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A Division of Indian Head Industries, Inc.

TECHNICAL BULLETIN

SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide

The e-Stroke Diagnostic Program (P/N 8091202) may be used to acquire the following e-Stroke System information:
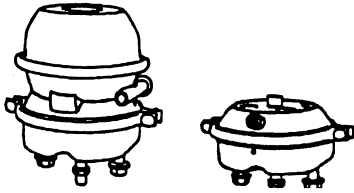
- CCM Information: Software Version, Configuration, Serial Number

- Current Wheel Specific Brake, Lining & Disc Caliper Running Clearance Status

- Stored Brake Fault History

- System & J1939 / J1708 Connection Status

P/N 9090109 - RS-232 Diagnostic Program Kit Contents:
1. 8090091 – Technical Manual & Diagnostic Program USB Drive,

    Contains 8091202 Diagnostic Firmware
2. 8290220 – 10 ft RS-232 Diagnostic / Programming Harness
3. 8090090 – USB High Speed Serial Adapter Harness

P/N 9090111 - SAE J1939 Diagnostic Program Kit Contents:
1. 8090091 – Technical Manual & Diagnostic Program USB Drive,

    Contains 8091202 Diagnostic Firmware
1. 8290304 – SAE J1939 Diagnostic Harness, 9-Pin
2. 8090097 – USB / CAN Adapter
3. 8290239 – Harness, New Flyer Adapter
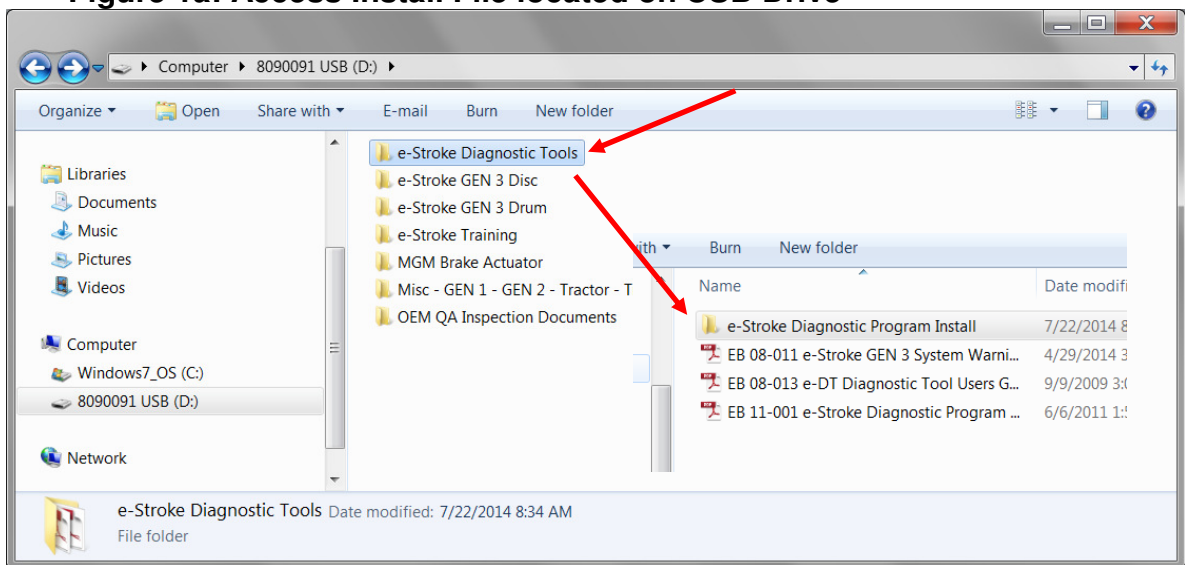

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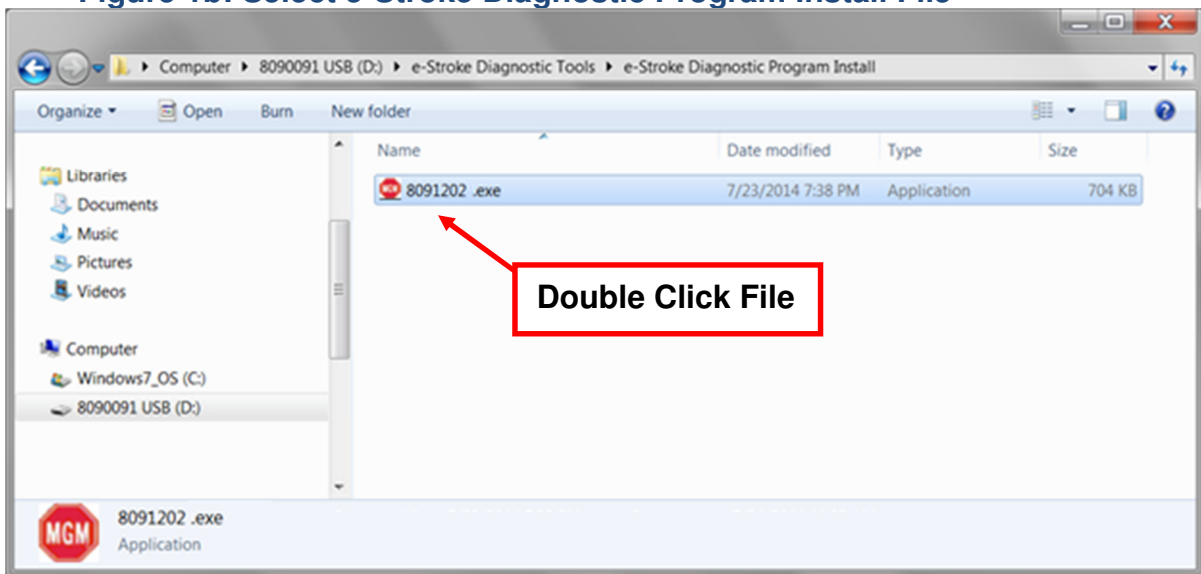

1.0 Program Install Instructions:

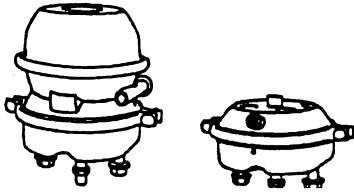1.1. Access the contents of the P/N 8090091 USB Drive on the computer which the program is to be installed.

Figure 1a: Access Install File located on USB Drive

1.2. Double (left) Click the ***8091202*** file to begin the installation.

Figure 1b: Select e-Stroke Diagnostic Program Install File

Double Click File
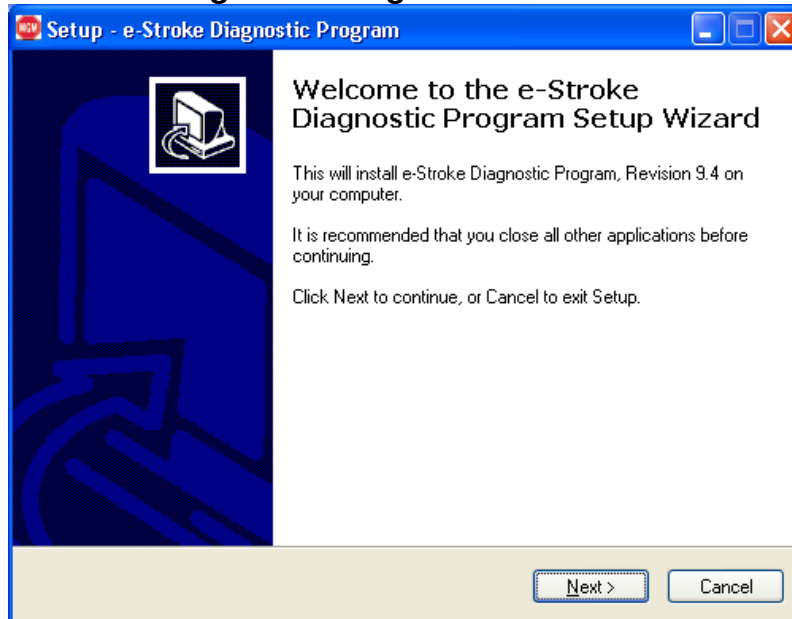

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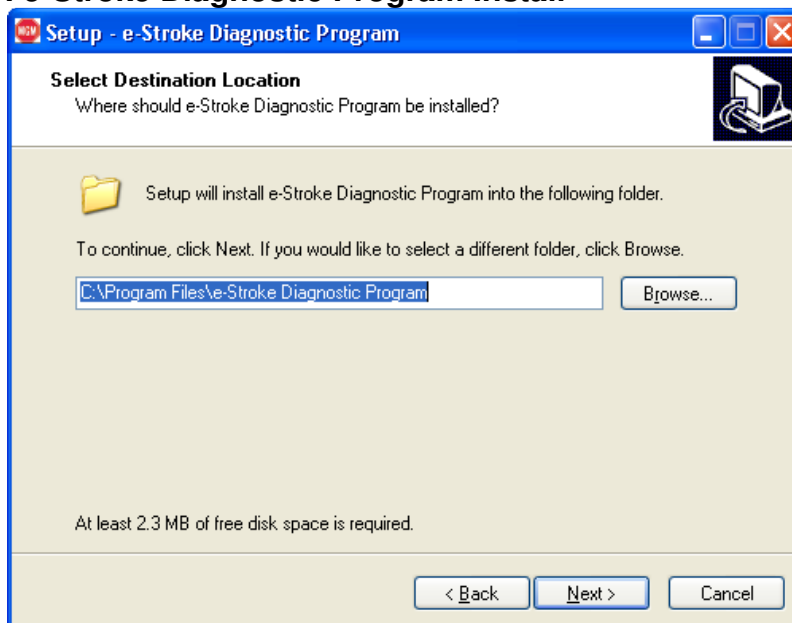**SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide**

1.3. Double (left) Click the *Next* button to Start the Install process.
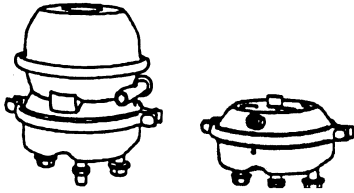
Figure 2: e-Stroke Diagnostic Program Install

1.4. Double (left) Click the *Next* button to accept the default Install Location.

Figure 3: e-Stroke Diagnostic Program Install

SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide

1.5. Double (left) Click the *Next* button to accept the default Folder Name.

Figure 4: e-Stroke Diagnostic Program Install

1.6. Check the box next to *"Create a desktop icon"* and Double (left) Click the *Next* button to accept the Additional Task.

Figure 5: e-Stroke Diagnostic Program Install

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1.7. Double (left) Click the *Install* button to continue with the Installation.

Figure 6: e-Stroke Diagnostic Program Install

1.8. Double (left) Click the *Finish* button to complete the Install.

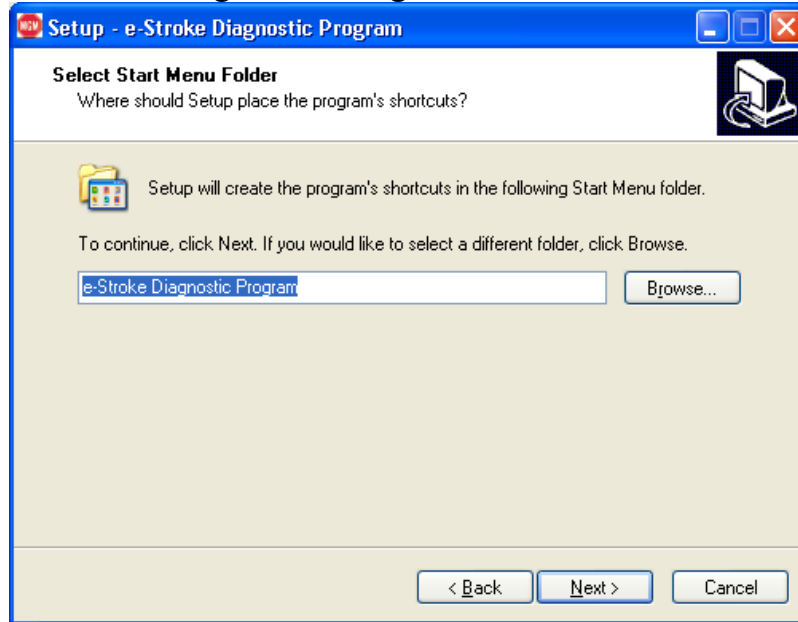**Figure 7: e-Stroke Diagnostic Program Install**
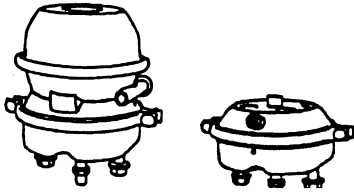
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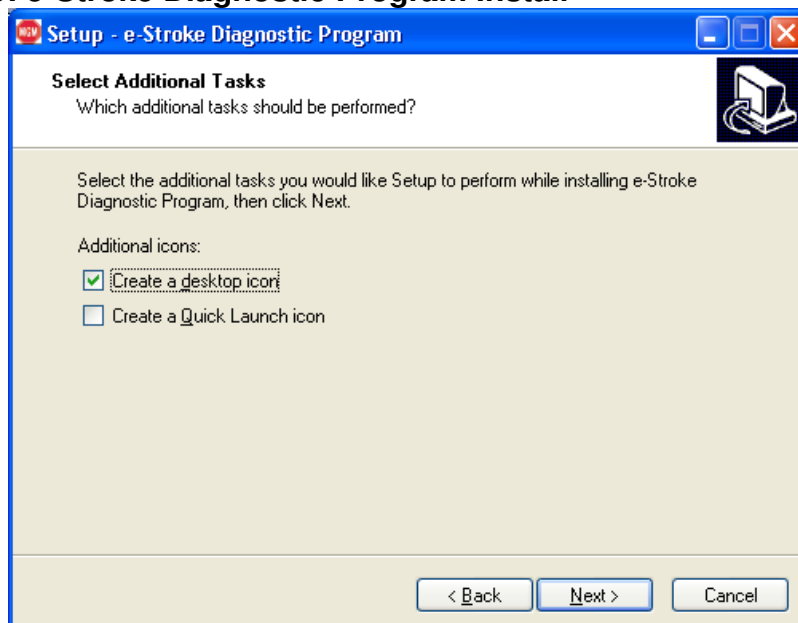**SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide**

2.0 Harness Connections:

    2.1. RS-232 Diagnostic Connection:

        Diagnostic Harness P/N 8290220 connects the computer to the e-Stroke CCM. Plug the White 4-Pin connector into the CCM *P2* connector. Connect the DB9 connector into the computers serial COM port. See Figure 8 below.

        2.1.1. If a serial COM port is not available 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.

        2.1.2. P/N 8090090 Adapter Harness package includes a Software CD and instructions. Follow the manufacturers' instructions to install and configure the Adapter.
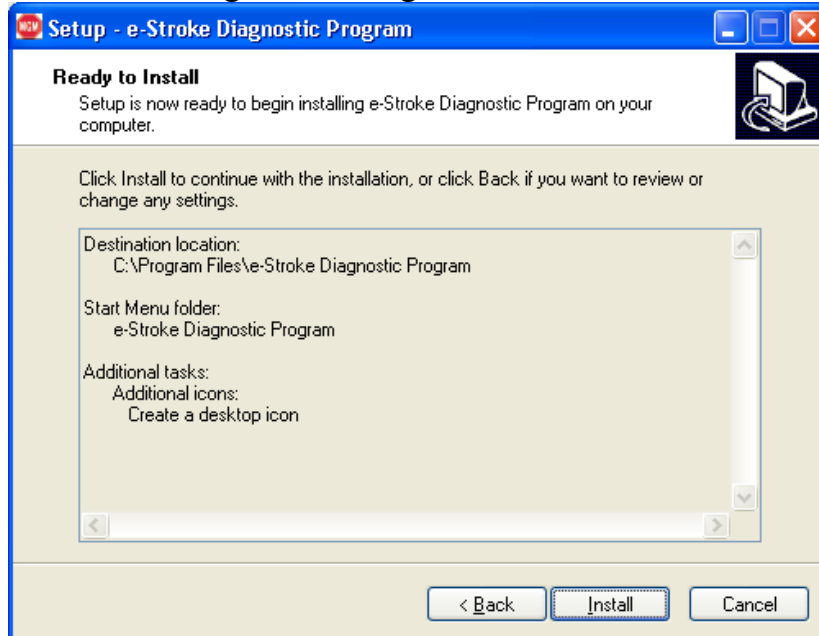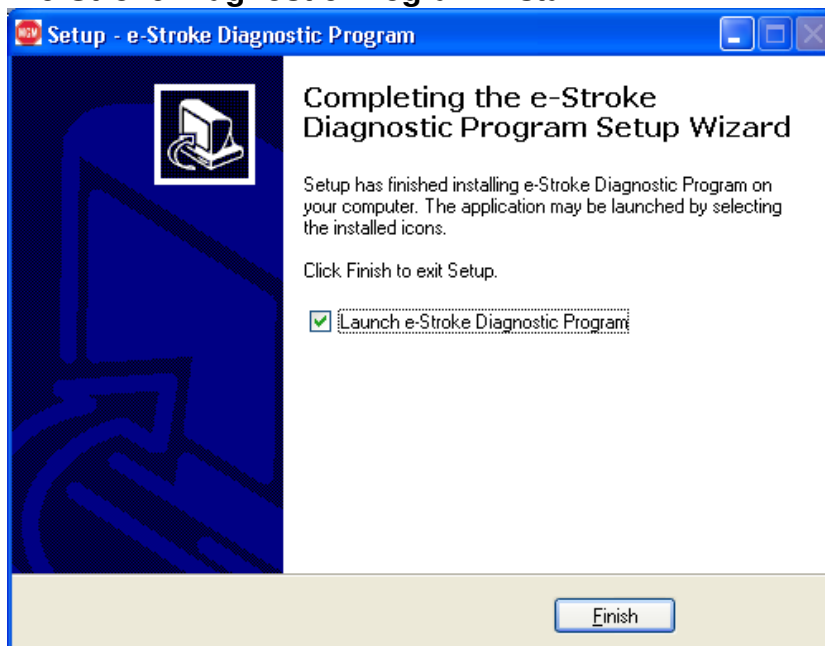
    Figure 8: RS-232 Diagnostic Harness Connections

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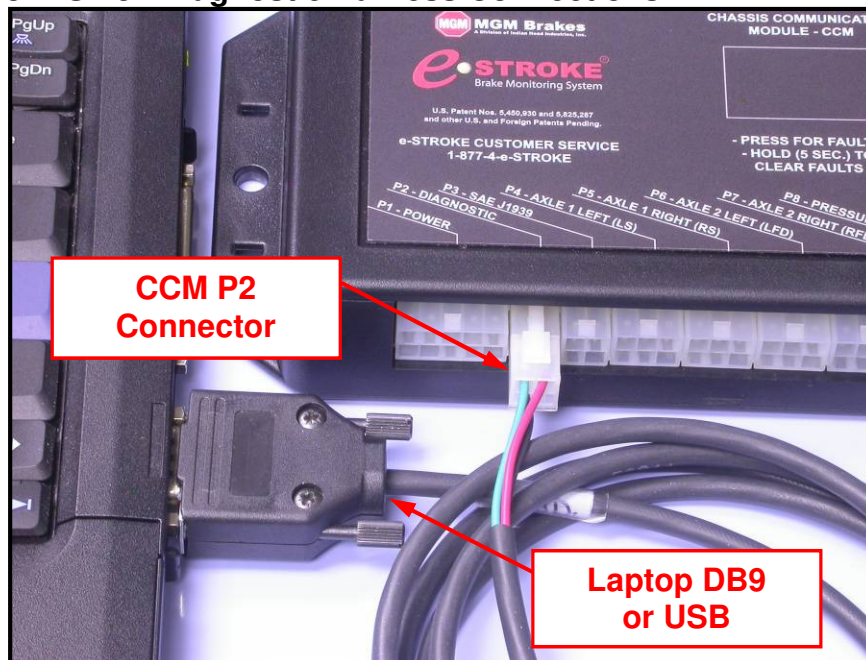**SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide**

2.2. SAE J1939 Diagnostic Connection:

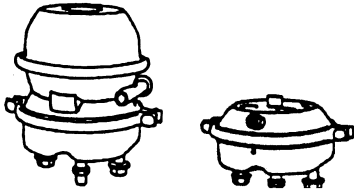Diagnostic Harness P/N 8290304 and Adapter Harness P/N 8090097
connects the computer to the vehicle J1939 Diagnostic Port.

2.2.1. Connect P/N 8290304 Diagnostic Harness to the vehicle 9-Pin
Diagnostic Port.
2.2.2. Note: Some 2009 & newer New Flyer applications will require the P/N
8290239 Adapter for connection to the 9-pin Diagnostic Connector. If
the Select Port Window does not "*Gray* Out" when connected to the
vehicle 9-Pin (Fig. 10-B) than the P/N 8290239 Adapter may be
required.
2.2.3. Connect P/N 8290304 Diagnostic Harness to P/N 8090097 Adapter
Harness.
2.2.4. Connect P/N 8090097 Adapter Harness to Computer USB Port.

2.2.5. P/N 8090097 Adapter Harness package includes a Software CD and
instructions. Follow the manufacturers' instructions to install and configure
the Adapter.

3.0 Diagnostic Program Operation:

3.1. Double (left) Click the *e-Stroke Diagnostic Program Desktop Icon* to start the
program.

Figure 9: e-Stroke Diagnostic Program Desktop Icon
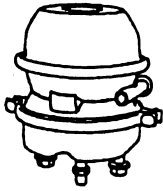
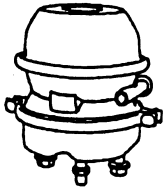**SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide**

3.2. The appropriate COM port must be selected using the *Select Port* drop down window. See Figure 10-A.

    3.2.1. The computer DB9 / Serial connector will typically operate as COM 1 where equipped. Typically COM 1 for "Tough Book" applications.

    3.2.2. P/N 8090090 USB High Speed Serial Adapter will be assigned a COM port number when connected to the computer. The COM port assigned to the USB Adapter Harness can be looked up in the Device Manager.

    3.2.3. The COM port does not need to be selected when the J1939 connection is used. The *Select Port* drop down window will "Gray Out" when the J1939 connection is active. See Figure 10-B.

Finding COM Port with the Device Manager:

To locate the Computers Device Manager follow these steps with the USB device plugged in to the computer.

Note: This instruction applies to most Windows applications.

1. Select the **Start Button,** then **Settings**, and then **Control Panel**.
2. Once the Control Panel Window is open select the **System Icon**.
3. Once the System Properties Window is open select the **Device Manager and or Hardware Tab**.
4. With the **Device Manager** open, locate the **Ports (COM & LPT)** item.
5. Left Click the **+ (Cross)** next to "Ports (COM & LPT)".
6. All of the active COM ports will now be displayed with number assignments.
7. Find the COM port which lists the USB Adapter and note the COM number.
8. Reassign COM port number if USB adapter is not assigned COM 1-10.

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3.3. **Update Brake Data**: **Press** the **Update Brake Data Button** to acquire and update the brake data. See Figure 10-E.

- Note that each time **the Update Brake Data Button** 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.

- Service Brake application must be held until Data Update is completed to display Pressure Value.

3.4. **Clear Brake Data**: **Press** the **Clear Brake Data Button** to clear the stored fault code history from the CCM. See Figure 10-F.

3.5. **Save Report: Press** the **Save** button to save a text report of the brake data. See Figure 10-C.

3.6. **Print Report:** The displayed brake data can also be printed by **Pressing** the **Print** button. See Figure 10-D.

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

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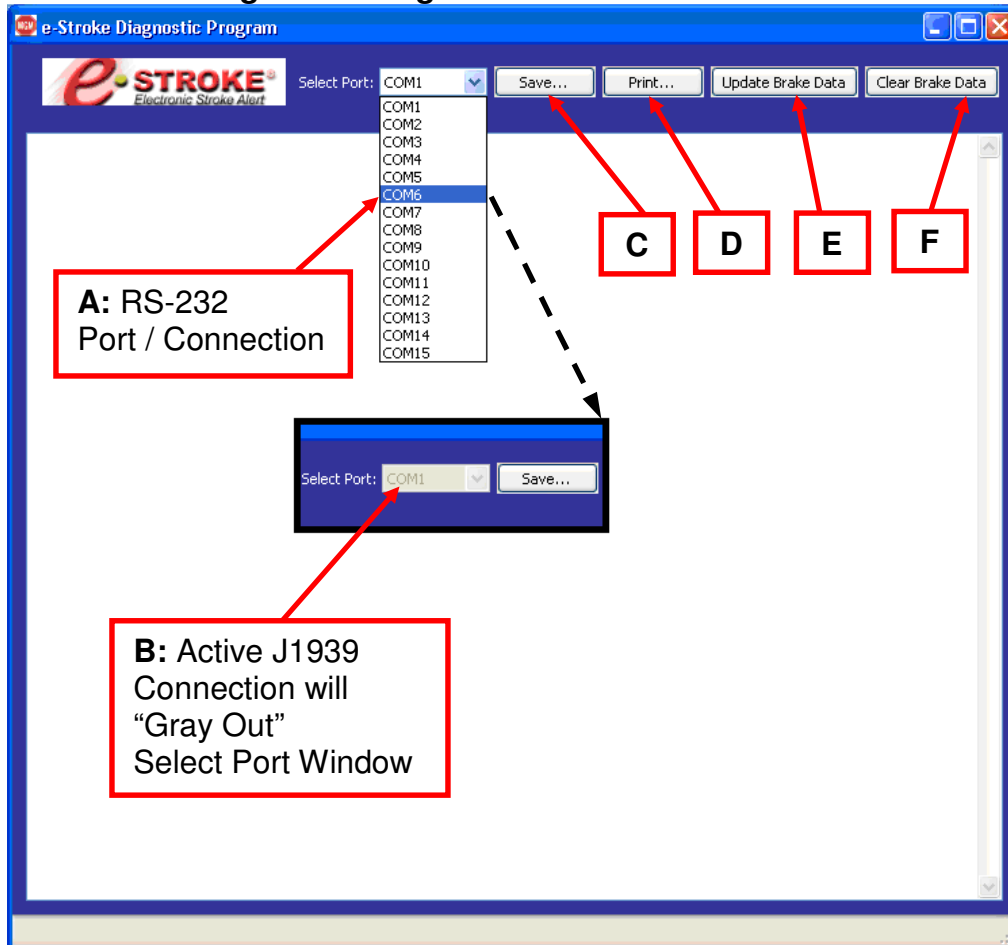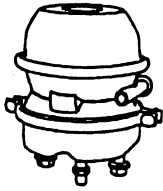

Figure 10: e-Stroke Diagnostic Program Interface

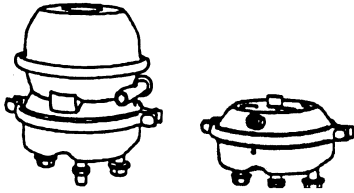**SUBJECT: EB 11-001 e-Stroke Diagnostic Program Users Guide**

3.7. The e-Stroke Diagnostic Program has 1 display window which provides the following e-Stroke Brake & System information. See Figures 11, 12.

- **CCM / System Information -** *CCM Serial Number, Software Version Number, CCM Type, Pressure Scale.*

- **System Configuration -** *Axles with Brake Stroke Sensors, Axles with Lining Wear Sensors (Drum / Disc).*

- **Active Brake Status** – *Displays Current Active Brake Status & Disc Caliper Lining Clearance Status (Over-Tightened Lining).*

- **Stored Brake Fault History** – *Displays Non-Current Stored Fault Counts for Brake Status.*

- **Active Lining Wear Status** - *Displays Current Active Lining Status.*

- **Stored Lining Wear Fault History** – *Displays Non-Current Stored Fault Counts for Lining Sensors*

- **Brake Application Pressure** - *Displays Current Brake Application Pressure which is present as the data is updated.*

- **Stored Pressure Transducer Fault History** – *Displays Non-Current Stored Fault Counts for Pressure Transducer.*

- **SAE J1708 / J1939 Status** – Displays status of SAE J1708 and J1939 connections when RS-232 connection is used.

  Note: When SAE J1939 is used for the diagnostic program connection, it is assumed that J1939 is operational and this status is not displayed.

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Figure 11: Diagnostic Information Display

e-Stroke Diagnostic Program

Select Port: COM6 ▾ | Save... | Print... | Update Brake Data | Clear Brake Data

```
Serial Number                                 3330003233
Software Version Number                       3.25
Axles with drum brake stroke sensors          None
Axles with disc brake stroke sensors          1, 2,
Axles with wire loop brake lining wear sensors None
CCM Type                                       Truck / Bus
Pressure Scale                                 100 PSI
```

CCM / System / Configuration Information
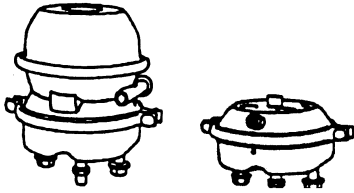
```
Brake actuator stroke status:
    Brake Stroke Axle 1 Left      Over-Stroke
    Brake Stroke Axle 1 Right     OK (Normal Operation)
    Brake Stroke Axle 2 Left      OK (Normal Operation)
    Brake Stroke Axle 2 Right     OK (Normal Operation)
```

Active Brake and Caliper Lining Clearance Status

```
Brake stroke fault occurrence counts:
    Brake Stroke Axle 1 Left
        Overstroke (FMI 0)        1
        Non-functioning (FMI 1) 0
        Sensor Error (FMI 4)      0
        Dragging Brake (FMI 7)  0
        Low Lining Clearance (FMI 13)  0
    Brake Stroke Axle 1 Right
        Overstroke (FMI 0)        0
        Non-functioning (FMI 1) 0
        Sensor Error (FMI 4)      0
        Dragging Brake (FMI 7)  0
        Low Lining Clearance (FMI 13)  0
    Brake Stroke Axle 2 Left
        Overstroke (FMI 0)        0
        Non-functioning (FMI 1) 0
        Sensor Error (FMI 4)      0
        Dragging Brake (FMI 7)  0
        Low Lining Clearance (FMI 13)  0
    Brake Stroke Axle 2 Right
        Overstroke (FMI 0)        0
        Non-functioning (FMI 1) 0
        Sensor Error (FMI 4)      0
        Dragging Brake (FMI 7)  0
        Low Lining Clearance (FMI 13)  0
```

Stored Brake Fault History

PCAN Adapter Initialized

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Figure 12: Diagnostic Information Display

e-Stroke Diagnostic Program

Select Port: COM6   Save...   Print...   Update Brake Data   Clear Brake Data

```
Brake lining remaining %:
    Axle 1 Left      10%
    Axle 1 Right     100%
    Axle 2 Left      100%
    Axle 2 Right     100%

Brake lining fault occurrence counts:
    Axle 1 Left
        Brake Lining at 0% (FMI 1)     0
        Brake Lining at 10% (FMI 18)   1
    Axle 1 Right
        Brake Lining at 0% (FMI 1)     0
        Brake Lining at 10% (FMI 18)   0
    Axle 2 Left
        Brake Lining at 0% (FMI 1)     0
        Brake Lining at 10% (FMI 18)   0
    Axle 2 Right
        Brake Lining at 0% (FMI 1)     0
        Brake Lining at 10% (FMI 18)   0

Brake Application Pressure:    112.3 PSI
Brake Application fault occurrence count:
    Pressure Transducer Fault (FMI 4)    0

J1708 status    never active (Comm Not Used)

J1939 status    active (Comm OK)
```

Active Lining Wear Status

Stored Lining Wear Fault History

Brake Application Pressure

Stored Pressure Transducer Fault History

SAE J1708 / J1939 Status (RS-232 Only)

PCAN Adapter Initialized