

# MGM Brakes

A Division of Indian Head Industries, Inc.

## TECHNICAL BULLETIN

**SUBJECT: EB 08-001 e-Stroke Technical Specification**

### e-Stroke System Specifications

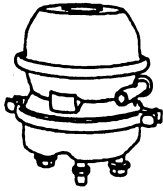
**System General Specifications: GEN 3 (Tractor / Truck / Bus), GEN 1 (Trailer)**

*CCM P/N Prefix: GEN 3 - 8291XXX, GEN 1 & 2 - 8290XXX,*

<b>Operating Temperature</b>	-40C to 80C
<b>Power Requirement</b>	9.5V DC to 30V DC Ignition Switched
<b>Maximum Current Draw</b>	1.5 amps
<b>System Fuse</b>	GEN 3: 5 amps, GEN 1 & 2: 10 amps
<b>Environmental Protection</b>	SAE J1455 Compliant
<b>Electrical Protection</b>	SAE J1455 and SAE J1113 Compliant

### System Component Specifications:

<b>Chassis Communications Module (CCM)</b>	<p>GEN 3 CCM:</p> <ul style="list-style-type: none"> <li>▪ STR750 Flash Micro Controller</li> <li>▪ FSK (PLC), JTAG, RS-232, J1708, J1939 interface support</li> <li>▪ Internal 10 bit A/D, external 12 bit A/D</li> <li>▪ Extended I/O support (Digital &amp; Analog)</li> <li>▪ RS-232 and J1939 firmware re-programmable</li> <li>▪ Configurable from 2 to 8 wheel ends</li> <li>▪ Truck, Tractor, Bus, Trailer configurations available</li> <li>▪ Diagnostic interface: RS-232, J1708, J1939</li> <li>▪ CCM Exterior Dimensions: Width: 7.39", Height: 4.32", Depth: 1.43"</li> <li>▪ CCM Mounting Options: (2) 1/4" Fasteners, Pre Applied Double Sided Tape</li> </ul> <p>GEN 1 Trailer approved for exterior mounting. GEN 3 approved for interior mounted applications only</p>
<b>Pressure Transducer</b>	<ul style="list-style-type: none"> <li>▪ GEN 3: 110psi Brake Application Pressure Sensing Capability</li> <li>▪ Burst Pressure Rating – 1000psi</li> <li>▪ Pneumatic Connection – 1/4" NPT Male</li> <li>▪ Application Torque not to exceed 30Nm (22 ft-Lbs.)</li> <li>▪ Material – Stainless Steel</li> </ul>
<b>Wire Harnesses</b>	<ul style="list-style-type: none"> <li>▪ Power Harness – 5ft to 30ft</li> <li>▪ Pressure Transducer Harness – 5ft to 20ft</li> <li>▪ Sensor Harness – 10ft to 60ft</li> <li>▪ All exterior cables double insulated with high strength jacket</li> </ul> <p><i>Note: Most Harnesses available in 5 ft increments</i></p> <ul style="list-style-type: none"> <li>▪ Power Harnesses: <ul style="list-style-type: none"> <li>○ GEN 1 Trailer: Connector Metri-Pack 280 type 4-pin sealed.</li> <li>○ GEN 3: Molex 5557 series 10 pin non sealed</li> </ul> </li> <li>▪ Sensor assemblies and sensor harnesses: Packard 150 type 3-pin sealed Metri-Pac at sensor end.</li> </ul> <p>See System Schematics for all connection designations.</p>



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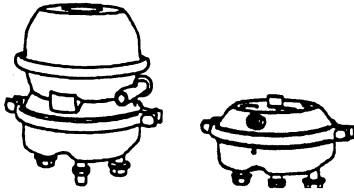
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<b>System Warning Device</b>	<ul style="list-style-type: none"><li>Warning Lamp Outputs: Tractor / Truck / Bus Brake Monitor, Lining Wear, Trailer Brake Monitor, Lining Wear</li><li>Fault Code Transmission via J1708 &amp; J1939</li></ul>
<b>S-CAM / Drum Brake Actuator Sensor</b>	One piece environmentally sealed Hall Effect sensor Packard Metri-Pac 150 type 3-pin connector 60 inch standard sensor length Serviceable independent from Actuator
<b>S-CAM / Drum Brake Actuators</b>	<ul style="list-style-type: none"><li>External Piston Rod Brake Actuators are available for a wide range of vehicle applications. It is necessary to select the appropriate actuators for the vehicle application.</li><li>e-Stroke S-CAM / Drum Brake Actuators are designated with an "ESH" at the end of the MGM P/N</li><li>Consult MGM Brakes Sales (800) 527-1534</li></ul>
<b>Air Disc Brake Actuator Sensor</b>	Environmentally Sealed Hard Coat Anodized Aluminum / Potted Sensor Assembly Packard Metri-Pac 150 type 3-pin connector 60 inch standard sensor length Supplied with e-Stroke Disc Actuator Assembly
<b>Air Disc Brake Actuators</b>	<ul style="list-style-type: none"><li>Disc Brake Actuators are available for a wide range of vehicle applications. It is necessary to select the appropriate actuators for the vehicle application.</li><li>e-Stroke Air Disc Brake Actuators are designated with an "ESK" at the end of the MGM P/N</li><li>Consult MGM Brakes Sales (800) 527-1534</li></ul>
<b>e-Stroke Diagnostic Tools</b>	<ul style="list-style-type: none"><li>Warning Light Blink Codes</li><li>Laptop Based Diagnostic Software / RS-232 serial connection to CCM or J1939</li><li>Hand Held e-DT Display Diagnostic Tool / J1939</li></ul>



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### Product Compliance

<b>SAE J1455</b>	Environmental testing for Electronic Equipment (Heavy-Duty Trucks)
<b>Section 4.1</b>	Temperature Cycle, Thermal Shock, Thermal Stress
<b>Section 4.2</b>	Humidity
<b>Section 4.3</b>	Salt Spray Atmosphere
<b>Section 4.4</b>	Immersion and Splash (Water Chemicals, and Oils)
<b>Section 4.5</b>	Steam Cleaning and Pressure Washing
<b>Section 4.7</b>	Dust Exposure & Gravel Bombardment
<b>Section 4.9</b>	Mechanical Vibration
<b>Section 4.10</b>	Mechanical Shock
<b>Section 4.11</b>	General Heavy-Duty Truck Electrical Environment – Steady State Electrical Characteristics
<b>SAE J1113/4</b>	Immunity to Radiated Electromagnetic Fields – Bulk Current Injection (BCI) Method
<b>SAE J1113/11</b>	Immunity to Conducted Transients on Power Leads
<b>SAE J1113/12</b>	Electrical Interference by Conduction and Coupling – Coupling Clamp
<b>SAE J1113/13</b>	Immunity to Electrostatic Discharge (ESD)
<b>SAE J1113/21</b>	Immunity to Electromagnetic Fields, 10kHz to 18GHz, Absorber-Lined Chamber (Radiated Susceptibility)
<b>SAE J1113/22</b>	Immunity to Radiated Magnetic Fields from Power Lines
<b>SAE J1113/41</b>	Test Limits and Methods of Measurement of Radio Disturbance Characteristics from Vehicle Components and Modules, Narrowband, 150kHz to 1000 MHz (Conducted & Radiated Emissions)
<b>SAE J1113/42</b>	Conducted Transient Emissions
<b>SAE J1708</b>	Serial Data Communications between Microcomputer Systems in Heavy-Duty Vehicle Applications
<b>SAE J1587</b>	Electronic Data Interchange between Microcomputer Systems in Heavy-Duty Vehicle Applications
<b>SAE J1939</b>	Recommended Practice for a Serial Control Vehicle Communications Network
<b>SAE J1128</b>	Recommended Practices for Vehicle Wiring
<b>UL 94 Fire Rating</b>	UL 94B (Tractor / Truck / Bus CCM Only)