

What is an Electronic Brake Monitoring System (EBMS) and is it right for your fleet?

We all know how technology has taken over in our own personal vehicles. With anti-lock braking (ABS), lane departure, collision avoidance and adaptive cruise control systems, just to name a few. It is the same with heavy duty commercial vehicles utilizing air brake systems, with many of the same features included as well. All this technology is a good thing in many ways, but in order for all these features to work properly, and the way they were designed, we need to be assured the foundation brakes of the vehicle are also working properly (see the safety technology pyramid in fig. 1).

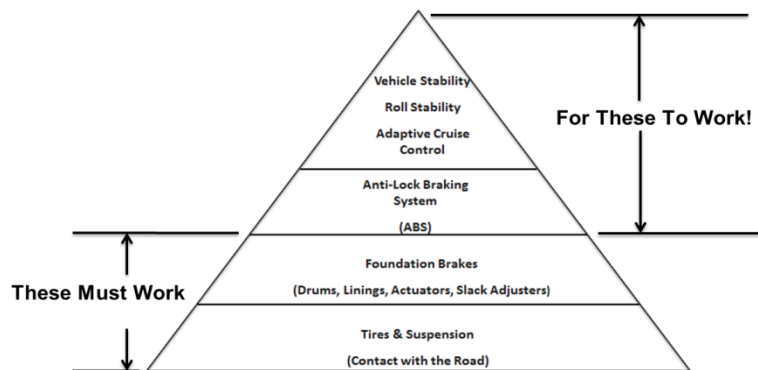


Fig. 1

This is where an EBMS comes in.

MGM Brakes e•STROKE[®] is a comprehensive EBMS. This system utilizes vehicles speed, brake application pressure and the brake actuators piston-rod travel measurement to determine the condition of the air brake system. With the information provided by these inputs (brake application pressure & vehicle speed) and the output of actuator piston-rod travel, e•STROKE[®] is able to detect the following typical air brake system problems:

- Non Functioning Brake Actuators
- Brake over stroke (out of adjustment)
- Dragging brakes (air & mechanical drag)
- Low pad to rotor clearance (air disc brakes)
- Mechanical vs. Pneumatic issues



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CDL requirements and government mandates dictate fleet owners and/or operators conduct pre-trip inspections of the vehicles before daily operation. (CFR392.7)

https://www.govregs.com/regulations/expand/title49_chapterIII_part392_subpartA_section392.7

While this is good in theory, the reality is, these inspections are rarely done due to the labor involved. A proper inspection requires physically crawling under the vehicle and takes two people to be done correctly. Air disc brakes (ADB), while having multiple advantages and being very efficient, present another inspection problem all together, as ADB is virtually impossible to visually inspect due to everything being enclosed inside the caliper. The latest results from surprise roadside brake inspections (May 2019) conducted by the CVSA placed over 1,600 vehicles out-of-service from 10,368 inspected. This is a 16% rate of vehicles being shut down due to critical brake related issues. Obviously, no fleet owner or operator wants their vehicle(s) to be part of this statistic. If these vehicles had been equipped with a comprehensive EBMS, such as MGM Brakes e•STROKE[®], these issues would have been detected before a ticket was issued, saving money and downtime at the very least, and potentially saving lives.

With some ADB systems, brake pad wear sensors are available; this should not be confused with a comprehensive EBMS that is looking for non-functioning actuators, over-stroke brakes, brake drag and low pad to rotor clearance, these sensors are just looking at the wear of the friction material itself. An EBMS is a very valuable tool. It would serve as a safety system, as it will detect issues before they can become a potential safety hazard and also serves as a troubleshooting tool. Virtually every operator, when writing up brakes issues, tend to be very vague as they are not sure what's going on with their brakes, they just know something is not right. As a result, a tremendous amount of time is being spent trying to track down the problem. MGM Brakes e•STROKE[®] is a wheel end specific reporting EBMS, so once the technician has retrieved the data via an AVM (Automated Vehicle Monitoring) system broadcast over the vehicles J1939 network or the e•STROKE[®] laptop software program, they not only know what the issue is, but also know which wheel end has the issue. This saves countless troubleshooting hours. It is very simple to incorporate retrieving brake data into a fleet's already existing PM program.



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In summary, with the advanced technology virtually every commercial air brake vehicle contains today, an EBMS such as e•STROKE[®] makes sense to help stay on top of the very large investment these vehicles represent.

For more information on MGM Brakes e•STROKE[®], please contact a MGM Brakes representative. You can find the MGM Brakes representative for your area along with a wealth of additional information at www.mgmbrakes.com

For more information on CVSA roadside brake checks please visit <https://www.cvsa.org/>