RAVEN

Installation & Operation Manual

Raven Service Tool

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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

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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
-Manual No. 016-5030-022 Rev. A
-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.

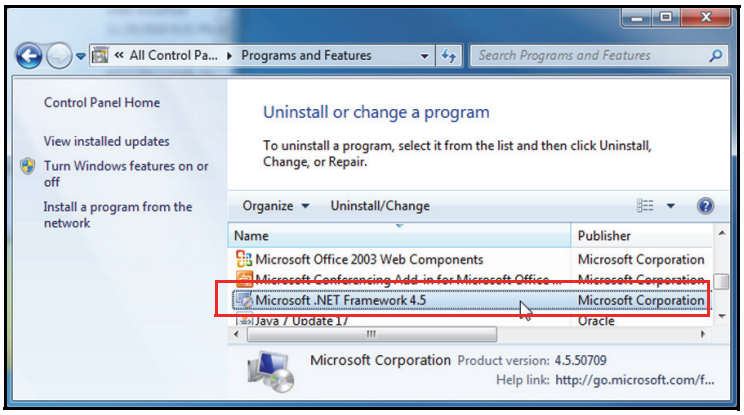
Required Components

- Internet access
- Computer with Windows XP or Windows 7 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)

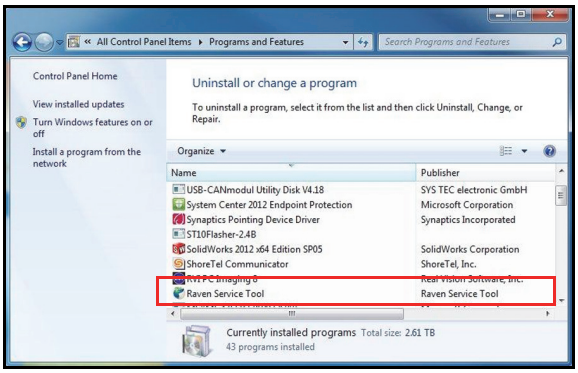
Picture	Item Description	Part Number	Qty.
	Converter - Systec USB to CAN	063-0173-428	1
	Drive - USB Flash with Software	063-0173-595	1
	Cable - USB to 4-pin Deutsch CAN Adapter	115-0172-029	1

CHAPTER 2

Installation & Configuration

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

FIGURE 1. Software to be Removed

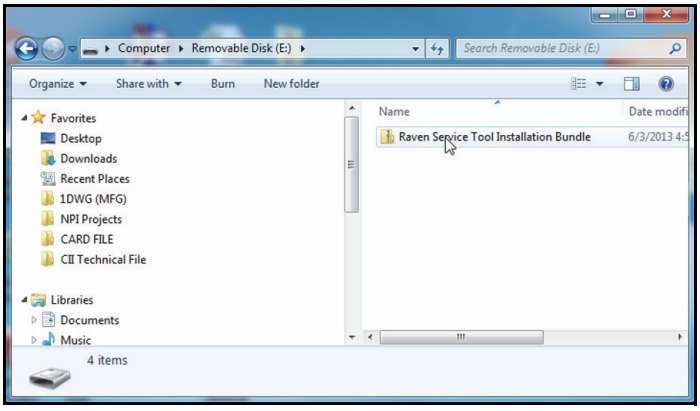


1. Navigate to the computer's Control Panel.
2. Select **Raven Service Tool**.
3. Select **Uninstall** or **Remove**, depending on the computer's operating system.

Install the USB to CAN Driver

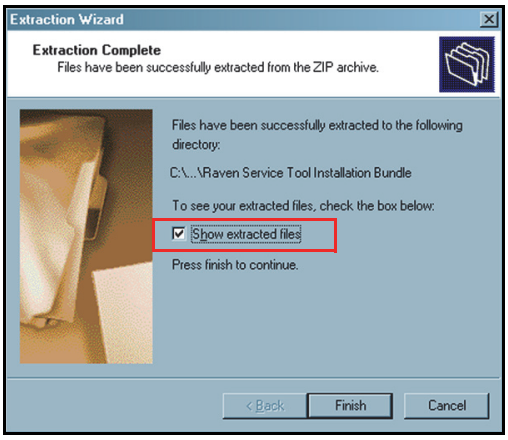
1. Insert the USB flash drive (P/N 063-0173-595) into an open USB port of the computer.
2. Locate the installed flash drive in "Computer" or "My Computer".

FIGURE 2. Zipped Installation File



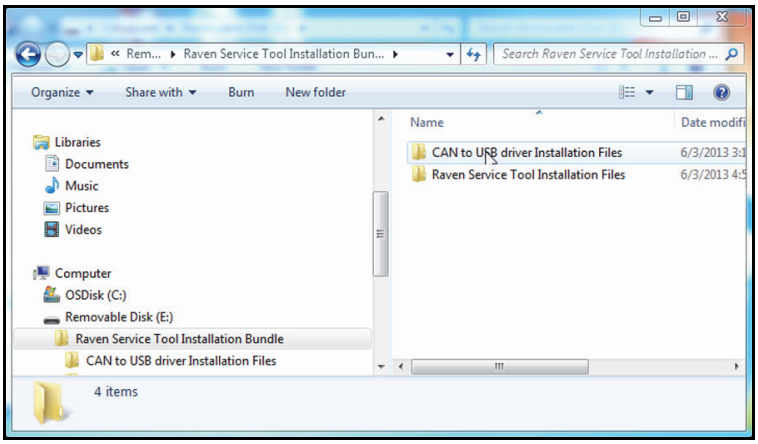
3. Right-click on the zipped **Raven Service Tool Installation Bundle** file.
4. Select the destination file and then **Extract All**.
5. Select **Next**.
6. Select **Next**.

FIGURE 3. Extraction Complete



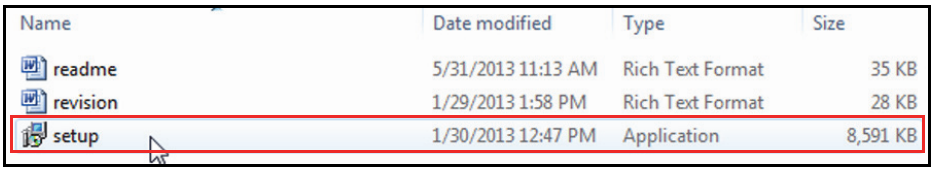
7. Ensure the “Show extracted files” check box is selected, then select **Finish**.
8. Open the **Raven Service Tool Installation Bundle** folder.

FIGURE 4. Raven Service Tool Installation Bundle Folder Contents



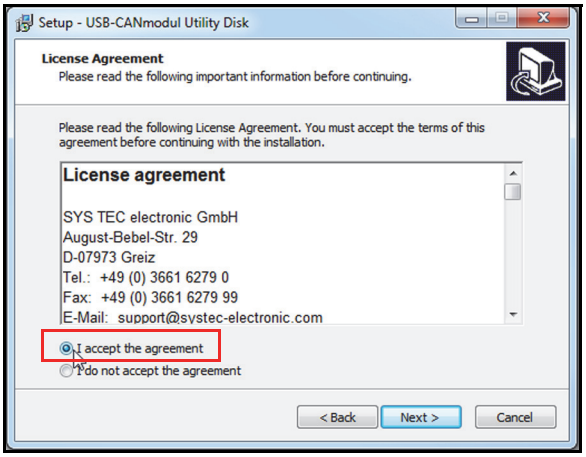
9. Open the **CAN to USB driver Installation Files** folder.
10. Open the **SO-387_v.18** folder.

FIGURE 5. SO-387_V.18 Folder Contents

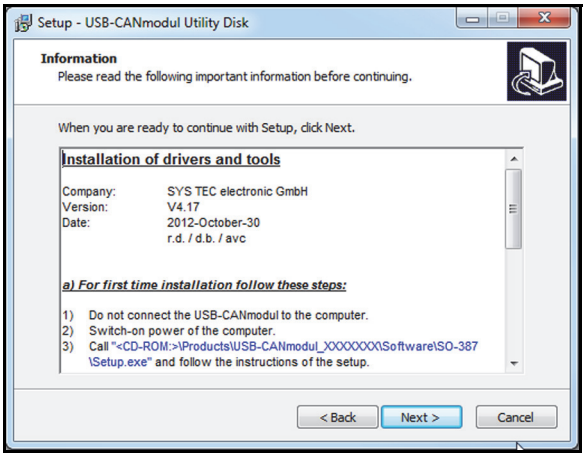


11. Double-click on **setup**. The following screen will appear:

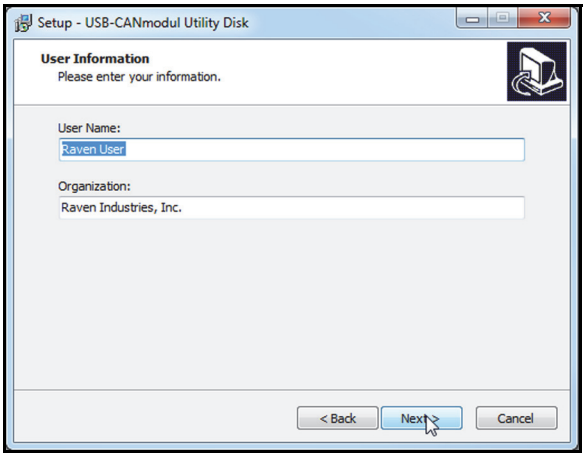
12. Select **Next**. The following screen will appear:



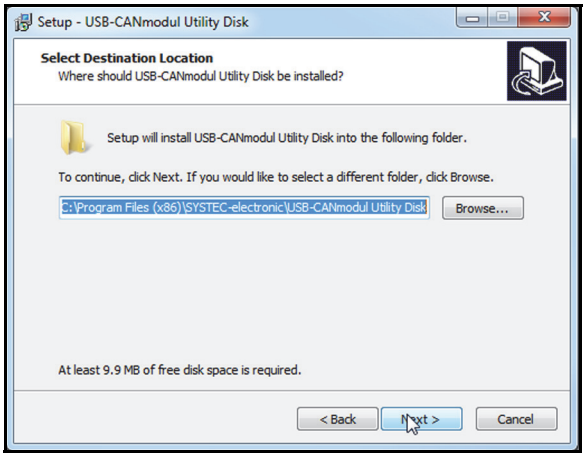
13. Select **I accept the agreement**, then **Next**. The following screen will appear:



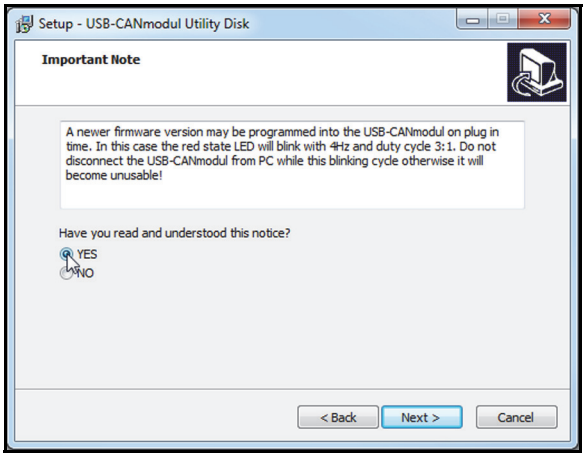
14. Select **Next**. The following screen will appear:



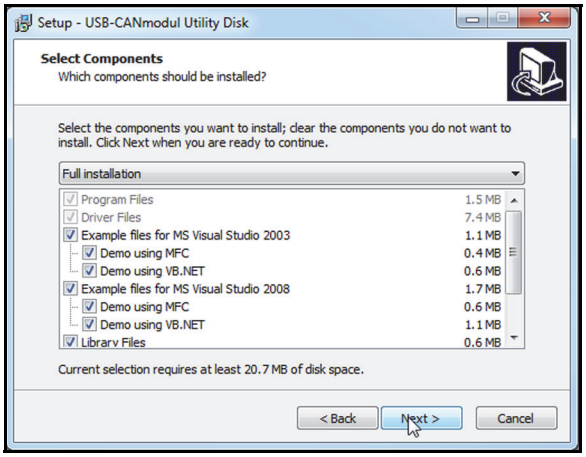
15. Enter the User Information if desired, then select **Next**. The following screen will appear:



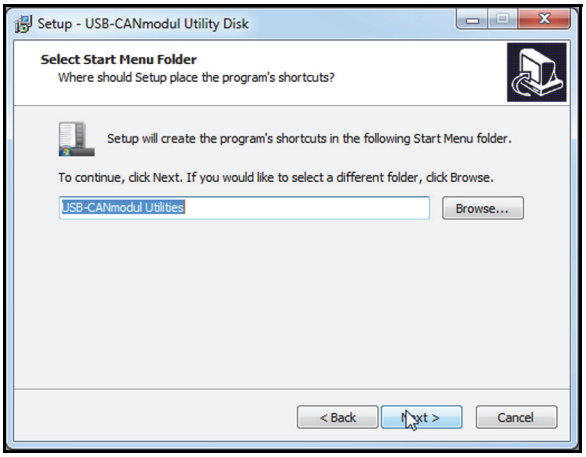
16. Navigate to the location in which you wish to save the file or leave it as the default location, then select **Next**. The following screen will appear:



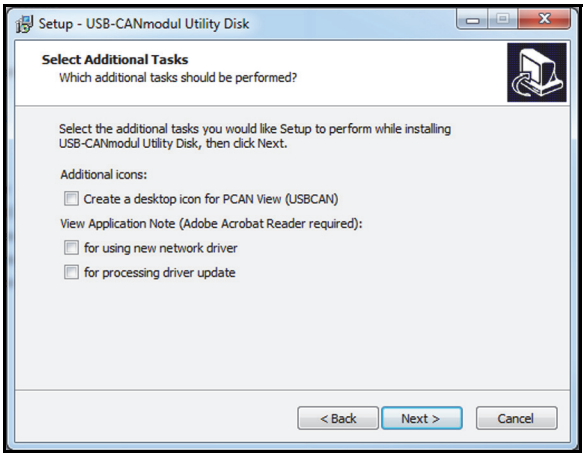
17. Read the notice, then select **YES**.
18. Select **Next**. The following screen will appear:



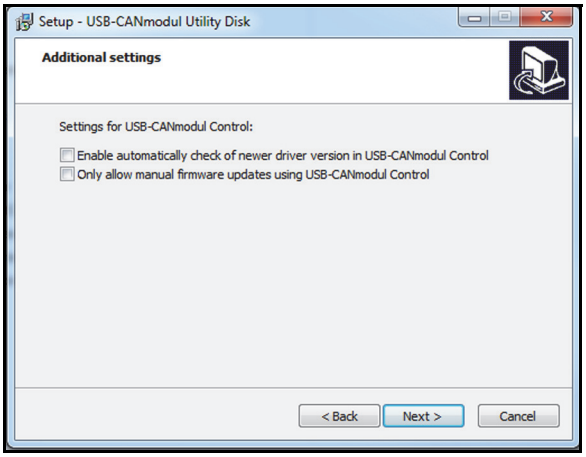
19. Leave the default settings as-is and select **Next**. The following screen will appear:



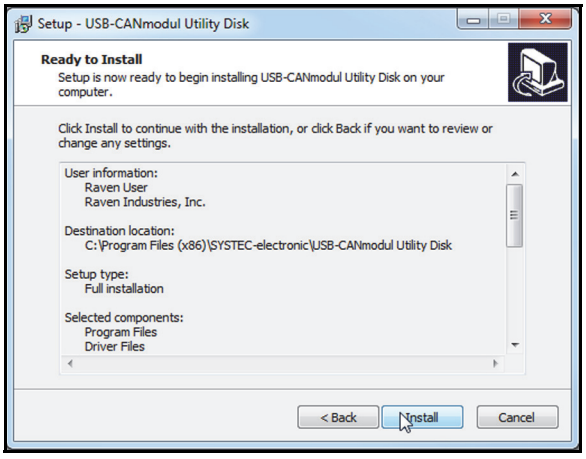
20. Navigate to the location in which you wish to save the shortcut or leave it as the default location, then select **Next**. The following screen will appear:



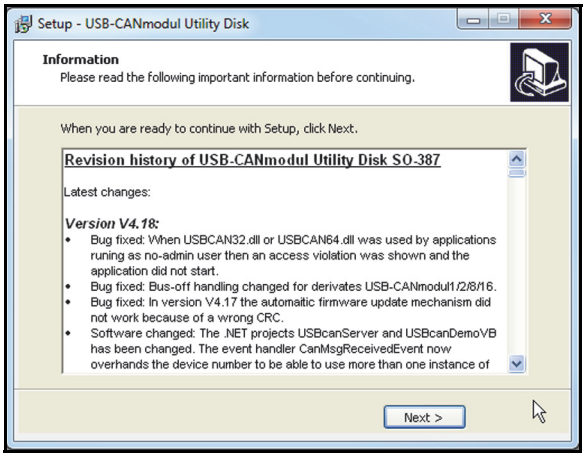
21. Deselect any options that are selected, then select **Next**. The following screen will appear:



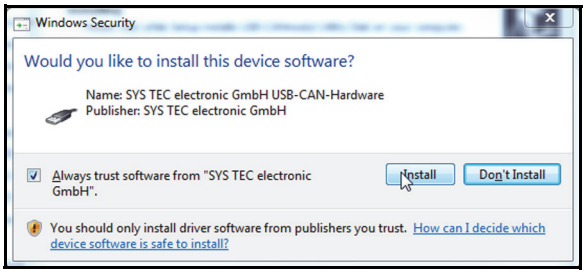
22. Deselect any options that are selected, then select **Next**. The following screen will appear:



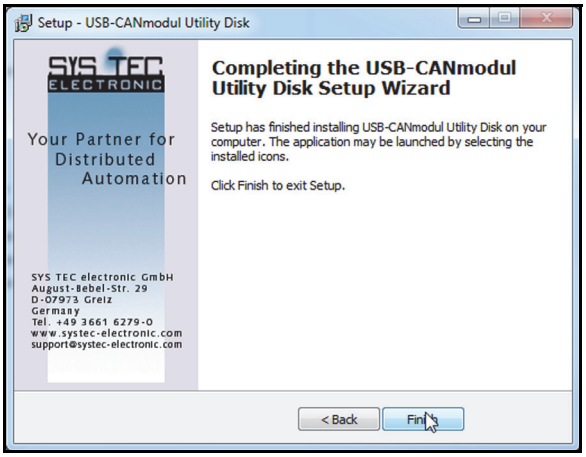
23. Select **Install**. The following screen will appear:



24. Select **Next**. If the computer's operating system is Windows 7, 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

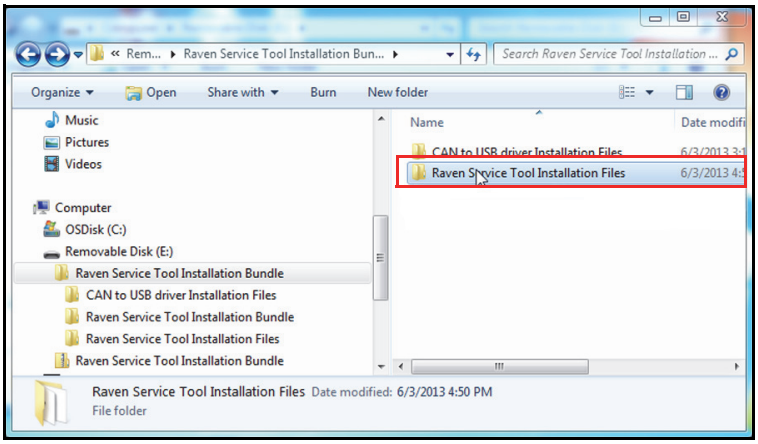
27. Connect the USB to CAN converter (P/N 063-0173-428) to an open USB port the on the computer using the supplied USB cable.

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

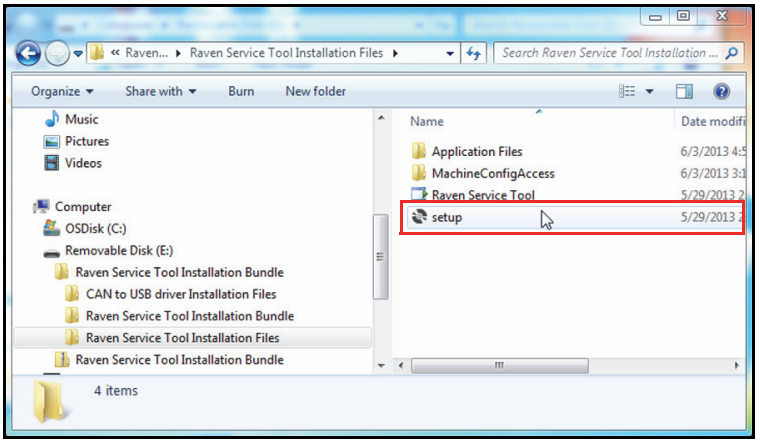
Note: *The message "Installing device driver software" will appear in the lower-right corner of the computer screen. Two drivers will automatically be installed - one on the computer and one on the USB to CAN converter.*

Install the Raven Service Tool

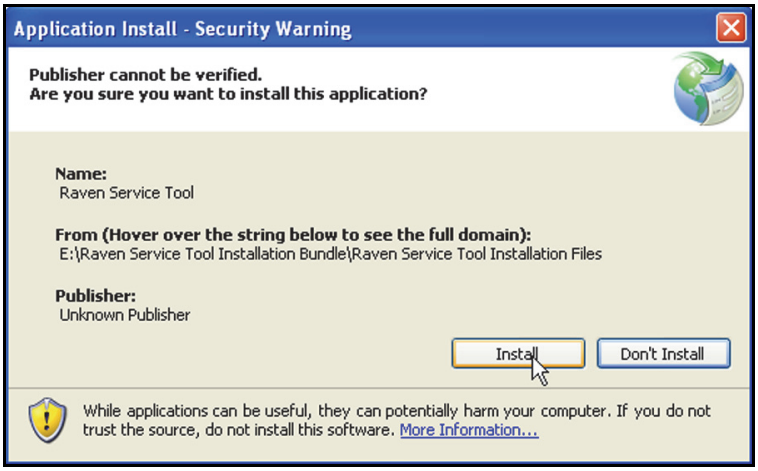
FIGURE 7. Raven Service Tool Installation Bundle Folder Contents



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



30. Double-click (Windows XP) or right-click (Windows 7) on **setup**. The following screen will appear:



31. Select **Install**.

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

CHAPTER 3

Routine Operation

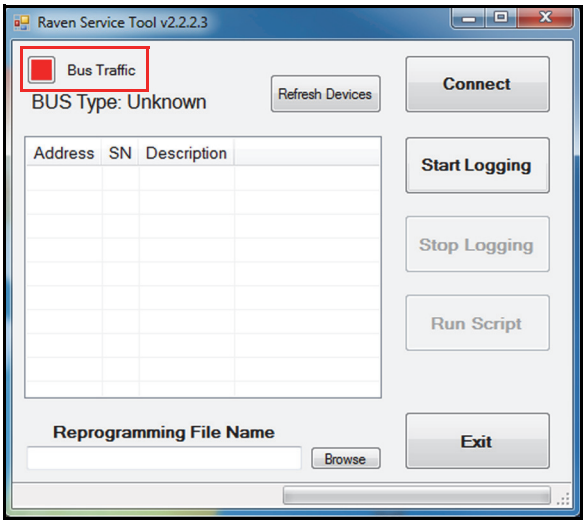
Getting Started

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-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.

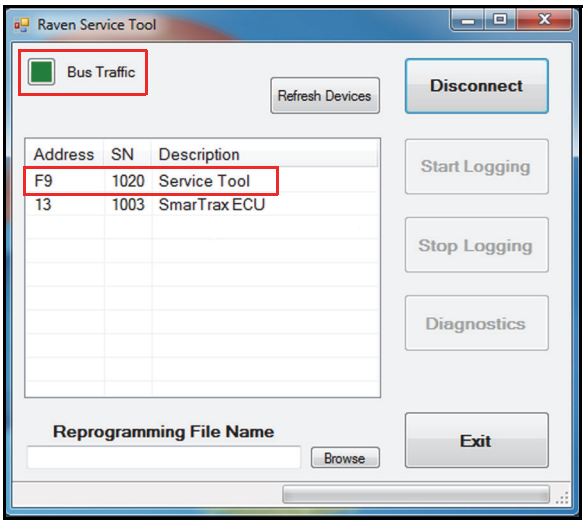
FIGURE 2. **Raven Service Tool Shortcut**

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.*

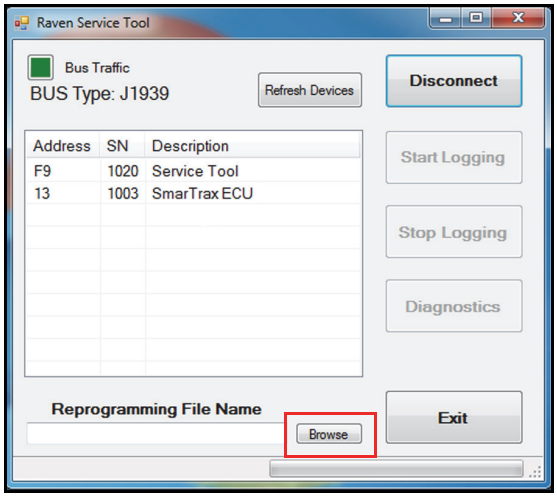
5. Select **Connect**. The following screen will appear:



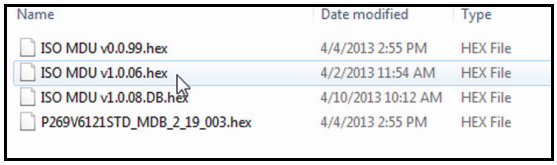
Note: *The device should appear in the device list and the Bus Traffic icon should be flashing green. The system is now actively functioning on the CAN bus.*

Programming the Node

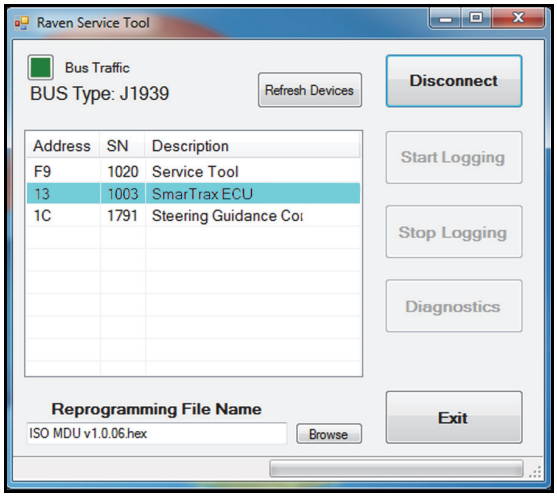
FIGURE 3. Raven Service Tool Main Screen



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*

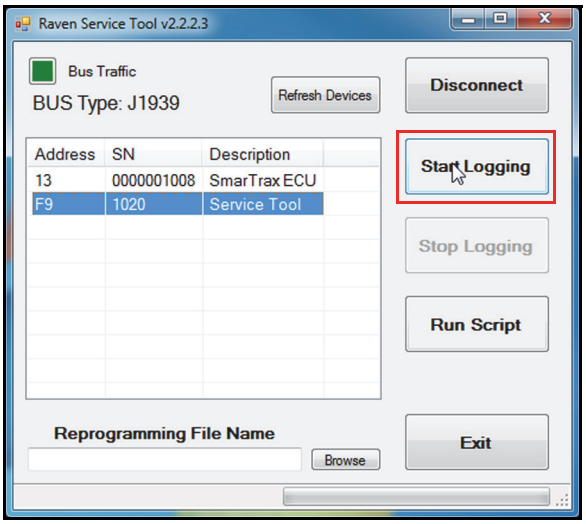
process from step 3 in the Getting Started section on page 13. If the programming process continues to fail, refer to Chapter 4, Troubleshooting to troubleshoot the error.

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.*

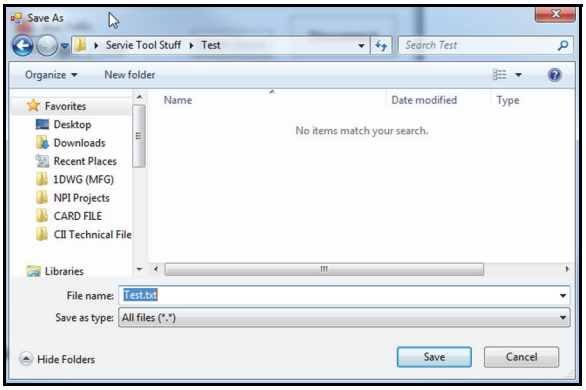
Taking a CAN Trace

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:

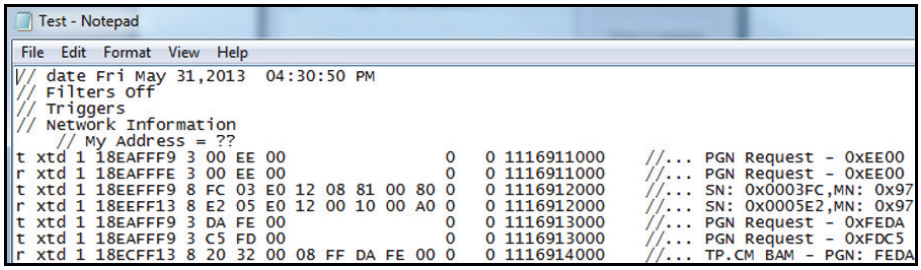


2. Name the new ".txt" file or select an existing file to which to save the data, then select **Save**.

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**. The CAN trace should appear similar to the example shown in Figure 5 on page 17.*

FIGURE 5. CAN Trace Example

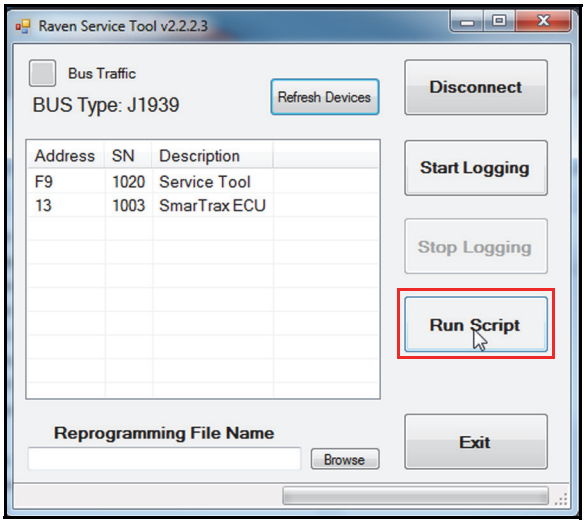


3. To close the application, select **Exit**.

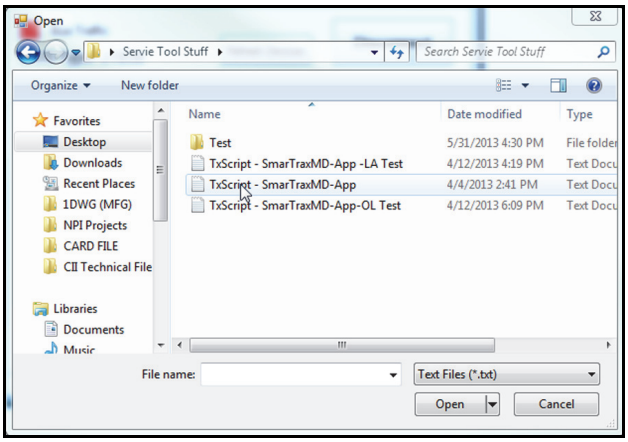
Running Test Scripts

Test scripts are used to test functionality of various settings in the system.

FIGURE 6. Raven Service Tool Main Screen

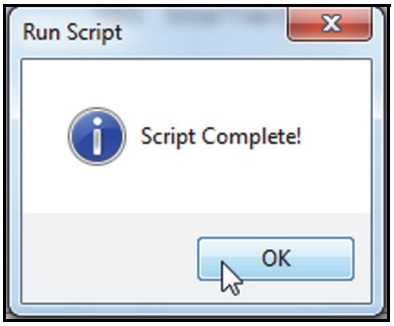


1. Select **Run Script**. The following window will appear:



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

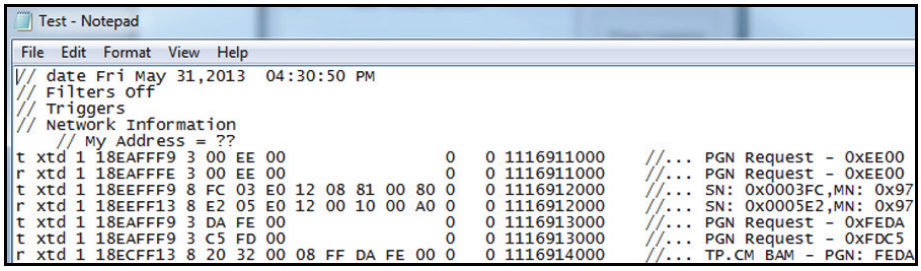
Issue	Possible Cause	Corrective Action
The Bus Traffic icon will not change to green.	Loose or incorrect CAN connections.	Verify CAN connections are secure and correct.
	The Raven Service Tool driver is not installed.	Verify the drivers and program are installed correctly.
The device to be programmed is not highlighted in blue.	Possible conflict with the chosen programming .hex file.	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.	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.
		Connect Raven Technical Support.

Frequently Asked Questions

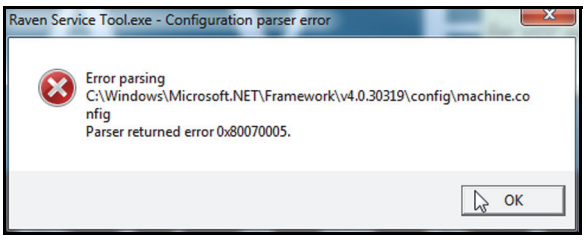
- How do I know which device needs to be programmed?
  Verify the name in the description field matches that of the device installed on the machine.

- How can I tell to which CAN bus the system is connected?
  Check the name in the BUS Type field.

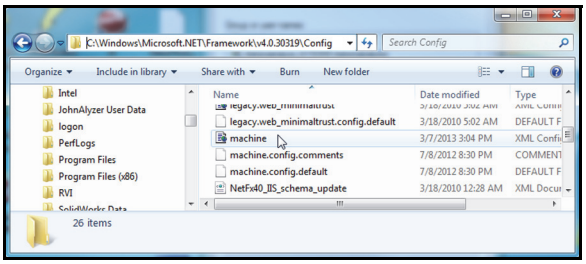
- How can I tell if the CAN trace I performed was successful?
  1. Verify the .txt file size is appropriate, indicating that the document contains data.
  2. Open the file and verify it appears similar to the example below:



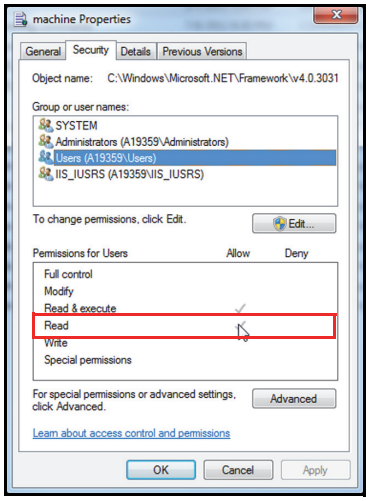
- What should I do if the “Error parsing” message below appears?



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.



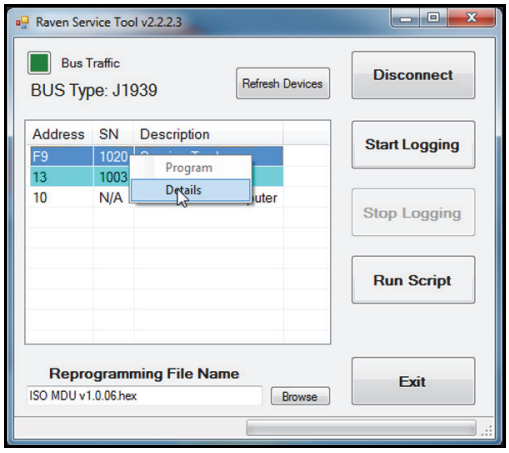
2. Right-click on “machine”, then select “Properties”.



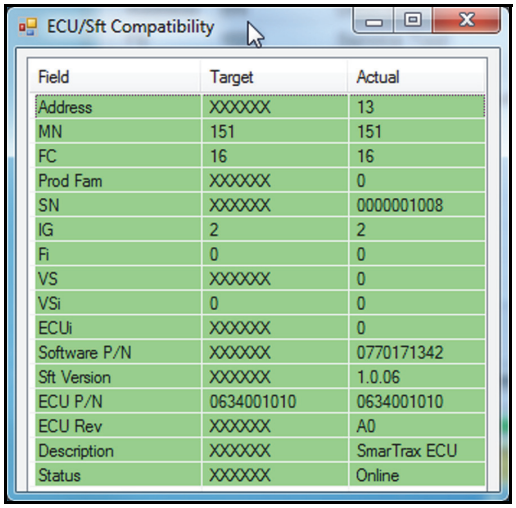
3. Highlight “Users (A19359\Users)”.
4. Verify that the “Read” option is checked under the “Allow” column.

- 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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RAVEN

Limited Warranty

What Does this Warranty Cover?

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Division product under normal use, maintenance, and service when used for intended purpose.

How Long is the Coverage Period?

Raven Applied Technology products are covered by this warranty for 12 months from the date of retail sale. In no case will the Limited Warranty period exceed 24 months from the date the product was issued by Raven Industries Applied Technology Division. This warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries.

What Will Raven Industries Do?

Upon confirmation of the warranty claim, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

What is not Covered by this Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit, labor, or other damages. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.

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RAVEN

Extended Warranty

What Does this Warranty Cover?

This warranty covers all defects in workmanship or materials in your Raven Applied Technology Division product under normal use, maintenance, and service when used for intended purpose.

Do I Need to Register My Product to Qualify for the Extended Warranty?

Yes. Products/systems must be registered within 30 days of retail sale to receive coverage under the Extended Warranty. If the component does not have a serial tag, the kit it came in must be registered instead.

Where Can I Register My Product for the Extended Warranty?

To register, go online to www.ravenhelp.com and select Product Registration.

How Long is the Extended Warranty Coverage Period?

Raven Applied Technology products that have been registered online are covered for an additional 12 months beyond the Limited Warranty for a total coverage period of 24 months from the date of retail sale. In no case will the Extended Warranty period exceed 36 months from the date the product was issued by Raven Industries Applied Technology Division. This Extended Warranty coverage applies only to the original owner and is non-transferable.

How Can I Get Service?

Bring the defective part and proof of purchase to your Raven dealer. If the dealer approves the warranty claim, the dealer will process the claim and send it to Raven Industries for final approval. The freight cost to Raven Industries will be the customer's responsibility. The Return Materials Authorization (RMA) number must appear on the box and all documentation (including proof of purchase) must be included inside the box to be sent to Raven Industries. In addition, the words "Extended Warranty" must appear on the box and all documentation if the failure is between 12 and 24 months from the retail sale.

What Will Raven Industries Do?

Upon confirmation of the product's registration for the Extended Warranty and the claim itself, Raven Industries will (at our discretion) repair or replace the defective product and pay for the standard return freight, regardless of the inbound shipping method. Expedited freight is available at the customer's expense.

What is Not Covered by the Extended Warranty?

Raven Industries will not assume any expense or liability for repairs made outside our facilities without written consent. Raven Industries is not responsible for damage to any associated equipment or products and will not be liable for loss of profit, labor, or other damages. Cables, hoses, software enhancements, and remanufactured items are not covered by this Extended Warranty. The obligation of this warranty is in lieu of all other warranties, expressed or implied, and no person or organization is authorized to assume any liability for Raven Industries.

Damages caused by normal wear and tear, misuse, abuse, neglect, accident, or improper installation and maintenance are not covered by this warranty.

Raven Service Tool
Installation & Operation Manual
(P/N 016-5030-022 Rev A 06/13 E21726)

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