the vehicle AVM (Automated Vehicle Monitoring) system, if equipped. e•STROKE® utilizes the vehicle speed, brake application pressure and the actuators piston rod travel measurement to determine the condition of the brake system.



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The fault conditions e•STROKE® is able to detect include:

- Non-Functioning Brake Actuators
- Over-stroke (Out-of-Adjustment) conditions
- Brake Drag (Air & Mechanical/caliper)
- Low Pad Clearance (Brake Pad to Rotor)
- Pneumatic vs. Mechanical faults

e•STROKE® is also self-diagnosing and will detect system sensor and pressure transducer faults along with communication errors over the J1939 network. e•STROKE® is a great safety tool, as it will alert to conditions before they become potentially unsafe. The system is wheel end specific fault reporting so it makes a great maintenance tool also, as it allows vehicle maintenance personnel to go directly to the issue instead of spending countless troubleshooting hours trying to find the problem. MGM Brakes e•STROKE® can be installed very easily during production of the vehicle and is available as an OEM option from many vehicle manufactures, especially in the bus and coach market. It can also be retrofitted to existing vehicles.

Please contact your MGM Brakes Sales representative for further information about e•STROKE®. You can find the representative for your area by visiting [mgmbrakes.com](http://mgmbrakes.com) or by calling customer service @ 800-527-1534 X6021.