e-Stroke Disc Truck / Bus System Trouble Shooting Guide

e-Stroke Fault Indication

Item #	Type	CCM Fault Indication	Solution Key # Reference Page 2	Service Brake Condition	Parking Brake Condition	Vehicle Speed	Time Delay	SAE J1939
1	Power Source	Warning Light Bulb CHECK does Not Occur. e-Stroke System Not Responding.	1,2,3,4,5, 7	NA	NA	NA	NA	NA
2		Warning Light Stays ON Can Not Access CCM with Diagnostic Tool	6,7					
3	Dragging Brake	CCM Indicates Dragging Brake, Left and Right Side of Same Axle Fault counts are the same for both Wheel Ends	6,8,9,10,11,23	Released < 2 PSI	Released	> 5 MPH	> 24 SEC	Yes
4		CCM Indicates Dragging Brake on (1) Wheel End Only	8,9,10,11,16,23					
5	Non-Functioning	CCM Indicates Non-Functioning Brake, Left and Right Side of Same Axle	11,14,22,23	Applied > 12 PSI	Released	NA	> 3 SEC	Yes
6		CCM Indicates Non-Functioning Condition (1) Wheel End Only	11,14,15,17,23					
7	Over-Stroke	CCM Indicates Out of Adjustment Condition. Excess Actuator Stroke with Pressure Between 12 - 50 PSI	12,13,15,23	Applied 12 - 50 PSI	Released	NA	> 3 SEC	Yes
8	Low Lining Clearance	Low Lining Fault Detected Non-Function / Over-Stroke Faults May Be Recorded for Wheel End	11,13,14,23	Requires Lining Running Clearance Below Caliper Manufacturers Operating Range. Multiple Brake Applications Required to Produce Fault (More than Approx 100 Brake Applications)				
9	Sensor	CCM Indicates Active Sensor Fault	16,17,18,19,20,21, 23	Sensor Signal Voltage < 0.1V DC			> 60 SEC	NA
10		Wheel End Producing Erratic Fault Conditions. CCM History shows multiple faults for the same Wheel End.	16,17,18,19,20,21, 23					
11	Pressure Transducer	Pressure Transducer Fault Non-Functioning Fault Reported for Multiple Axles	22	Sensor Signal Voltage < 0.1V DC			None	NA

Reference Documents

EB 13-001 - e-Stroke Disc Actuator and Harness Install Guide
EB 13-002 - e-Stroke Users Guide for Disc and Drum Brakes
EB 13-004 - e-Stroke Disc System Install Guide
e-Stroke GEN 3 System Schematic (DWG Number 9230100)

Contact MGM Brakes e-Stroke Technical Support
for Troubleshooting and
Diagnostic Tool Software Assistance

1-877-4-e-STROKE
www.mgmbrakes.com

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Key #	*Recommended Action*	Page 2 of 2
1	Verify Ignition Switch Power is turned ON	
2	Verify e-Stroke CCM Power Source Fuse or Breaker is completing circuit. Replace fuse as needed.	
3	Check CCM Power Cable for Electrical Shorts, Cut Wires, or Damaged Connectors. Repair as needed or replace with MGM CCM Power Cable.	
4	Test Vehicle System Voltage. e-Stroke System Input Voltage must be between 10-30 volts DC.	
5	Faulty Warning Lamp or Malfunctioning Vehicle I/O or Warning Display system.	
6	Check CCM SAE J1939 Connection. J1939 is required for Diagnostic Tool and Vehicle Speed Message. Drag indication when vehicle is normally parked may be due to loss of J1939 connection.	
7	CCM may be malfunctioning. Verify proper Warning Light operation with new CCM and replace as needed.	
8	Verify Wheel End for Actual Dragging Condition.	
9	Possible Service Brake Control Issue Verify Delivery Air Line Pressure Apply / Release, QR Valve Operation, Moisture / Ice in Air System, Service Brake Interlock Function	
10	Parking Chambers: Check for Air Leaks that would cause System Pressure Lose, Thereby allowing Parking Springs to Engage	
11	Inspect Caliper and Foundation Brake for Moisture / Water Ingress, Seized or Rusted Components. Inspect Actuator Boot and ESP O-RingSeal for Damage or Tears.	
12	Inspect Brake Linings, Pads may not be Intact.	
13	Verify Caliper Lining Clearance Adjustment Mechanism Operation.	
14	Verify Caliper Lining Running Clearance per Caliper Manufactures Inspection Recommendations. Running Clearance below (0.030") may Reduce Actuator Stroke Resulting in Non-Function Fault.	
15	Remove Actuator and Inspect Piston Rod Ball End Reflective Material for Excess Grease or Damage	
16	Inspect Wheel End Sensor Ground Connection (Black Wire between CCM and Sensor).	
17	Inspect Wheel End Sensor Power, Signal Connection (Red, Green Wires between CCM and Sensor).	
18	Inspect Harness and Connectors for Corrosion causing Partial Short.	
19	Inspect CCM Connectors for Loose Connections	
20	Verify Exterior Connectors are properly Plugged Together and Secured. Connector should not be Pulled Tight or Bent.	
21	Inspect Brake Actuator ESP Sensor / Harness and Connector for Physical Damage or Corrosion. Replace Actuator / Sensor ESK Assembly as needed.	
22	Inspect e-Stroke Pressure Transducer and Wiring. Use Diagnostic Tool to verify Pressure Transducer reads 0 psi with No Brake Application. Replace Pressure Transducer if reading is more than 0.5psi with Service Brake Released.	
23	Confirm Correct Wheel End Location by Unplugging Exterior Sensor Connector (> 60sec) and Confirm Sensor Fault with Diagnostic Tool.	