

# MGM Brakes e-stroke RS-232 Diagnostic Program Users Guide

The e-Stroke RS-232 Diagnostic Program may be used to acquire the following information from the e-Stroke GEN 3 CCM:

- Current Wheel Specific Brake & Lining Status
- Stored Fault History
- System Status
- CCM Information: Software Version, Configuration, Serial Number.

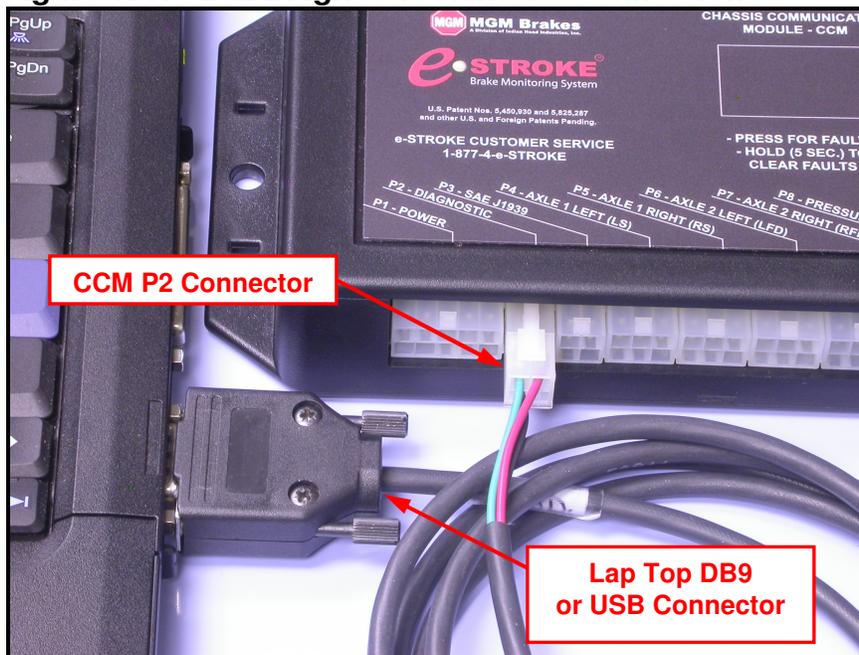
**The RS-232 Diagnostic Program Kit (P/N 9090109) includes the following items:**

1. 8090091 – Diagnostic Program Software CD, [Technical Manual](#)
2. 8290220 – 10 ft RS-232 Diagnostic / Programming Harness
3. 8090090 – USB High Speed Serial Adapter Harness

## Set-Up Instructions:

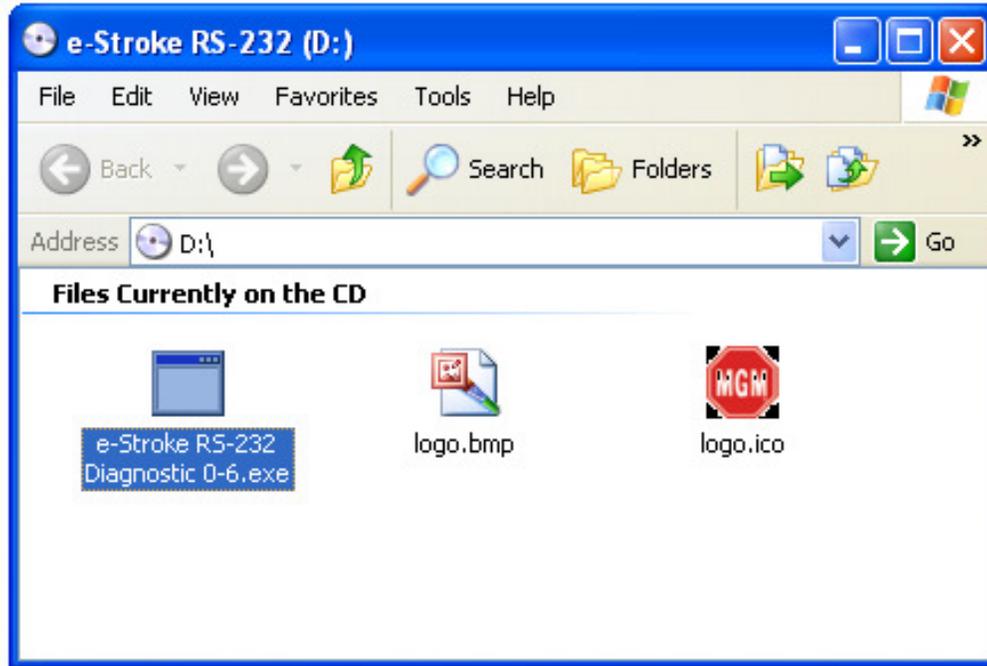
1. The supplied Diagnostic Harness P/N 8290220 connects the computer to the e-Stroke CCM. Plug the White 4-Pin connector into the CCM P2 connector as shown in Figure 1 below.
2. Connect the DB9 connector into the computers serial COM port. See Figure 1 below:
  - If a serial COM port is not available on the computer then the USB High Speed Serial Adapter Harness P/N 8090090 must be used. Simply plug the DB9 connectors together, and then plug the adapter harness USB connector into a USB receptacle on the computer.
  - The Kit (P/N 9090109) is supplied with a USB High Speed Serial Adapter Harness (P/N 8090090). The adapter harness package includes a Software CD and instructions. Follow the manufacturers' instructions to install and configure the adapter harness.

**Figure 1: RS-232 Diagnostic Harness Connections**



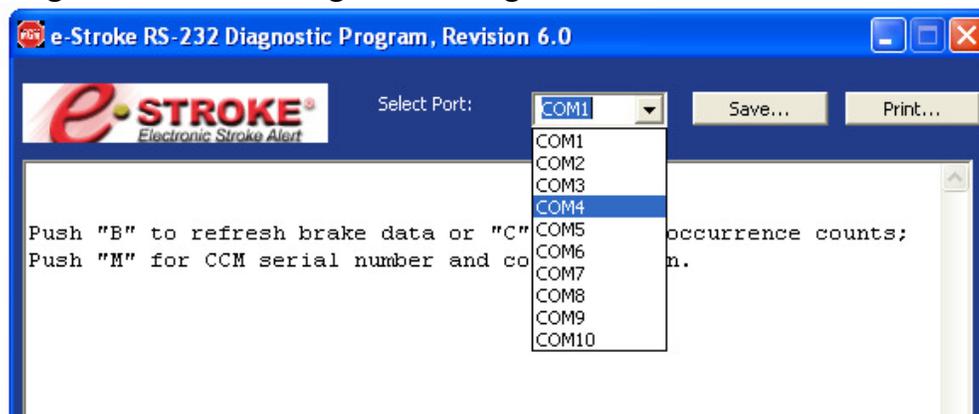
3. The RS-232 Diagnostic Program can be run directly from the supplied P/N 8090091 CD.
  - Place the RS-232 Diagnostic Program CD P/N 8090091 into the appropriate drive on the computer.
  - Access the contents of the CD through the CD Drive Window.
  - Start the RS-232 Diagnostic program by double (left) clicking on the **e-STROKE RS-232 DIAGNOSTIC.exe** file as shown below in Figure 2.

**Figure 2: RS-232 Diagnostic Program located on CD**



4. Once the RS-232 Program window is open the appropriate COM port must be selected. See Figure 3. Typically the DB9 connector will operate as COM 1 where equipped. The USB High Speed Serial Adapter will be assigned a COM port number when connected. The COM port assigned to the USB Adapter Harness can be looked up in the Device Manager. See Step 5.

**Figure 3: RS-232 Diagnostic Program Interface**



5. To locate the Computers Device Manager Follow these Steps. Note: This instruction applies to Windows applications.
  - Select the **Start Button, Settings**, and then **Control Panel**.
  - Once the Control Panel Window is open select the **System Icon**.
  - Once the System Properties Window is open select the **Hardware Tab** and then the **Device Manager Button**.
  - With the **Device Manager** open, locate the **Ports (COM & LPT)** item.
  - Left Click the **Cross** next to "Ports (COM & LPT)".
  - All of the active COM ports will now be displayed with number assignments.
  - Find the COM port which lists the USB Adapter and note the COM number.
6. After selecting the appropriate COM port number you must then select the main display field. Click your mouse anywhere in the display window. This will allow you to continue interfacing with the Diagnostic program rather than the COM port setting.
7. The e-Stroke RS-232 Diagnostic Program is now ready to acquire data from the e-Stroke system.

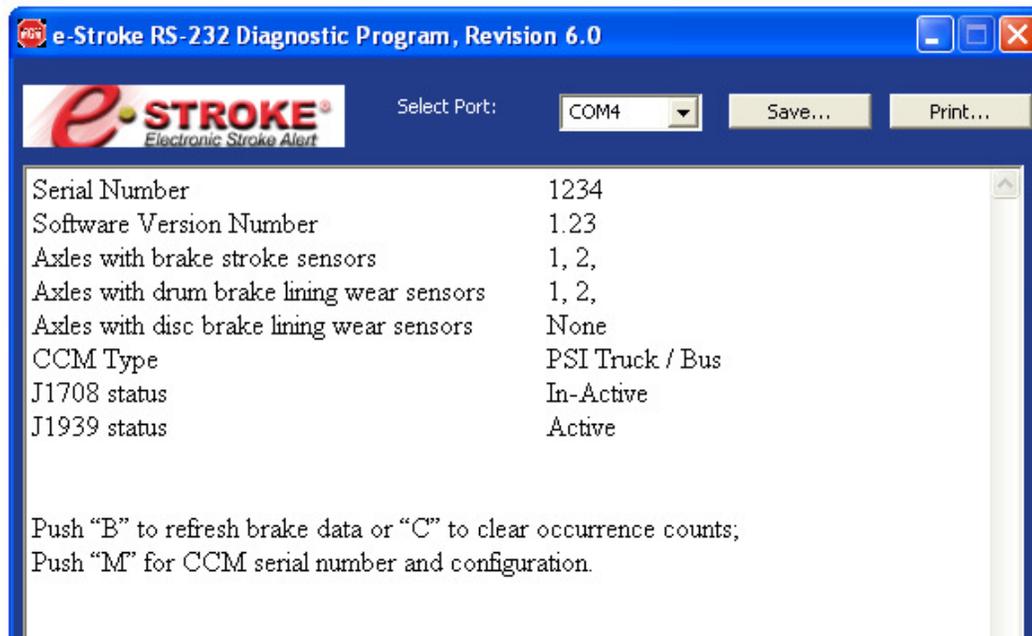
## Diagnostic Program Operating Instructions:

The RS-232 Diagnostic Program has 2 different display windows which provide the following e-Stroke Brake & System information (See Figure 4 Below):

### CCM Data Window Information:

- CCM Serial Number
- Software Version Number
- Axles with Brake Stroke Sensors
- Axles with Lining Wear Sensors (Drum / Disc)
- CCM Type
- J1708 Status
- J1939 Status

Figure 4: CCM Information Display Page

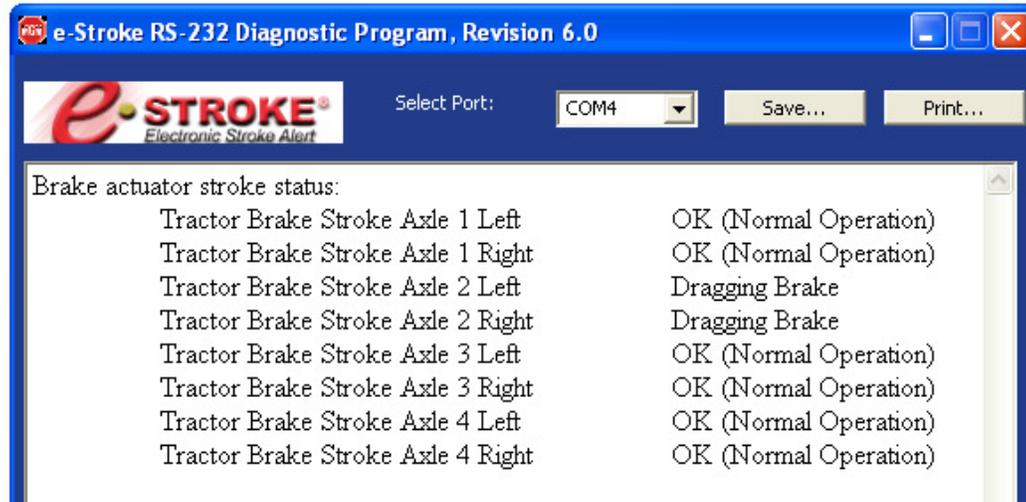


### Brake Data Window:

Wheel specific data is displayed and refreshed using the B command. (See Figure 5 Below)

- **Brake Actuator Stroke Status** – Displays Current Active Status with B command.
- **Brake Stroke Fault Occurrence Counts** – Displays Non-Current Stored Fault Counts.
- **Brake Lining Status** - Displays Current Active Status with B command.
- **Brake Application Pressure** - Displays Current Application Pressure with B command.
- **Pressure Transducer Fault Occurrence Count** – Displays Non-Current Stored Fault Count
- **CCM Serial Number**
- **Software Version Number**
- **Axles with Brake Stroke Sensors**
- **Axles with Lining Wear Sensors (Drum / Disc)**
- **CCM Type**

**Figure 5: Brake Data Display Page**



**The RS-232 Diagnostic Program can be operated using the following keys:**

- **B** – Pressing B will acquire brake data that is current / active in the CCM when the button is pressed.
  - **C** – Pressing C will clear the stored fault codes from the CCM.
  - **M** – Pressing M will display the CCM information.
8. **Press** one of the **Function Keys** and the RS-232 Diagnostic Program will automatically acquire the desired data from the CCM. **Pressing B** additional times will acquire updated brake data.

Note that each time **B** is **Pressed** the brake data is refreshed and replaces the previously displayed data. The displayed data must be saved if a record is required. Use the slider on the right of the window to navigate the report.

9. The displayed brake data or CCM information can be saved by **Pressing** the **Save** button. A Save Window will open prompting for a file name and save location. Enter the information as desired and **Press Save**. The RS-232 Diagnostic Program will then save a Text (.txt) file. See Figure 5.

If a .txt format is not desired then the displayed data can be copied and pasted into the desired program.

10. The displayed brake data can also be printed by **Pressing** the **Print** button. This program will print to the default printer which is set on the computer that is being used.

Saved and Printed Brake Data will include a Date and Time Stamp at the beginning of the report.