

MGM has designed and developed e•STROKE®, an electronic brake monitoring system for commercial vehicles. This system utilizes patented sensing technology to monitor brake stroke and convey this information to an electronic control unit (ECU) for analysis. This system can be utilized to assist in brake inspections, as well as provide continuous real-time brake monitoring on most air brake equipped vehicle.

The e•STROKE® system can detect the following braking issues or potential problems:

Improper automatic slack adjuster operation or maintenance

Caliper internal adjuster mechanism failure (disc brakes)

Improper brake set-up or adjustment

Air leaks or an improperly operating air system

- Faulty or damaged air brake control valves
- Worn foundation components (i.e. worn bushings etc.)

Inoperative or worn spring parking brakes

Environmental (operating) conditions contributing to an inoperative brake system

Irregular braking due to on-set of corrosion



Electronic Brake Monitoring

No matter what type of brakes your commercial vehicle utilizes, drum or air disc...

> We have an electronic brake monitoring system to fit your needs!



Owned

FORM 5091-INT

Brake Monitoring Systems for Drum and Air Disc Brakes

As an improperly functioning brake system may result in a serious accident, MGM has developed an electronic brake monitoring system for both disc and drum brakes. The patented e•STROKE[®] system constantly monitors the position of the brake actuator pushrod at each wheel-end. The system also reads the pressure from the driver's brake pedal as well as the vehicle's speed from the SAE J1939 network. As a result, e•STROKE[®] can detect brake faults like:

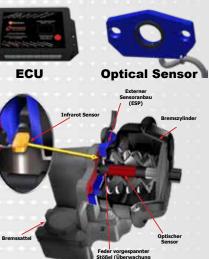
- Non Functioning Brake: brake actuator is not properly activating
- Dragging Brake: brake actuator is not properly returning and is stuck in advanced position
- · Over-Stroke Brake: brake actuator is beyond its normal safe operating range
- · Caliper Running Clearance Adjustment: when adjustment runs below specifications

Whenever a fault is detected, the system logs this occurrence into the Electronic Control Unit (ECU). As e•STROKE[®] is fully J1939 compliant, it transmits the fault information in real-time over the vehicle's J1939 network.

The air disc version of e•STROKE[®] adds the ability to monitor the caliper's internal components. This is an extra benefit, as air disc brakes are virtually impossible to visually inspect, as all components are tightly sealed. The e•STROKE[®] system acts as your eyes & ears for your vehicle's braking system.



Disc Brake System



Diagnostics

MGM's e•STROKE[®] systems instantly identify, display, and record brake system faults upon occurrence. Brake fault history is easily accessible to maintenance pre and post trip using optional methods to retrieve stored codes from the ECU.

- Laptop diagnostic software: A laptop diagnostic software package can be used to view system status, and retrieve active and inactive faults.
- J1939 Diagnostic Tool (e•DT): A separate e•STROKE[®] handheld diagnostic tool can be used to view system status, retrieve active and inactive faults, and monitor brake application pressure in real time. The e-DT can also be mounted in the vehicle for onboard access to the e•STROKE[®] system.



Benefits

The benefits to you and your fleet by installing MGM Electronic Brake Monitoring include:

- Reduces maintenance costs by assisting the technician in quickly and accurately diagnosing brake problems before they become potentially hazardous and more costly.
- Reduces operating costs by keeping your vehicles in-service and on the road by potentially reducing down time and component costs.
- Provides peace of mind by knowing the status of your brake system at all times (liability concerns).
- Promotes better maintenance and safety practices, providing information used to keep your vehicles, drivers and passengers safe, with every stop.

If you feel MGM's Electronic Brake Monitoring Technology has benefit to you and your fleet, please contact your local MGM Sales Representative for more information. For a complete listing of our Sales Representatives go to our website, www.mgmbrakes.com.

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