

- Electronic module is configurable for any combination of brake stroke measurement and lining wear detection.
- Brake stroke measurement and/or lining wear measurement on up to 4 axles (8 wheel ends).
- SAE J-1708 and J-1939 compliant. System fully supports both vehicle network configurations.
- System records and stores fault history for retrieval/analysis.
- System monitors and transmits driver brake application pressure.
- Enhanced diagnostic capability. Optional J-1708/J-1939 intelligent display/diagnostic tool and laptop diagnostic program available.

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## e•S3™ THE NEXT GENERATION



## IN BRAKE MONITORING



## STILL GOING STRONG...

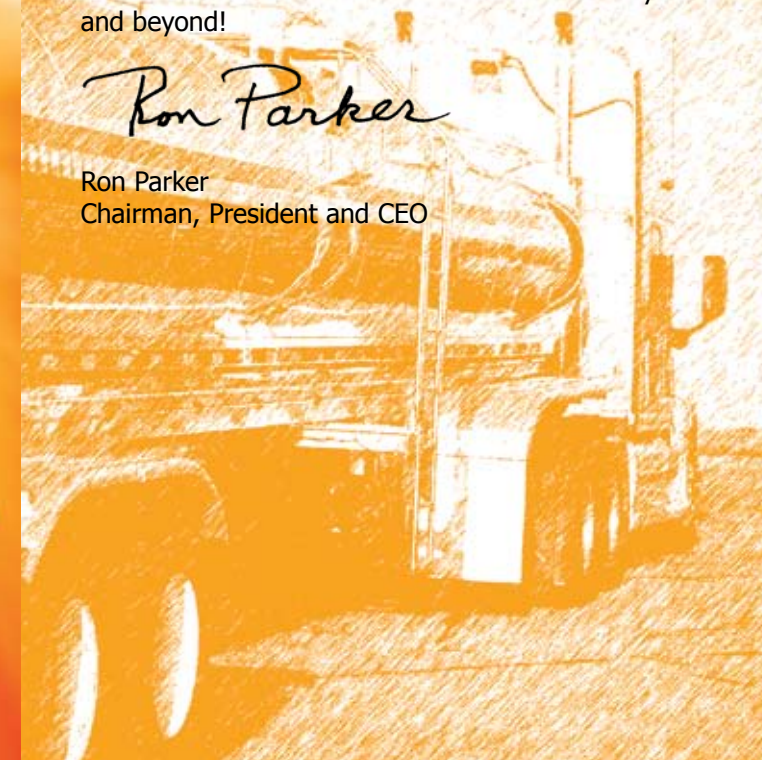
Since 1956 when the founders of MGM Brakes invented the spring brake actuator, we have taken our role as a leading world-wide supplier to the commercial vehicle industry very seriously. From our humble beginnings over 50 years ago when MGM Brakes addressed the safety challenge of the logging industry in the Pacific northwest, we have earned the reputation as the industry leader in continuous improvement and innovative, cutting edge actuator products in the commercial vehicle industry. From a simple parking brake in 1956 to Tamper Resistant (TR) spring brakes of the 1980's, we moved into the new millennium with the introduction of MGM Brakes e•STROKE®, electronic brake monitoring system.

The founders of MGM Brakes set a high standard of quality, innovation and safety over 50 years ago - a philosophy that is woven into the fabric of MGM Brakes. As you learn more about the addition of e•STROKE® to our family of brakes, you will see we are keeping our founders' commitment to our customers and the commercial vehicle industry as we embark on another 50.

Thanks for your continued support for over 50 years. It's been a great ride and we invite you to come along for a SAFE ride with MGM Brakes for the next 50 years and beyond!



Ron Parker  
Chairman, President and CEO



# TAKING BRAKE SAFETY TO THE NEXT LEVEL



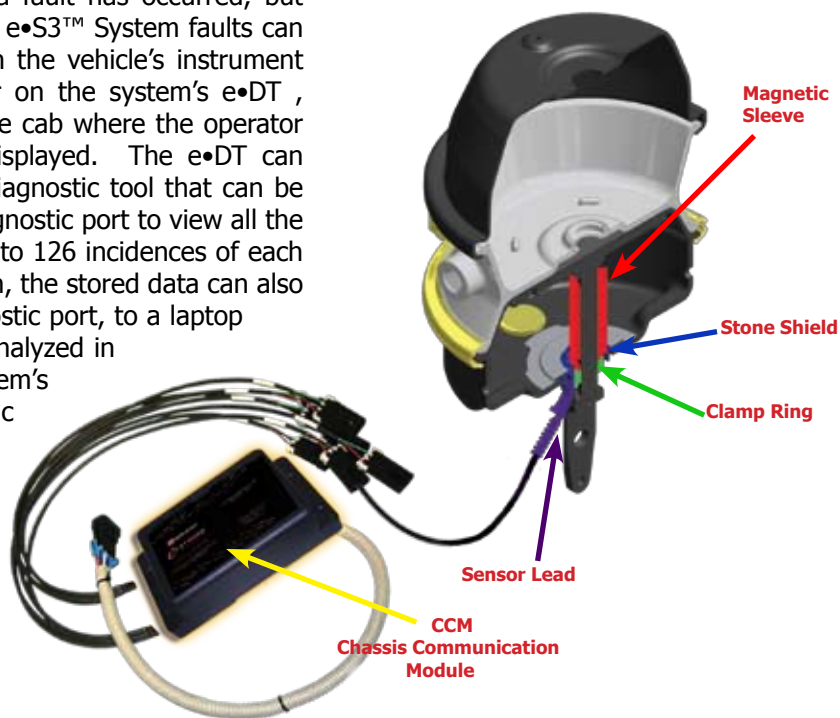
The next generation of MGM Brakes e•STROKE® System technology, e•S3™, provides the same quick, accurate brake stroke status reading for any air-braked vehicle with exposed push rod brake chambers as did the earlier systems, but with more capabilities for collecting and disseminating the information; which now includes brake lining wear.

Earlier systems utilized LED blink codes on the Chassis Communication Module (CCM) - to transmit brake related faults: i.e. non-functioning, over-stroking and dragging brake; to the operator or service technician. While these "blink codes" provided the information needed to pinpoint the problem, that information was not always readily available to the driver, or technician, as the CCM was usually mounted outside the cab, requiring the user to exit the vehicle to read the codes.

As with previous systems, a dash mounted "warning light" notifies the operator a fault has occurred, but unlike those earlier systems, e•S3™ System faults can be displayed, via J-1939, on the vehicle's instrument cluster: if OEM installed; or on the system's e•DT, which can be mounted in the cab where the operator can see the fault clearly displayed. The e•DT can also serve as a hand-held diagnostic tool that can be connected to the vehicle diagnostic port to view all the data stored in the CCM: (up to 126 incidences of each fault, per wheel). In addition, the stored data can also be downloaded, via a diagnostic port, to a laptop computer, where it can be analyzed in detail, enhancing the system's usefulness as a prognostic and/or diagnostic tool. Now, because e•S3™ tracks brake application pressure with every actuation, over-stroke faults can be analyzed in terms of brake pressure applied; an intermittent

dragging brake can be identified and addressed before it becomes a more serious and costly problem: and, because e•S3™ is compatible with most lining wear sensors, lining wear issues can be identified, thus reducing component wear while prolonging the intervals between relining.

The e•STROKE® System's ease-of-use promotes operational safety – always a serious concern of fleet maintenance personnel. As one fleet manager noted: "making certain that proper (brake) inspections happen every time has a \$\$\$\$ value with a quick pay out in safety and assurance that our equipment is operating as safely as possible on the public roadways". He went on to say that since 2004, when they began installing the e•STROKE® Systems, they have "not had a single OOS (Out-of-Service) violation on any of the 275 units (equipped) with the MGM e•STROKE® System".



The newest addition to the e•STROKE® system, a diagnostic tool for buses and trucks which displays faults stored in the ccm via J-1708/J-1939, such as:

- Non-Functioning Brake
- Over Stroke
- Dragging Brake
- Brake Lining Wear Warning



Data stored in the CCM can be viewed several ways: on the heads-up display in the vehicles instrument cluster, via the e•DT by connecting to the vehicle's diagnostic port, on a laptop computer connected to the vehicle's diagnostic port or directly to the CCM or though blink codes on the e•STROKE® warning light mounted in the instrument cluster.

### Vehicle instrument cluster:

