

Raven Service Tool Installation Manual

P/N 016-5030-022 Rev. B

03/16

E27222

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CHAPTER

1

Introduction

The instructions in this manual are designed to assist in the installation of the software needed to communicate with the nodes.

Updates

Sign up for email alerts, and you will be automatically notified when updates for your Raven products are available on the website! Software and manual updates are available on our website:

<http://www.ravenhelp.com>

At Raven Industries, we strive to make your experience with our products as rewarding as possible. One way to improve this experience is to provide us with feedback on this manual.

Your feedback will help shape the future of our product documentation and the overall service we provide. We appreciate the opportunity to see ourselves as our customers see us and are eager to gather ideas on how we have been helping or how we can do better.

To serve you best, please send an email with the following information to

techwriting@ravenind.com

-Raven Service Tool Installation Manual

-P/N 016-5030-022 Rev. B

-Any comments or feedback (include chapter or page numbers if applicable).

-Let us know how long have you been using this or other Raven products.

We will not share your email or any information you provide with anyone else. Your feedback is valued and extremely important to us.

Thank you for your time.

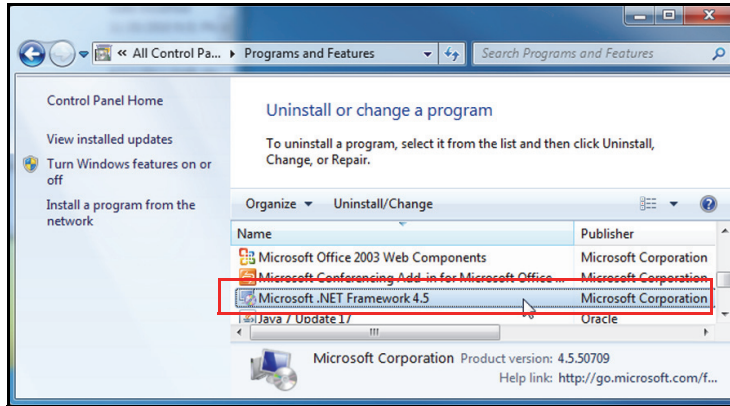
Required Components

- Internet access
- Computer with Windows 7 or greater operating system

- Microsoft.NET software version of 4.0 or higher

Note: Check the version via the computer’s Control Panel. The software version will be listed next to the software name as shown in Figure 1 below. If the computer is connected to the internet, the update will be made automatically. If not, the software version will have to be updated before installing the Raven Service Tool.




FIGURE 1. Microsoft.NET Software Version



Kit Contents

This section contains a list of the components that are included in the Raven Service Tool installation kit. Before beginning the software installation, compare the items in the kit with the components on this list. If you have questions about the kit, contact your Raven dealer.

TABLE 1. Raven Service Tool Installation Kit (P/N 117-0171-464)

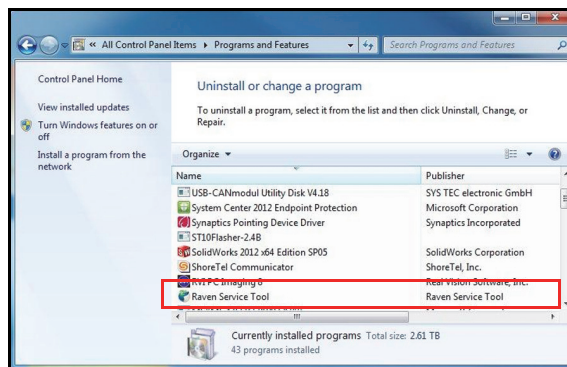
Picture	Item Description	Part Number	Qty.
	Converter - Systemec USB to CAN	063-0173-428	1
	Drive - USB Flash with Software	063-0173-595	1
	Cable - USB to 4-pin Deutsch CAN Adapter	115-0172-029	1

CHAPTER 2

Installation & Configuration

Uninstall Older Raven Service Tool Software Versions (If Previously Installed)

FIGURE 1. Software to be Removed

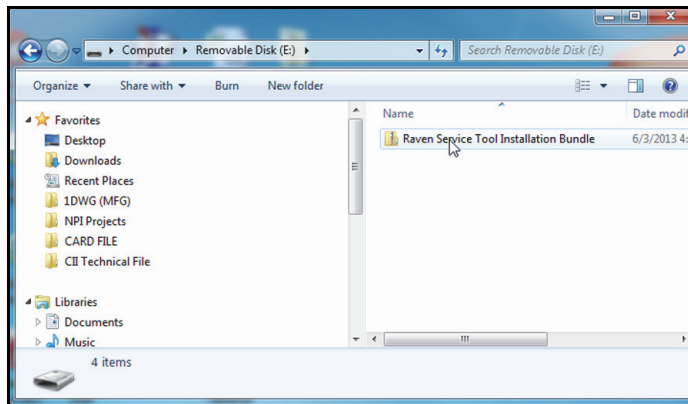


1. Navigate to the computer's Control Panel.
2. Select **Programs and Features**.
3. Select **Raven Service Tool**.
4. Select **Uninstall** or **Remove**, depending on the computer's operating system.

Install the USB to CAN Driver

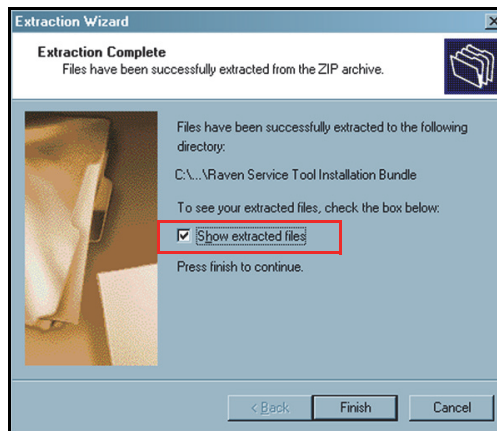
1. Insert the USB flash drive (P/N 063-0173-595) into an open USB port of the computer.
2. Locate the installed flash drive in "Computer" or "My Computer".

FIGURE 2. Zipped Installation File



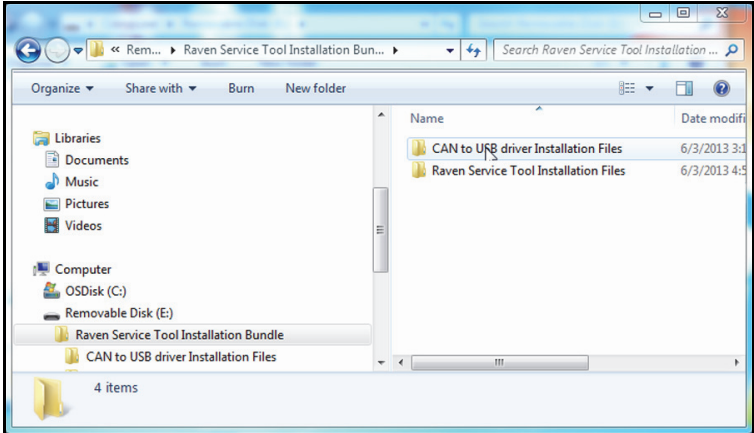
3. Right-click on the zipped **Raven Service Tool Installation Bundle** file.
4. Select the destination file and then **Extract All**.
5. Select **Next**.
6. Select **Next**.

FIGURE 3. Extraction Complete



7. Ensure the “Show extracted files” check box is selected, then select **Finish**.
8. Open the **Raven Service Tool Installation Bundle** folder.

FIGURE 4. Raven Service Tool Installation Bundle Folder Contents

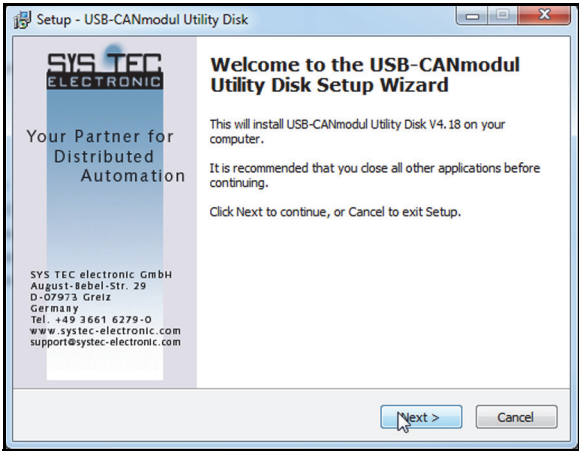


- 9. Open the **CAN to USB driver Installation Files** folder.
- 10. Open the **SO-387_Vx.xx** folder.

FIGURE 5. SO-387_Vx.xx Folder Contents

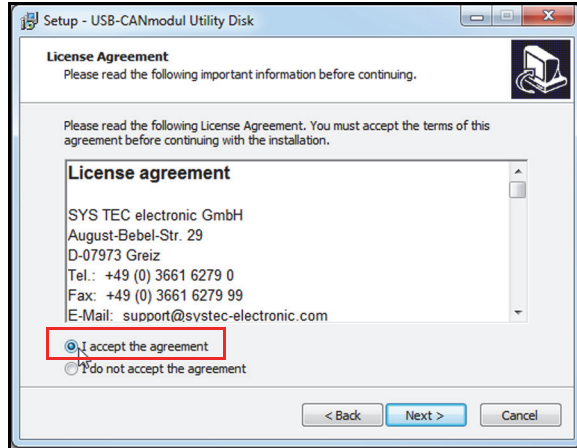
Name	Date modified	Type	Size
readme	5/31/2013 11:13 AM	Rich Text Format	35 KB
revision	1/29/2013 1:58 PM	Rich Text Format	28 KB
setup	1/30/2013 12:47 PM	Application	8,591 KB

- 11. Double-click on **setup**. The following screen will appear:

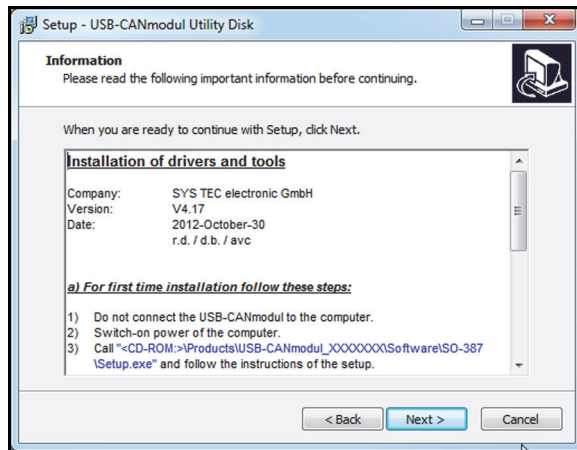


- 12. Select **Next**. The following screen will appear:

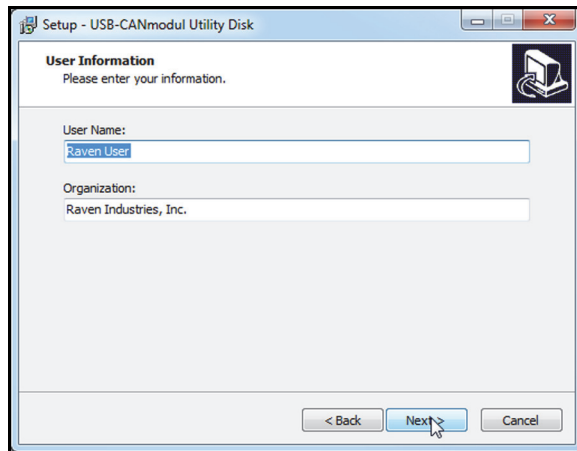




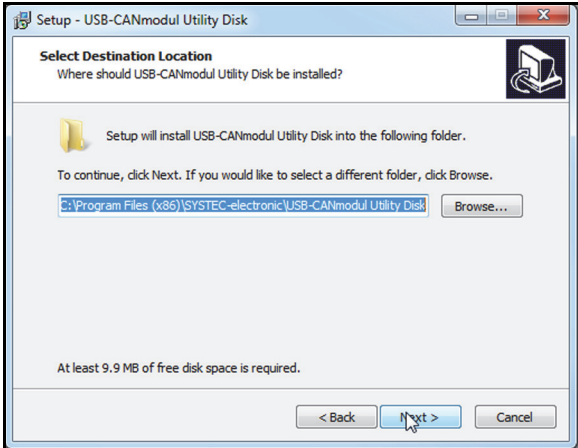
13. Select **I accept the agreement**, then **Next**. The following screen will appear:



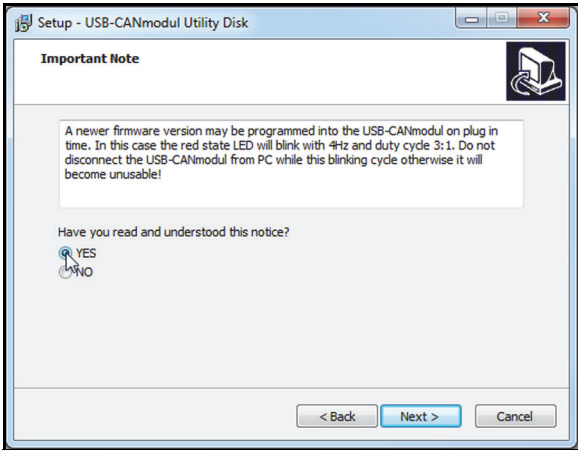
14. Select **Next**. The following screen will appear:



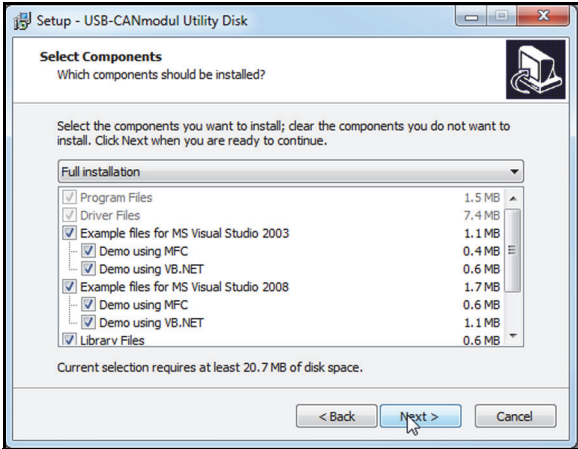
15. Enter the User Information if desired, then select **Next**. The following screen will appear:



16. Navigate to the location in which you wish to save the file or leave it as the default location, then select **Next**. The following screen will appear:

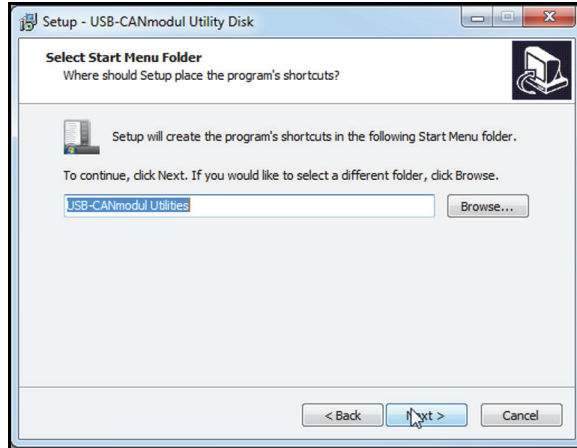


17. Read the notice, then select **YES**.
18. Select **Next**. The following screen will appear:

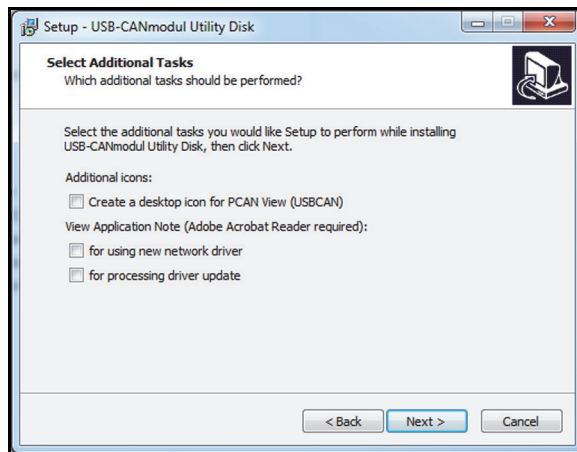


19. Leave the default settings as-is and select **Next**. The following screen will appear:

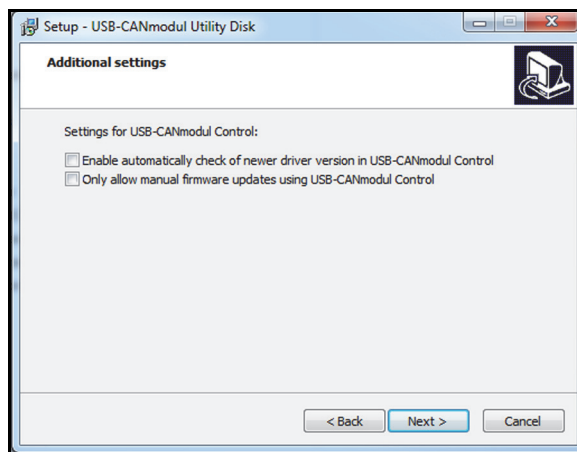




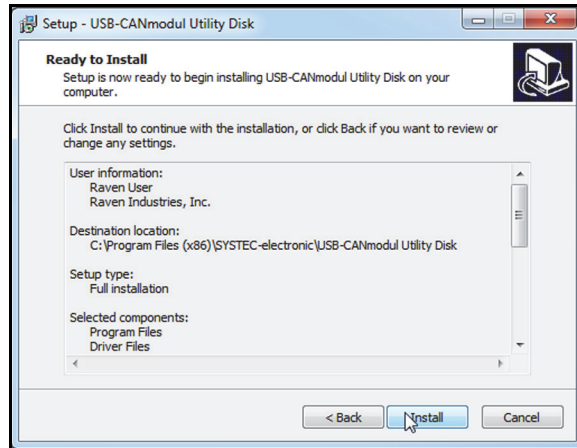
20. Navigate to the location in which you wish to save the shortcut or leave it as the default location, then select **Next**. The following screen will appear:



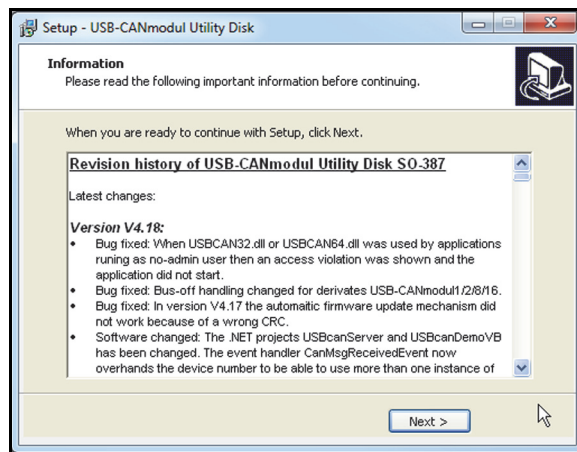
21. Deselect any options that are selected, then select **Next**. The following screen will appear:



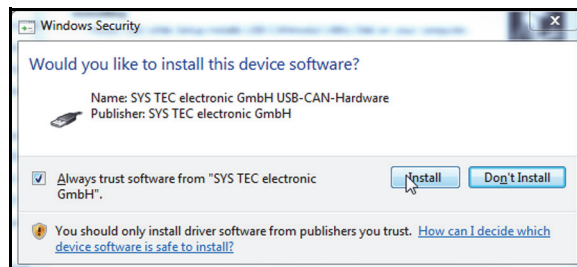
22. Deselect any options that are selected, then select **Next**. The following screen will appear:



23. Select **Install**. The following screen will appear:

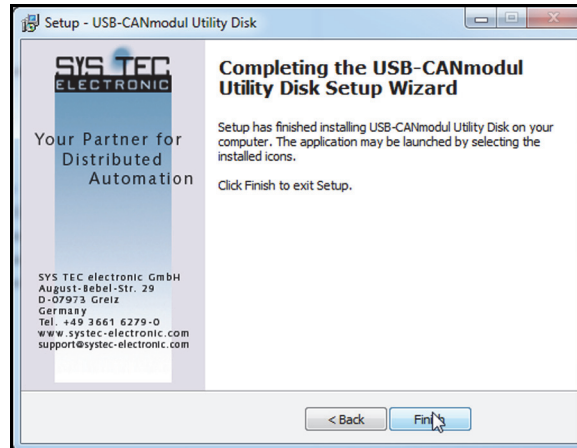


24. Select **Next**. If the computer's operating system is Windows 7 or greater, the following screen will appear:



25. Select **Always trust software from "SYS TEC electronic GmbH"**, then **Install**.





26. Once the installation is complete, select **Finish**.

FIGURE 6. USB to CAN Converter Installed



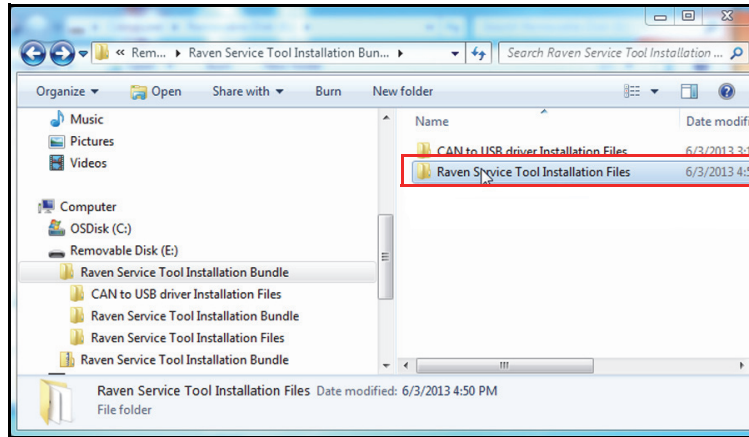
27. Connect the USB to CAN converter (P/N 063-0173-428) to an open USB port on the computer using the supplied USB cable.

28. Install the USB to 4-pin Deutsch adapter cable (P/N 107-0172-029) on the other end of the USB to CAN converter.

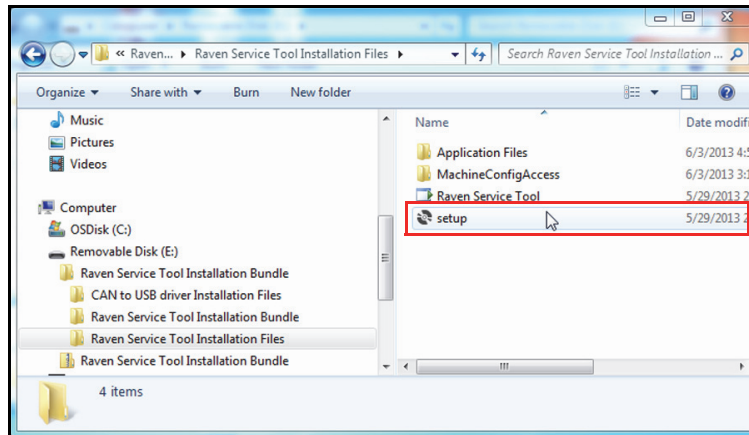
Note: The message "Installing device driver software" will appear in the lower-right corner of the computer screen. Two drivers will automatically be installed - one on the computer and one on the USB to CAN converter.

Install the Raven Service Tool

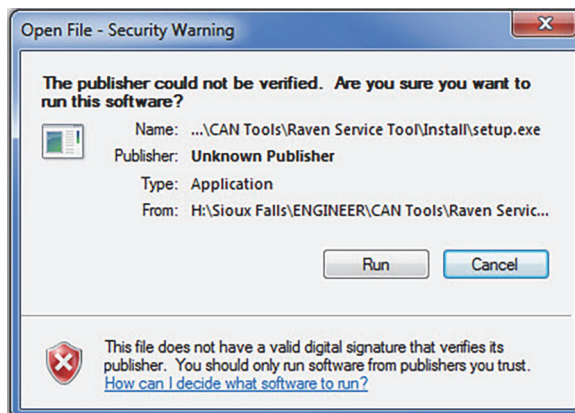
FIGURE 7. Raven Service Tool Installation Bundle Folder Contents



29. Open the **Raven Service Tool Installation Files** folder. The following screen will appear:

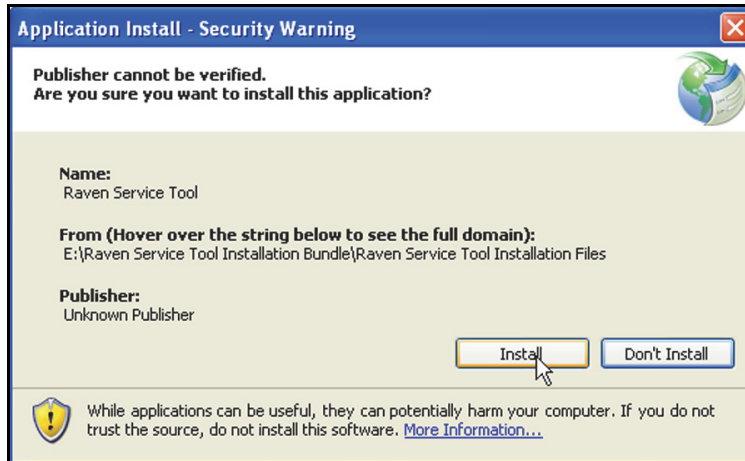


30. Right-click (Windows 7 or greater) on **setup**. The following screen will appear:



31. Select **Run**.





32. Select **Install**.

Note: *If the Raven Service Tool did not successfully install, refer to Chapter 4, Troubleshooting on page 3.*

CHAPTER

3

Routine Operation

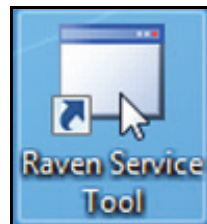
Getting Started

FIGURE 1. USB to CAN Converter Installed

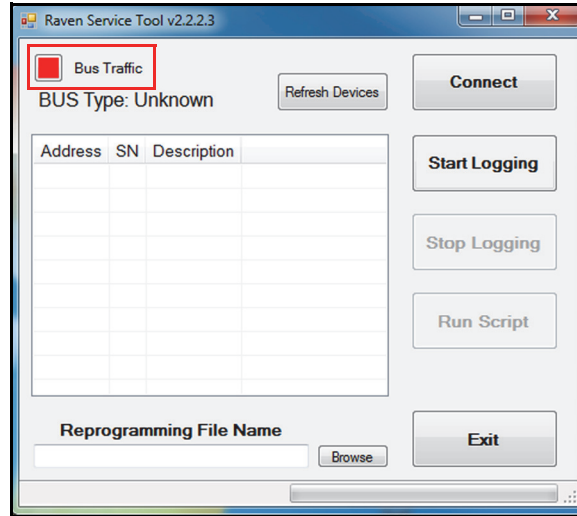


1. Connect the USB to CAN converter (P/N 063-0173-428) to an open USB port the on the computer using the supplied USB cable.
2. Install the USB to 4-pin Deutsch adapter cable (P/N 107-0172-029) on the other end of the USB to CAN converter.
3. Connect the installed adapter cable to the node or the mechanical drive, depending on the issue being investigated.

FIGURE 2. Raven Service Tool Shortcut

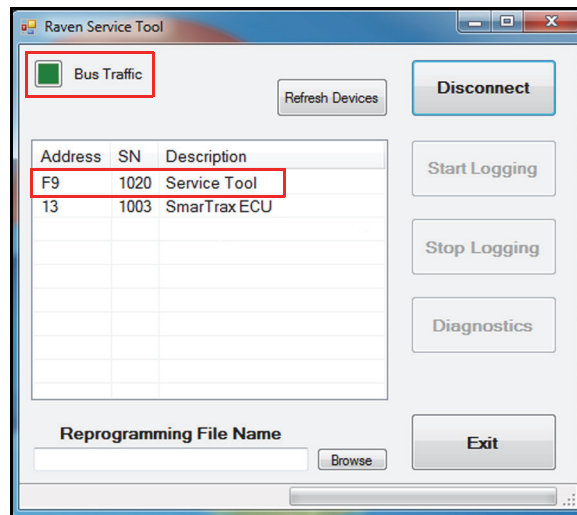


4. Double-click on the **Raven Service Tool** icon. The following screen will appear:



Note: The Bus Traffic icon is red until the Raven Service Tool is connected to a CAN bus.

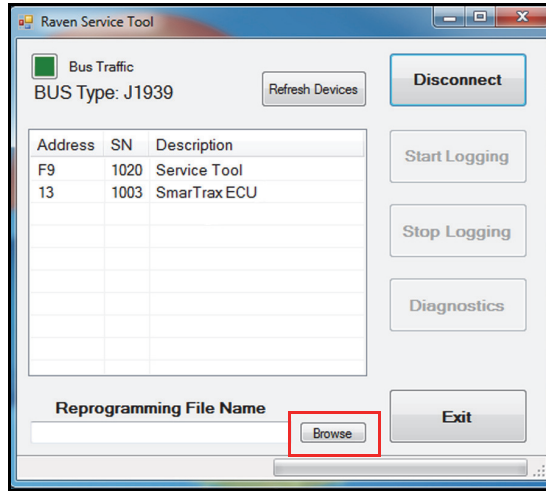
5. Select **Connect**. The following screen will appear:



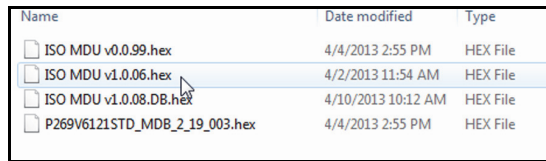
Note: The device should appear in the device list and the Bus Traffic icon should be flashing green. The system is now actively functioning on the CAN bus.

Programming the Node

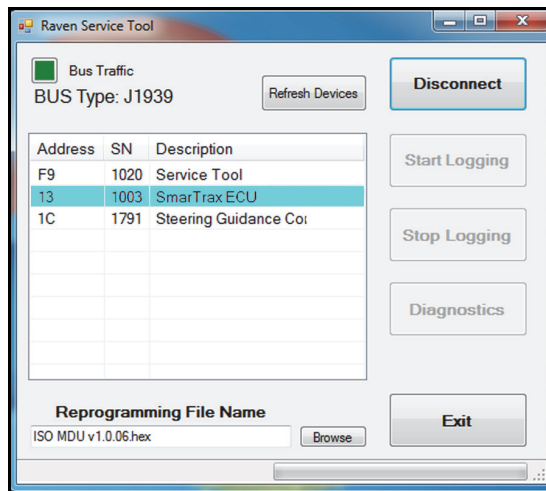
FIGURE 3. Raven Service Tool Main Screen



1. Select **Browse** and navigate to the installed USB drive. The following screen will appear:



2. Select the software file to be used to program the node, then double-click on the selection.



3. Right-click on the device to be programmed in the device list, then select **Program**.

Note: Programming will start automatically. The bar at the bottom of the window shows the progress of the program download. The address of the device being programmed is also visible in this location. If programming fails to start or an error message appears, re-start the programming

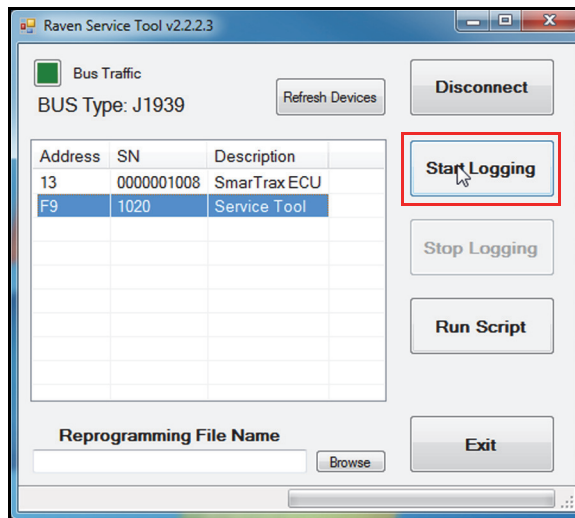
process from step 3 in the Getting Started section on page 13. If the programming process continues to fail, refer to Chapter 4, Troubleshooting to troubleshoot the error.

Note: Any device able to be programmed with the software selected in step 2 will be highlighted in blue. If you right-click on a device and the Program option is gray, the software is not matched to the device being programmed.

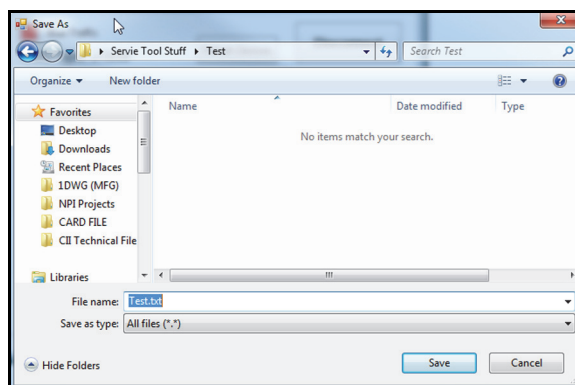
Taking a CAN Trace

There may be times when it is necessary to troubleshoot potential communication issues within the CAN system. CAN tracing is used to gather data within the CAN system.

FIGURE 4. Raven Service Tool Main Screen



1. Select **Start Logging**. The following window will appear:



2. Select the location in which the file should be saved.
3. Name the new “.txt” file or select an existing file to which to save the data, then select **Save**.

Note: The Start Logging button should be “grayed out” and the Stop Logging button should no longer be “grayed out”. This indicates that the Raven Service Tool is tracing CAN communication. To stop

the tracing function, select **Stop Logging**. Failure to select Stop Logging prior to closing the Raven Service Tool will result in corrupt data. The CAN trace should appear similar to the example shown in Figure 5 on page 17.

FIGURE 5. CAN Trace Example

```

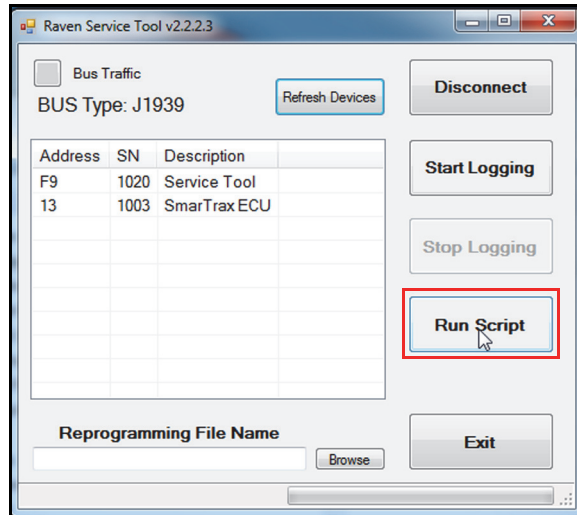
Test - Notepad
File Edit Format View Help
// date Fri May 31, 2013 04:30:50 PM
// Filters off
// Triggers
// Network Information
// My Address = ??
t xtd 1 18EAFF9 3 00 EE 00 0 0 1116911000 //... PGN Request - 0xEE00
r xtd 1 18EAFF9 3 00 EE 00 0 0 1116911000 //... PGN Request - 0xEE00
t xtd 1 18EEFF9 8 FC 03 E0 12 08 81 00 80 0 0 1116912000 //... SN: 0x0003FC,MN: 0x97
r xtd 1 18EEFF9 8 E2 05 E0 12 00 10 00 A0 0 0 1116912000 //... SN: 0x0005E2,MN: 0x97
t xtd 1 18EAFF9 3 DA FE 00 0 0 1116913000 //... PGN Request - 0xFEDA
t xtd 1 18EAFF9 3 C5 FD 00 0 0 1116913000 //... PGN Request - 0xFDC5
r xtd 1 18ECFF13 8 20 32 00 08 FF DA FE 00 0 0 1116914000 //... TP.CM BAM - PGN: FEDA
    
```

- To close the application, select **Exit**.

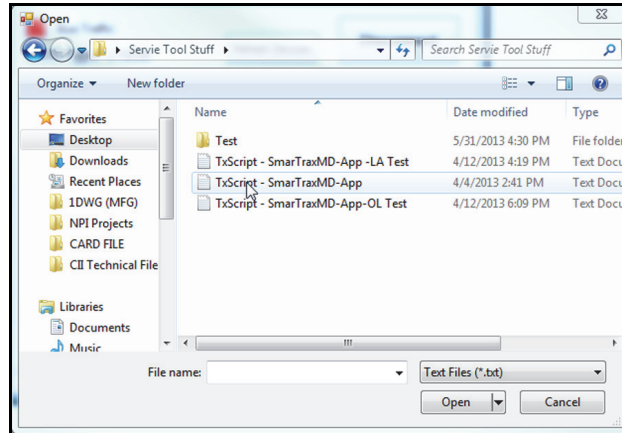
Running Test Scripts

Test scripts are used to test functionality of various settings in the system and gather calibration data during the logging process. Test scripts are provided by Raven Technical Support or Raven Engineering.

FIGURE 6. Raven Service Tool Main Screen

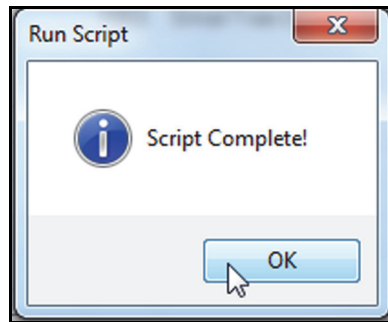


- Select **Run Script**. The following window will appear:



2. Select the desired script to be run, then select **Open**.

Note: The script should begin to run automatically. While the file is transmitting, the Run Script button will turn green. Once the transmission is complete, the following message will appear:



3. To close the application, select **Exit**.

CHAPTER

4

Troubleshooting

Routine Operation

Issue	Possible Cause	Corrective Action
The Bus Traffic icon will not change to green.	Loose or incorrect CAN connections.	Verify CAN connections are secure and correct.
	The Raven Service Tool driver is not installed.	Verify the drivers and program are installed correctly.
The device to be programmed is not highlighted in blue.	Possible conflict with the chosen programming .hex file.	<ol style="list-style-type: none"> 1. Right-click on the device. 2. Select Details. 3. Verify there all parameters match to the device. 4. Verify with Raven Technical Support that the correct .hex file is being used.
There are red parameters in the Details screen.	Incorrect programming .hex file was selected.	Select the correct .hex file to complete programming.
My device does not appear in the device list.	The Raven Service Tool is not connected to the CAN bus or is connected to the wrong CAN bus.	Select Refresh Devices .
		Disconnect and re-connect in the Raven Service Tool software.
		Verify the that the correct version of the Raven Service Tool is being used.
		If updating a Raven CAN node, connect to the Raven CAN bus.
		If updating a SmarTrax MD node, connect to the MD CAN bus at the terminator by the SmarTrax MD node.
		If updating an ISO product controller, connect to the ISO bus or ISO diagnostic port.
		If updating a Hawkeye ECU, connect to the ECU bus.
		If updating a Hawkeye NCV, connect to the nozzle bus.
Contact Raven Technical Support.		

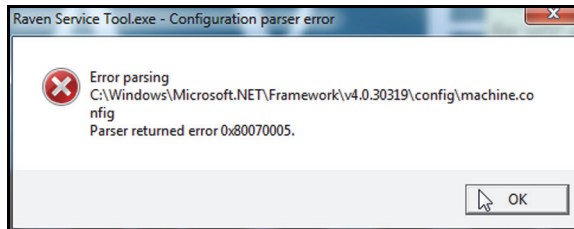
Frequently Asked Questions

- How do I know which device needs to be programmed?
Verify the name in the description field matches that of the device installed on the machine.
- How can I tell to which CAN bus the system is connected?
Check the name in the BUS Type field.
- How can I tell if the CAN trace I performed was successful?
1. Verify the .txt file size is appropriate, indicating that the document contains data.
2. Open the file and verify it appears similar to the example below:

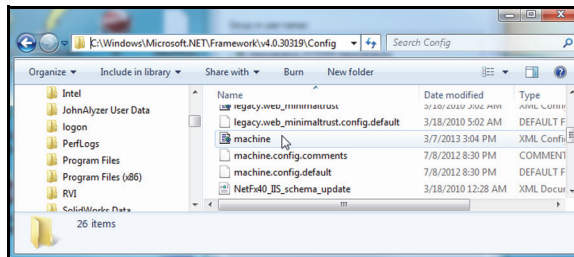
```

Test - Notepad
File Edit Format View Help
// date Fri May 31, 2013 04:30:50 PM
// Filters off
// Triggers
// Network Information
// My Address = ??
t xtd 1 18EAFFF9 3 00 EE 00 0 0 1116911000 //... PGN Request - 0xEE00
r xtd 1 18EAFFFE 3 00 EE 00 0 0 1116911000 //... PGN Request - 0xEE00
t xtd 1 18EEFFF9 8 FC 03 E0 12 08 81 00 80 0 0 1116912000 //... SN: 0x0003FC,MN: 0x97
r xtd 1 18EEFF13 8 E2 05 E0 12 00 10 00 A0 0 0 1116912000 //... SN: 0x0005E2,MN: 0x97
t xtd 1 18EAFFF9 3 DA FE 00 0 0 1116913000 //... PGN Request - 0xFEDA
t xtd 1 18EAFFF9 3 C5 FD 00 0 0 1116913000 //... PGN Request - 0xFDC5
r xtd 1 18ECFF13 8 20 32 00 08 FF DA FE 00 0 0 1116914000 //... TP,CM BAM - PGN: FEDA
    
```

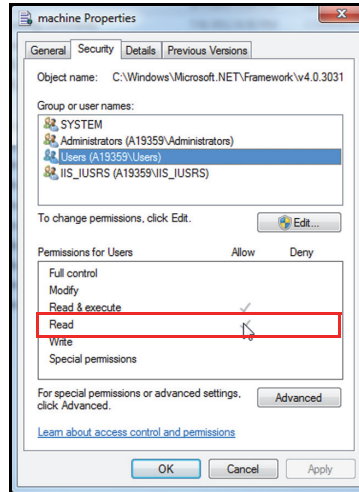
- What should I do if the “Error parsing” message below appears?



1. Navigate to **C:\Windows\Microsoft.NET\Framework\v4.0.30319\Config** location in “Computer” or “My Computer,” depending on the computer’s operating system.



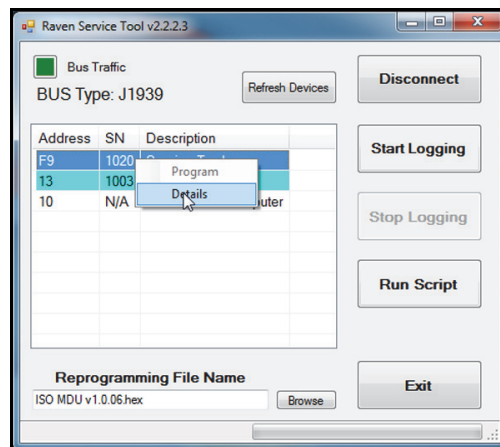
2. Right-click on “machine”, then select “Properties”.



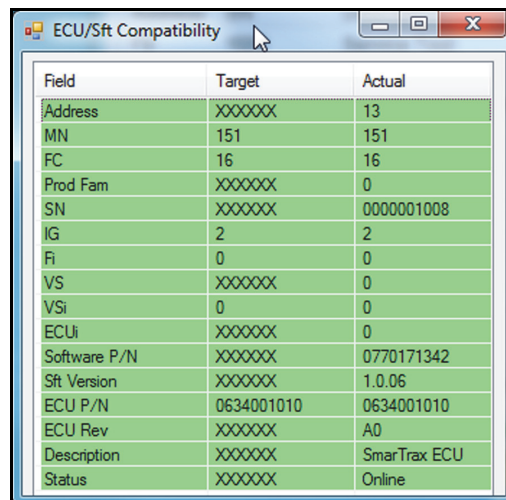
3. Highlight “Users (A19359\Users)”.

4. Verify that the “Read” option is checked under the “Allow” column.

- What should I do if the “Program” option is “grayed out” when I try programming the node?
 1. Right-click on the file.



2. Select “Details”.



- 3. Verify that there are no items in red in the details list.**
 - If there are items in red, the programming file selected is not matched to the device. Select the correct programming file and re-start the programming process.
 - If there are no items in red, contact Raven Technical Support.

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