

e-Stroke Gen1 & 2 Tractor & Trailer Driver's Guide

The MGM Brakes e-Stroke system is designed to allow a driver to easily check the vehicles brake system to ensure it is operating properly by indicating wheel specific brake faults. The system's Chassis Communication Module (CCM) displays the vehicle brake condition using color LED blink codes.



e-Stroke tractor and trailer systems are designed to operate both independently and together. An e-Stroke tractor system will display the tractor brake conditions on the tractor CCM. In addition an optional dash warning light may be installed on the dash of the vehicle, which will illuminate with an active brake fault on the tractor and up to three trailers.

When connected to a tractor equipped with e-Stroke, a trailer system will use the warning light in the tractor to alert the driver of an active trailer brake fault. It should be noted that the tractor CCM will not display trailer brake faults on the CCM, only through the dash warning light. If the tractor is not equipped with an e-Stroke system then the e.LINK (Trailer Bridge) device may be used as a warning light for up to three trailer systems.

Truck and Bus systems are designed to operate as stand alone systems. These CCMs do not communicate with Trailer systems or e.LINK devices.

To use the e.LINK device, simply plug it into the tractor cigarette lighter or power accessory socket, whichever allows the LED indicator to be easily seen from the driver's seat. The e.LINK device will display a Red / Green / off blink code during start up. Once operational the trailer bridge will illuminate a steady Green LED indicating that the trailer brakes have been checked and are OK. A Blinking Red LED indicates that the trailer brakes have a fault or the trailer parking brakes are applied. Verify that the trailer parking brakes are off and check the trailer CCM.



If the e.LINK LED remains off, this indicates no communication is present between the e.LINK device and the Trailer CCM or a Tractor e-Stroke System is present. The e.LINK device is designed to work only when a Tractor e-Stroke System is not present on the Tractor.

The e-Stroke CCMs and e.LINK device use multicolor LED lights (Green, Red, Orange) which will indicate the brake condition for each wheel when the following procedures are applied:

Stationary Vehicle Inspection

A **stationary** brake inspection may be conducted using e-Stroke by following this simple procedure:

- a) Chock wheels.
- b) Release parking brake.
- c) Start engine and build brake system air pressure to 100-110 psi.
- d) Verify that the CCMs **or** e.LINK device have completed the start up blink sequence and the status LED is Green. This start up period will finish within 1 minute.
- e) Apply and hold service brake foot pedal one time only to 90-100 psi for 2 seconds minimum, release foot pedal and wait **12** seconds minimum.
- f) Observe Tractor / Truck / Bus / Trailer CCM LED lights for:
 - System Status Fault
 - Brake Stroke Status Fault
- g) Observe e.LINK device LED for trailer brake condition, if applicable.

Notes:

- CCM Blink codes are held for 5 minutes after the first brake application.
- CCM Blink codes will be displayed in real time with additional brake applications.
- Brake stroke status codes are only valid when CCM System Status LED is Green.

e-Stroke Gen 1 & 2 Communication Flow Chart for Tractor & Trailer Applications

Tractor e-Stroke dash warning light illuminates with active Tractor or Trailer fault



Tractor CCM turns on dash warning light for Tractor or Trailer brake fault



Trailer CCM with brake fault sends warning to Tractor CCM or e.LINK



e.LINK LED blinks Red with active Trailer fault or Parking Brake application



e.LINK only operates when No Tractor e-Stroke System is present

e-Stroke Blink Code Definitions

CCM System Status LED

Solid Green – System Operating Properly

Blinking Red, Alternate Blinking Red / Green, Unlit – System Low Voltage

Blinking Orange – Pressure Transducer Fault

CCM Wheel Specific LEDs

Solid Green – Actuator Operating within Normal Stroke

Slow Red Blink – Dragging Brake

Rapid Red Blink – Over-stroke Fault

Alternate Blinking Red / Green – Non-Functioning Actuator

Blinking Orange (Long Short Long) – Sensor or Sensor Harness Fault

Green Blink or Unlit – See Trouble Shooting Guide

e.LINK LED

Solid Green – Trailer Brakes Operating within Normal Stroke

Blinking Red – Trailer Brakes have a Fault Condition or Parking Brakes are applied. Verify Parking Brakes are applied, Check Trailer CCM for Brake Condition

Orange – Re-insert device into Power Receptacle.

Red / Green / Off – Trailer Bridge Start-up Bulb Check

Off – Trailer Bridge is unable to communicate with the Trailer e-Stroke System.
(Device not working)

Important: Should the CCM LEDs indicate any brake faults, notify your maintenance personnel. Never attempt to make any repairs or adjustments yourself. A brake fault will reduce the Tractor / Trailers braking capability or cause damage to the brake system.