



UTCIS™ Engine Management Software
(Patent Pending)

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User's Guide for UTCIS™ Engine Management Software



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NOTICE REGARDING WARRANTIES

The *UnwiredTools™* UTCIS™ Engine Management Software comes with no Warranty. With regard to this Manual and the information in it (the “Manual”), please note that, although UnwiredTools has endeavored to make it as accurate and informative as possible, the variability of vehicles, the circumstances of installation, changes from year to year, and other factors make it impossible for UnwiredTools to guarantee that this information is accurate and/or directly applicable for your vehicle and your particular circumstances. The information in this Manual therefore is provided as a general guide or illustration. It is your responsibility and not that of UnwiredTools to ensure that this Product is suitable for your vehicle and that it meets your needs or requirements. This Manual is provided “as is” and without any warranties of any kind. UnwiredTools makes no representations or warranties with respect to this Manual, e.g., as to its accuracy, completeness or appropriateness to any particular vehicle or situation. UNWIREDTOOLS HEREBY DISCLAIMS ANY AND ALL WARRANTIES AS TO THIS MANUAL, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. UNWIREDTOOLS ALSO DISCLAIMS ANY LIABILITY FOR YOUR USE OF THE MANUAL. PLEASE USE IT AT YOUR OWN RISK. This Manual may be updated from time to time. Users are encouraged to visit our Web site at www.unwiredtools.com to obtain the latest version, to obtain information about the Product, and to obtain other support information.

NOTICE REGARDING TRADEMARKS

UnwiredTools™, UTCIS-G™, UTCIS-V™ and UTCIS-PT™ are trademarks of UnwiredTools, LLC. All other trademarks referred to herein are the marks of their respective companies, and not of UnwiredTools, LLC.



WARNING: READ BEFORE BEGINNING USE OF SOFTWARE

1. Read this entire Manual before using the software.
2. Be sure that your UTCIS™ product is properly installed.
3. Make sure your vehicle is immobilized, e.g., in park with the emergency brake engaged.

Important Note:

YOU, and not UnwiredTools, LLC., are 100% responsible for the configuration you put into your UTCIS™ unit. You are responsible for reviewing all Engine Maps prior to programming your UTCIS™ unit. If you are unsure of what values should be put into your UTCIS™ unit, please consider hiring a professional service technician who is qualified with the Bosch K-Jetronic™ CIS fuel injection system.

Be sure to know what values of Control Pressure are correct for YOUR installation. The UTCIS™ Engine Management Software is designed as a universal tool for our products, which operate a many different makes and models of vehicles. Just because you can configure an Engine Map to a particular value does not mean it is correct for YOUR vehicle. Some values can be harmful to YOUR vehicle. For example, if you set Control Pressure to a value that results in a fuel mixture which is too lean for your car, it can cause serious engine damage. UnwiredTools is not responsible for misuse or improper configuration of an Engine Map.



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Theory of Operation

The UTCIS™ Engine Management Software is required to configure your UTCIS-G™, UTCIS-V™, or UTCIS-PT™ product. For the most up to date information available on the UnwiredTools UTCIS™ product line, the most recent manual, and most recent revision of the UTCIS™ Engine Management Software, please visit our website at <http://unwiredtools.com>. ***It is highly recommended that a qualified technician familiar with the Bosch K-Jetronic™ CIS fuel injection system operate the UTCIS™ Engine Management Software to prevent damage to your vehicle.***

Each of the products in the UTCIS™ product family functions as a replacement for an OEM Warm Up Regulator. By manipulating Control Pressure, the UTCIS™ product controls the fuel mixture on a Bosch K-Jetronic™ CIS equipped vehicle.

Each installed UTCIS™ product contains a single Engine Map which contains configuration information instructing the UTCIS™ product on how it should operate for your particular vehicle. All Engine Maps **must** be customized by the user for the specific vehicle installation. The UTCIS-G™, UTCIS-V™, and UTCIS-PT™ products each have slightly different capabilities, but each is configured by the UTCIS™ Engine Management Software (hereinafter referred to as the Software) in a similar manner. This document explains the generic configuration steps for setting up an Engine Map. **The specific values for your vehicle's UTCIS™ product are your responsibility. Any values used in this manual are representative samples for demonstration only and are intentionally not values for any particular vehicle.**

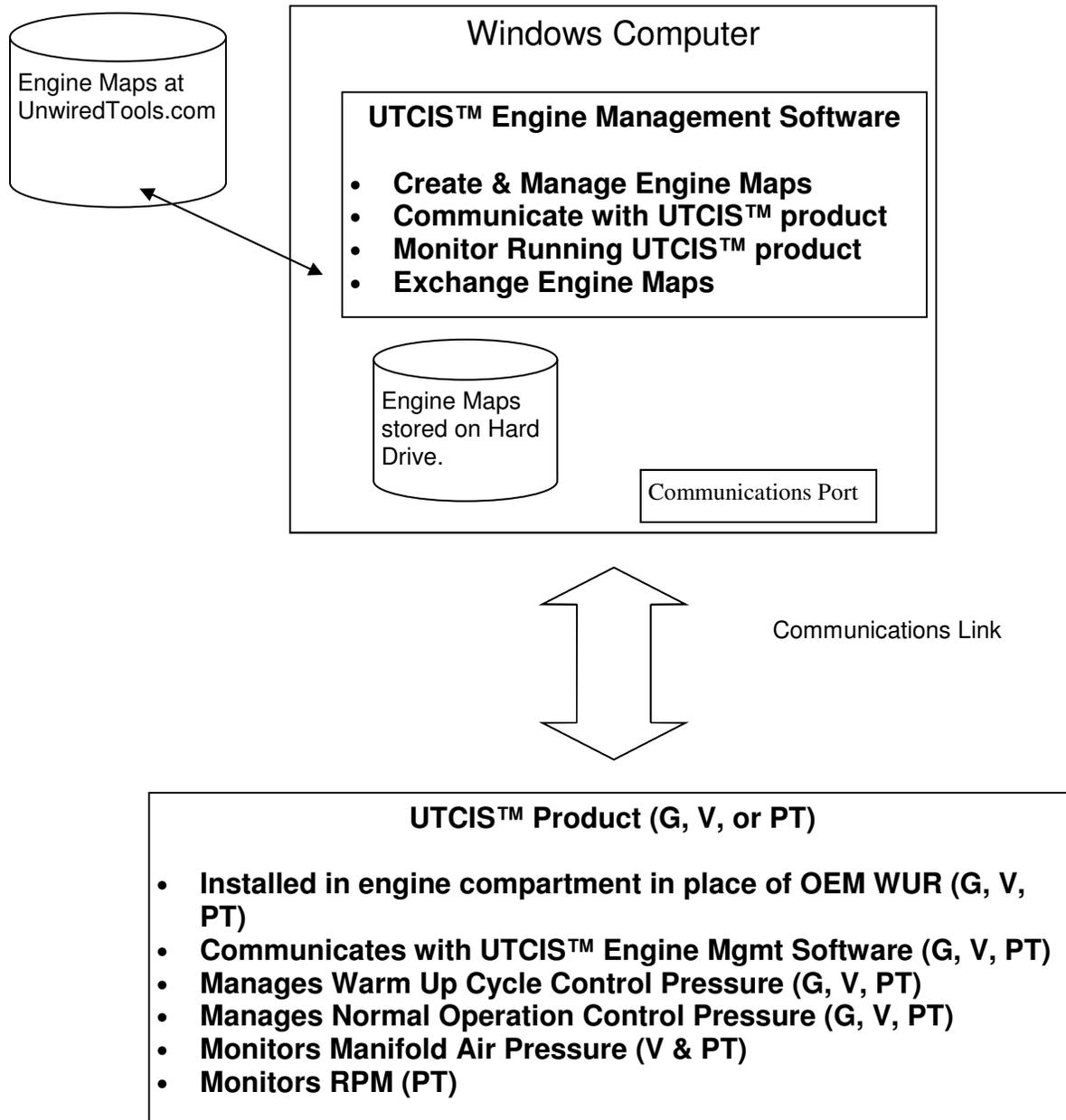
The Software, which runs on your Windows computer, communicates with your UTCIS™ unit via a serial connection. This connection may also be a wireless Bluetooth™ connection with the use of Bluetooth accessories which are not part of the UnwiredTools product.

All UTCIS™ Engine Maps contain general information about the map as well as a "Warm Up Cycle" map which represents the desired control pressure values for use when your engine is cold. Warm Up conditions are considered to be in the range of 0 to 40 degrees Celsius.

Depending on the model of your UTCIS™ product, there are model-specific configuration capabilities available in the Software, as described in this document.



System Architecture





System Requirements

- Windows™ 2000, XP or Vista Operating System
- 500 Mb of RAM
- 20 Mb of Disk Space
- 1 Serial Port (RS232). Alternatively a USB to Serial adapter may be used if a serial port is not available.
- Minimum video resolution is 1024 x 768



Logging in with a Registered User Number

All users of the UTCIS™ Engine Management Software must first register with UnwiredTools at UnwiredTools.com. There is no cost to register.



- Enter your Registered User Number and click on "Login"
- Click on "Register Now" if you do not already have a Registered User Number. This will direct you to a registration screen at UnwiredTools.com. Fill out the requested information and your Registered User Number will be emailed to you along with a link to download the latest version of the software. **(Internet Connection Required.)**
- If you forget your user number, simply click on the "I forgot..." link and you will be directed to a webpage which will help you retrieve your Registered User Number. **(Internet Connection Required.)**

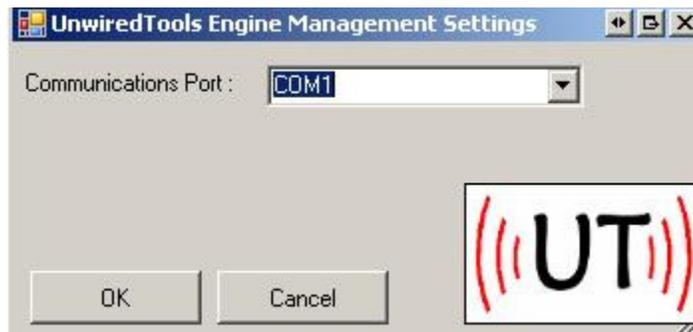


Connecting to your installed UTCIS™ product.

Your UTCIS™ unit is equipped with a serial communications port. To specify the communications port connected to your UTCIS™ unit, select the Settings menu:



Choose the port name from the list, or if it is not already in the list, type it into the box. The name of the port should be COM followed by a digit. If you are connecting to your UTCIS™ unit with a Bluetooth™ port, it is likely that you will need to type in the name of your port. For example, your Bluetooth™ port might be located at COM9.



The Software automatically opens the connection to the UTCIS™, assuming it is connected. If it is connected, live data will appear in the monitoring graphs and a DATA indicator will flash on the Home Screen periodically.

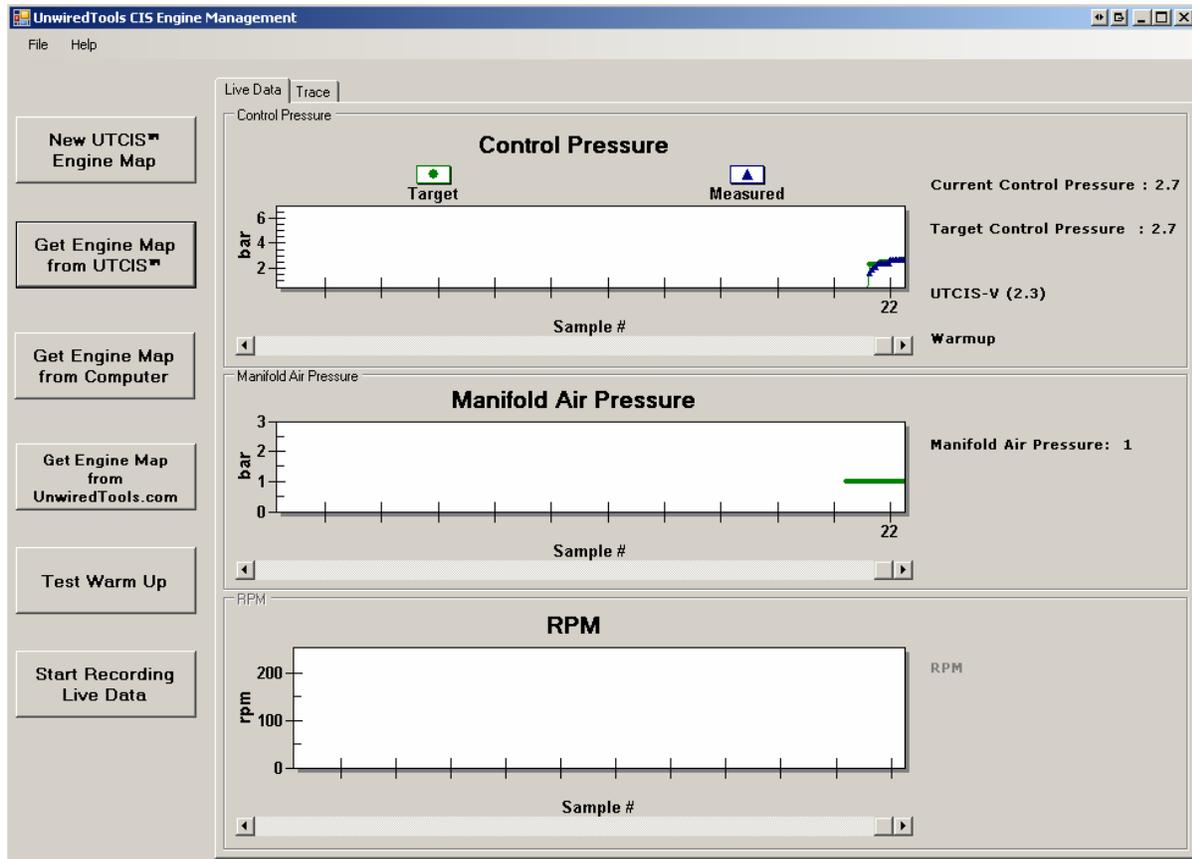
No other configuration is required to communicate with your UTCIS™ unit.



Home Screen

The Home Screen is your main interface to the UTCIS Engine Management Software.

This screen has live data monitoring of Control Pressure, Manifold Air Pressure, and RPM, depending on the product model. The Trace tab displays progress information during various operations.

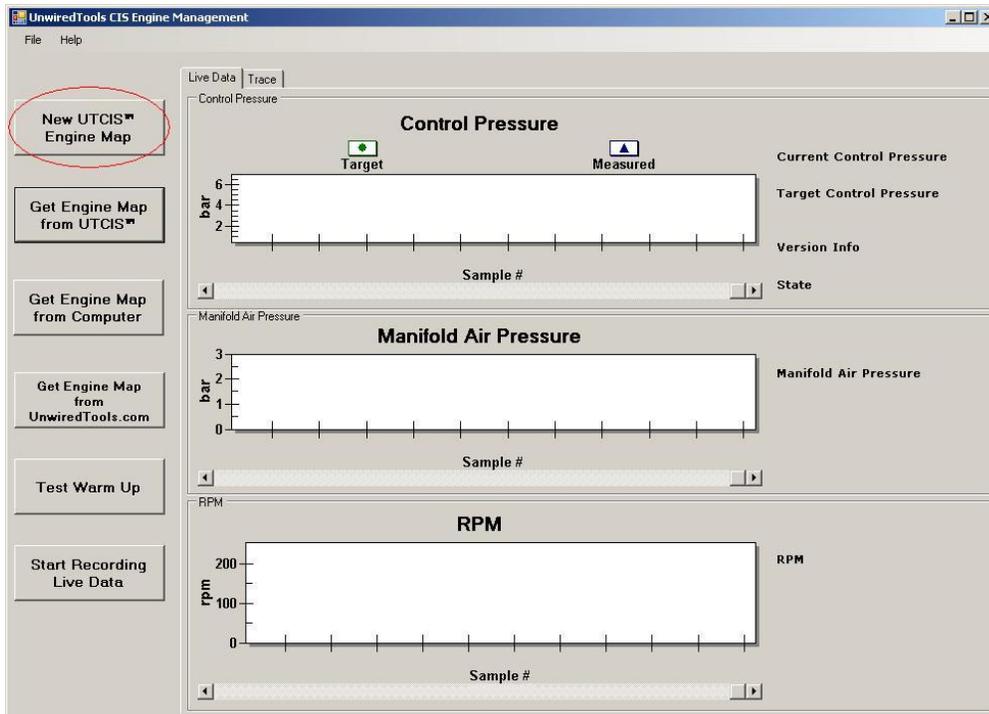


The buttons on the left side of the screen offer a number of the most common functions performed with the Software.



Creating a New Engine Map

To create a new Engine Map, click on the button, “New UTCIS™ Engine Map”.



When prompted, select the type of UTCIS™ Engine Map you would like to create and click on “Select”. Note that you must select the version corresponding to the specific UTCIS™ part you have installed on your vehicle.

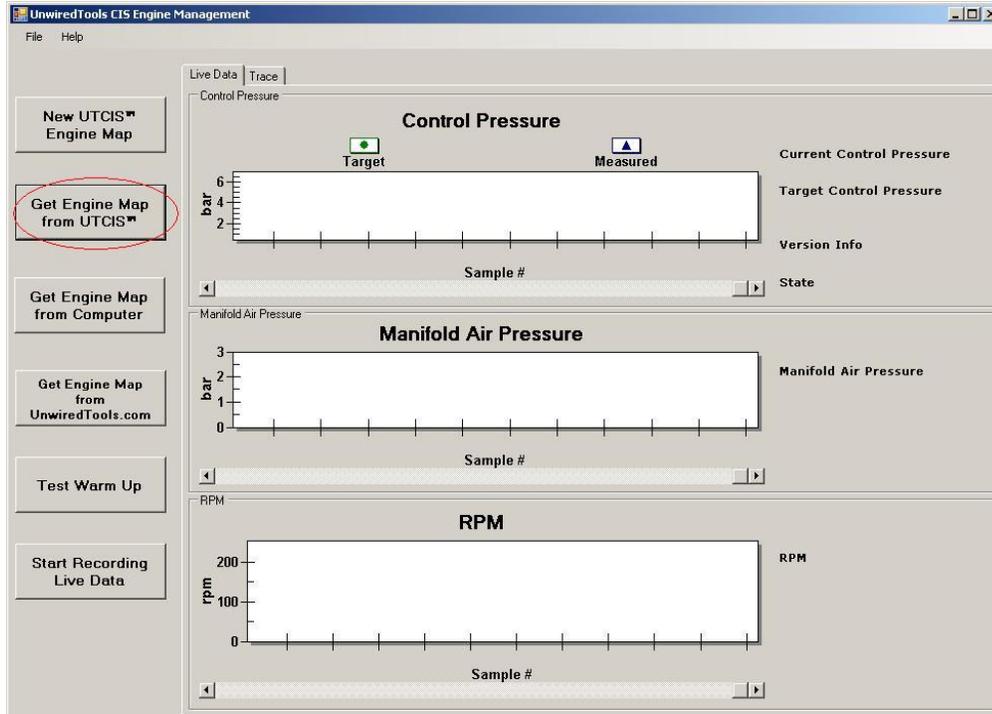




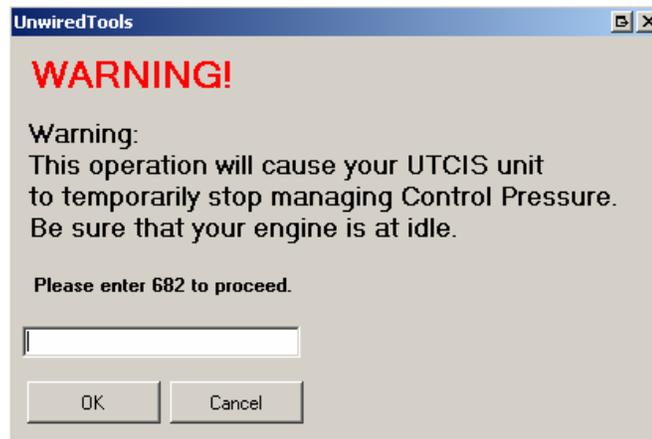
Opening an existing Engine Map

There are three different ways to open an existing Engine Map:

1. Read the Map in from an installed UTCIS™ product:



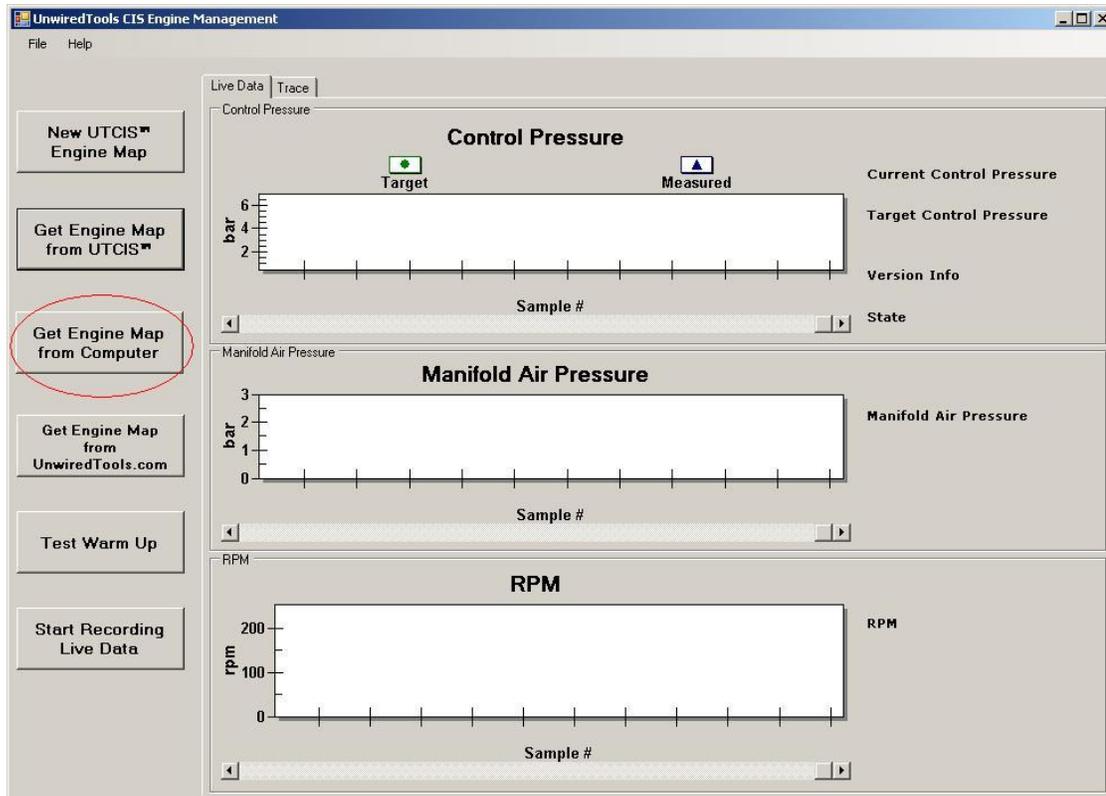
Please note that any time an Engine Map is read from a UTCIS™ unit, you must confirm the action by entering a three digit authorization code. The UTCIS™ unit will temporarily stop managing control pressure while communicating with the Software. **Be sure that your engine is at idle before proceeding!** This code is randomized to make sure that you stop to read the warning message.





Opening an existing Engine Map, continued

2. Read the Map in from your computer's hard drive.



Alternatively, the File | Open menu option can be used to find an existing Engine Map on your hard drive

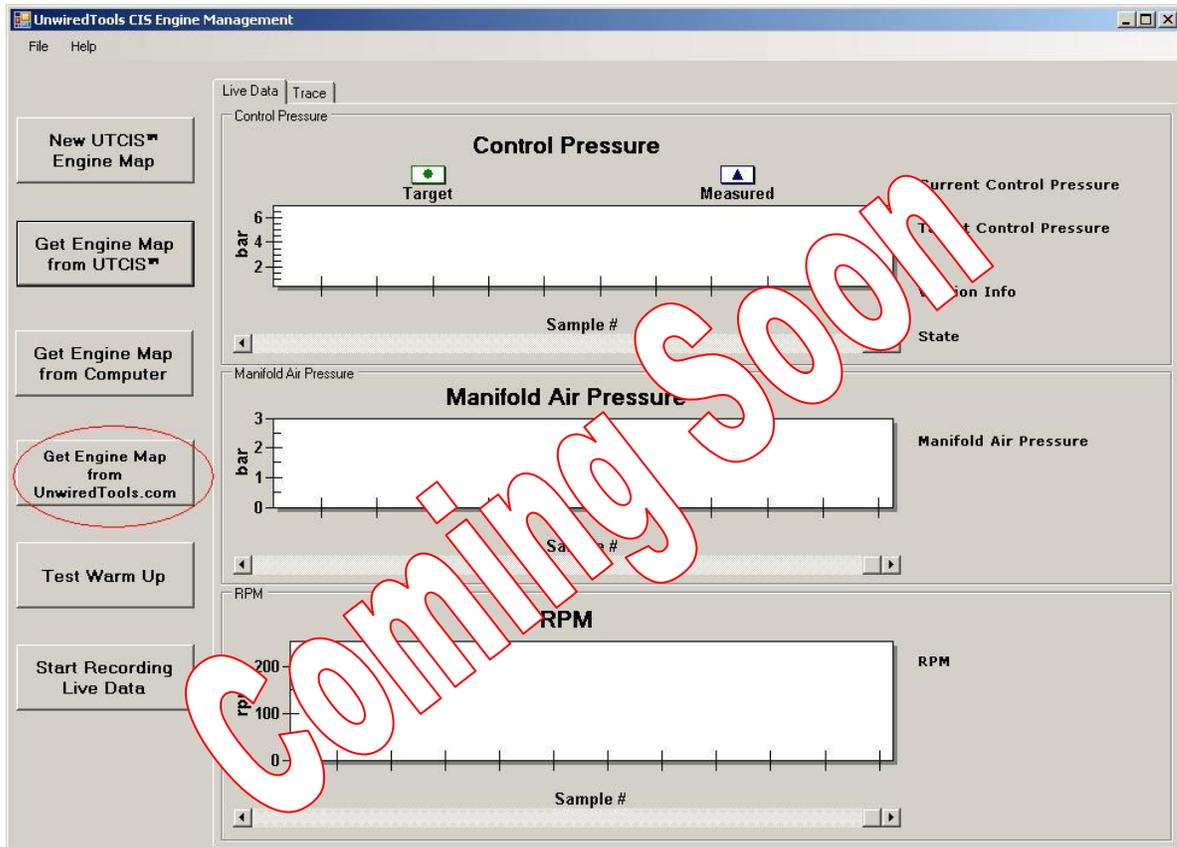
UTCIS™ Engine Map's are stored with a file extension of **.utcis**.

NOTE: The contents of your UTCIS™ Engine Map are not user-modifiable. Do not attempt to modify this file outside of the UTCIS™ Engine Management Software application.



Opening an existing Engine Map, continued

3. Read the Map in from the UnwiredTools.com website.



The UnwiredTools.com website has a repository of Engine Maps available for download as starting points for your Engine Maps.

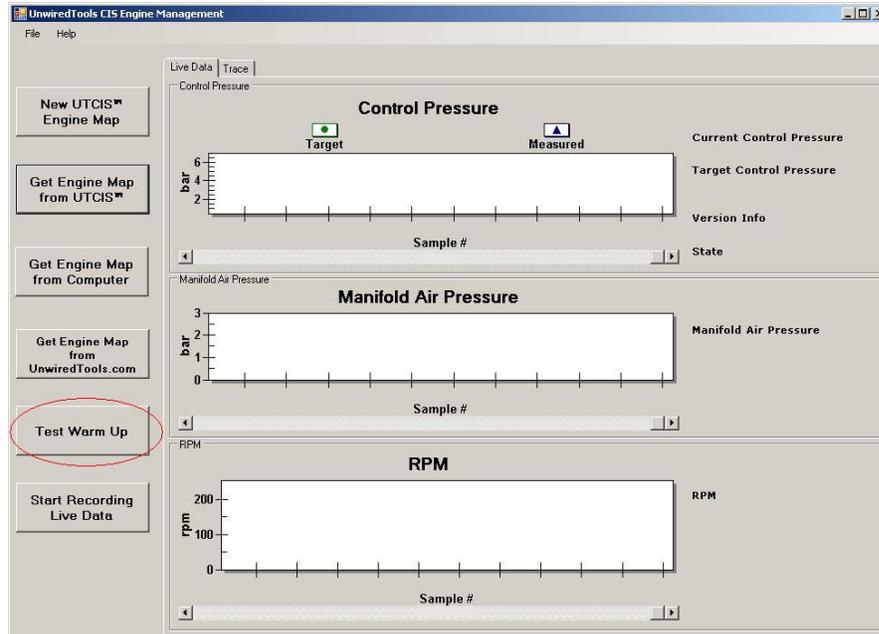
NOTE: No matter the source of an Engine Map, it is your responsibility to verify the contents of the Engine Map to validate that the settings are appropriate for your vehicle.

NOTE: This feature is not presently enabled in the software. It is coming in a future release of the Software.

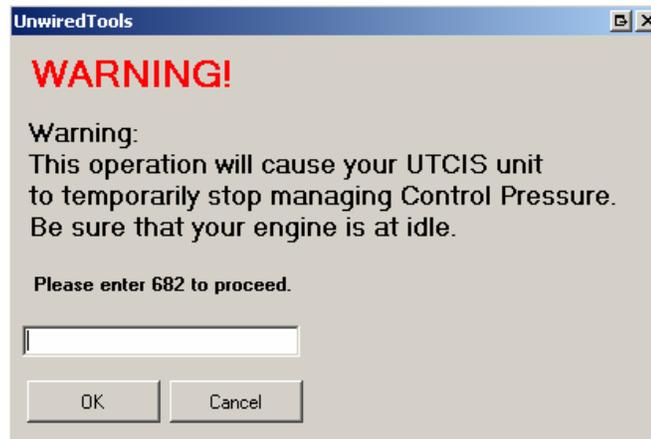


Test Warm Up

You can test Warm Up mode by selecting the 'Test Warm Up' button on the left side of the Home Screen.



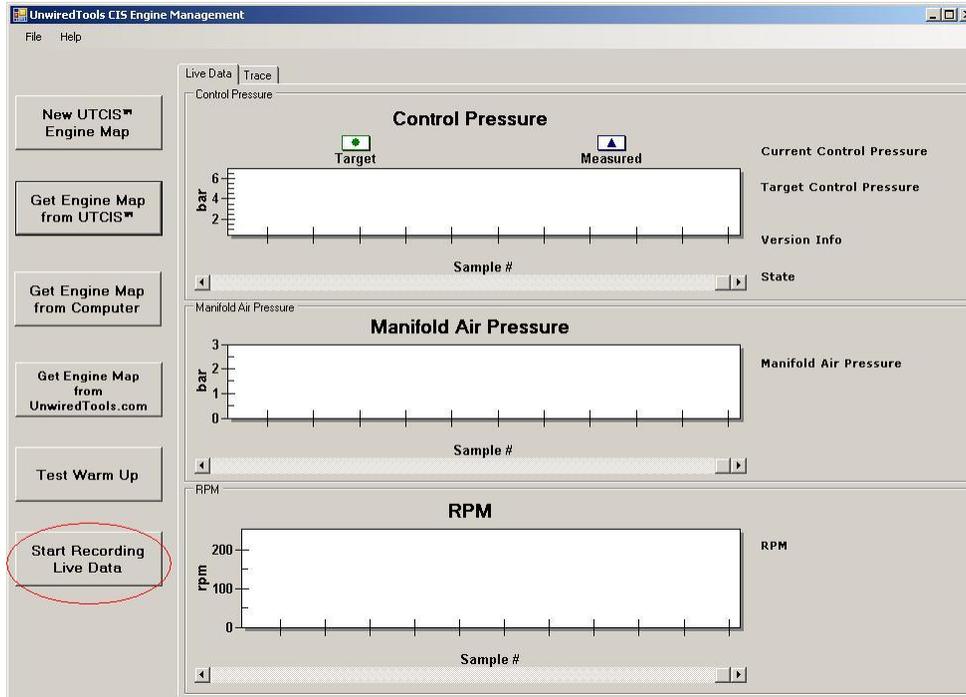
Please note that any time you Test Warm Up on a UTCIS™ unit, you must confirm the action by entering a three digit authorization code. The UTCIS™ unit will temporarily stop managing control pressure as it transitions into Warm Up mode. **Be sure that your engine is at idle before proceeding!** This code is randomized to make sure that you stop to read the warning message.





Recording Live Data

This option allows you to record the operational data coming from the UTCIS™ unit to a disk file on your computer which may be reviewed at a later time.



A file name is suggested, but you can change the file name as desired. Please note that this file is **appended**, not over-written each time you initiate the recording process. Once the recording has commenced, you can select the button once more to stop recording. Log files have an extension of **.utcislog**.

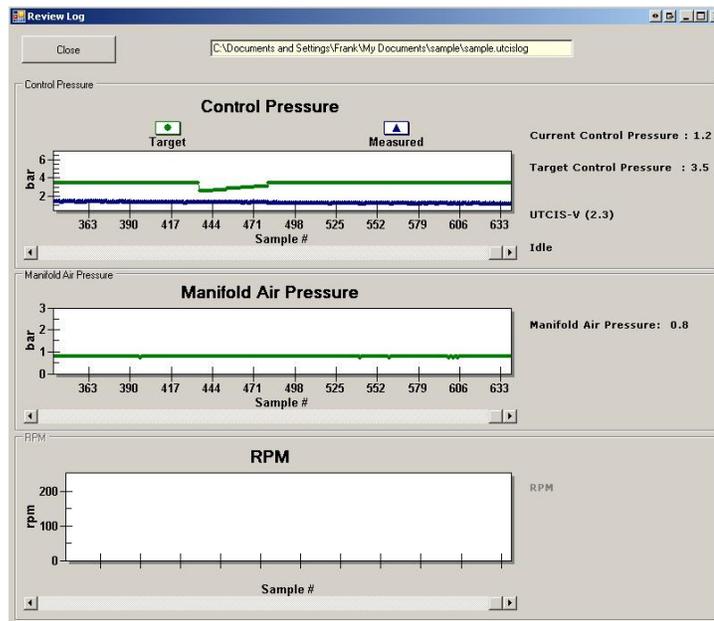
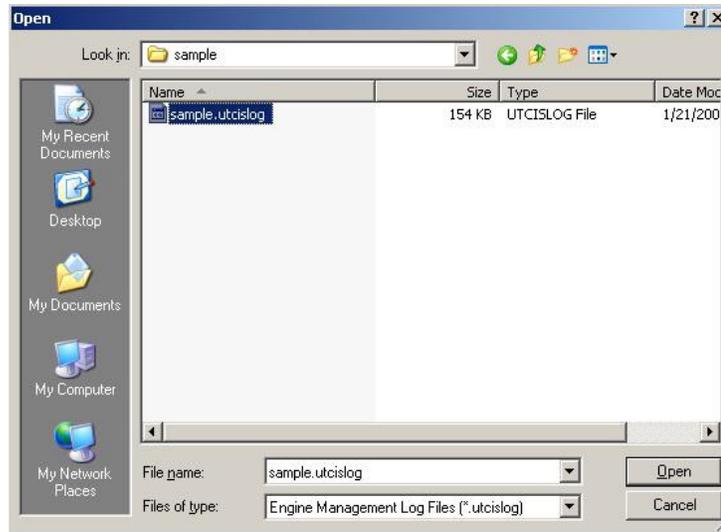


NOTE: This feature is meant for relatively short recording sessions—do not leave this running for an extended period of time as your computer may run out of disk space. A typical recording session is between 2 and 10 minutes in duration.



Replaying Captured Data

You may replay a recorded session by opening the log file via the File | Open menu. Change the file type filter to select log files as seen in the image below.



NOTE: This recorded session was taken from a bench setup for purposes of documentation only. This session was recorded from a UTCIS-V™. On a UTCIS-PT™, there is data in the RPM graph.



Managing Engine Maps

Configuring an Engine Map

- Every UTCIS™ Engine Map has the common elements of descriptive fields and the Warm Up Cycle Management tab.
- Fill out the Map Name and Notes field as desired.
- The author field is automatically populated with your Registered User Number and is stored in the UTCIS™ Engine Map. In this manner it is possible to determine the last person who has configured the Engine Map.
- The Last Modified field tracks the date and time of the most recent edit or change to the Engine Map.

The screenshot shows a software window titled "New Engine Management Map". It has a tabbed interface with three tabs: "General Info", "Warm Up Cycle Management", and "UTCIS-G". The "General Info" tab is active and highlighted with a red circle. Below the tabs are four input fields:

- Map Name :** Untitled Map
- Map Author :** (empty field)
- Map Notes :** UnwiredTools Engine Management Map
- Last Modified :** 1/24/2008 9:46:54 AM

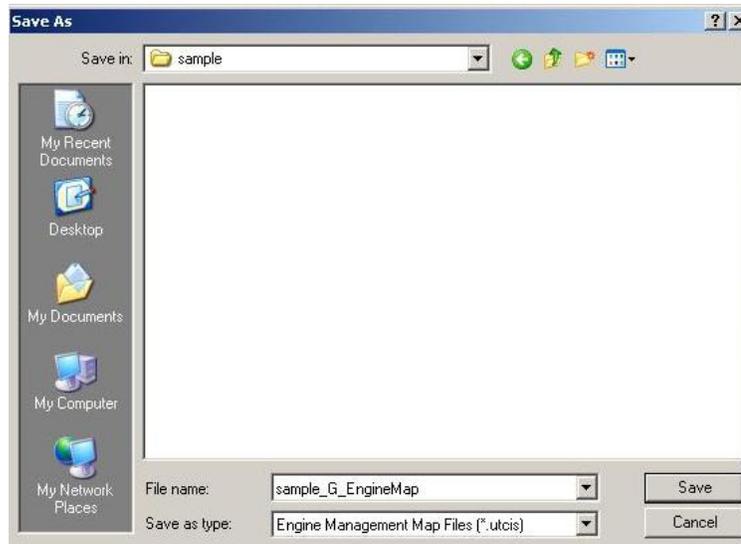
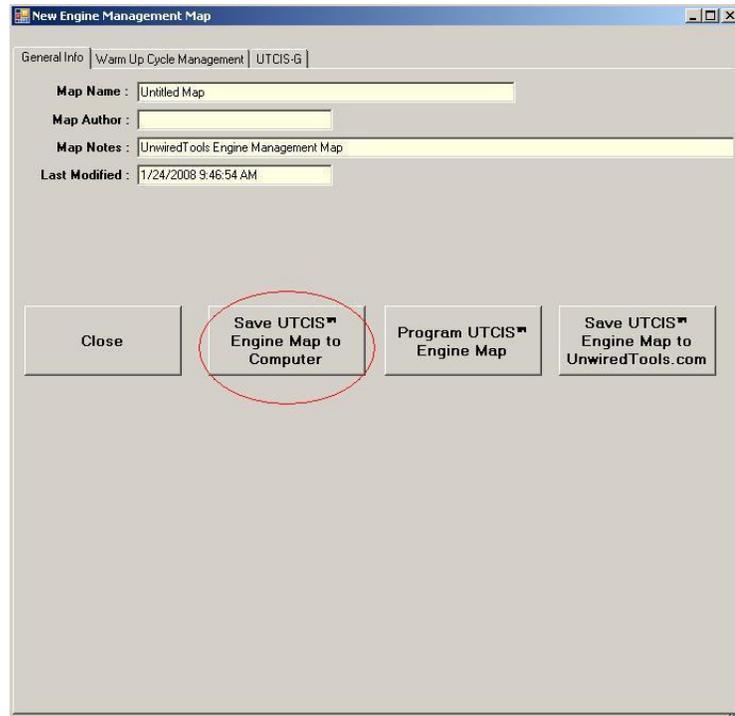
At the bottom of the window, there are four buttons arranged horizontally:

- Close
- Save UTCIS™ Engine Map to Computer
- Program UTCIS™ Engine Map
- Save UTCIS™ Engine Map to UnwiredTools.com



Managing Your Engine Map

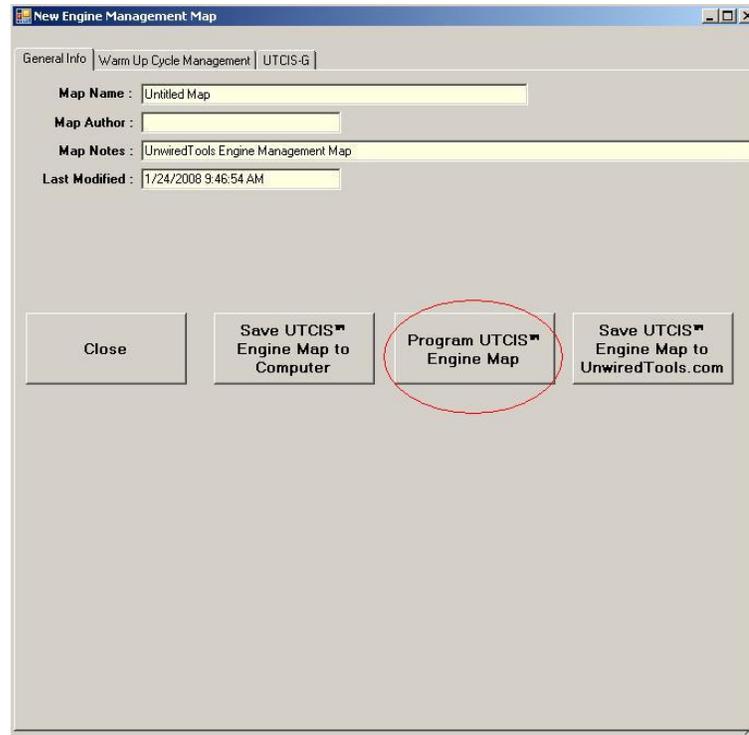
Saving an Engine Map to Your Computer's Hard Drive



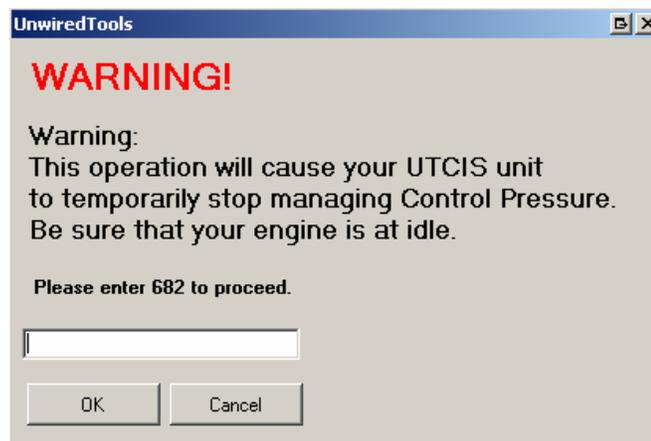


Managing Your Engine Map

Programming an Engine Map to an installed UTCIS™ unit.



Please note that any time you Program an Engine Map, you must confirm the action by entering a three digit authorization code. The UTCIS™ unit will temporarily stop managing control pressure as it communicates with the Software. **Be sure that your engine is at idle before proceeding!** This code is randomized to make sure that you stop to read the warning message.

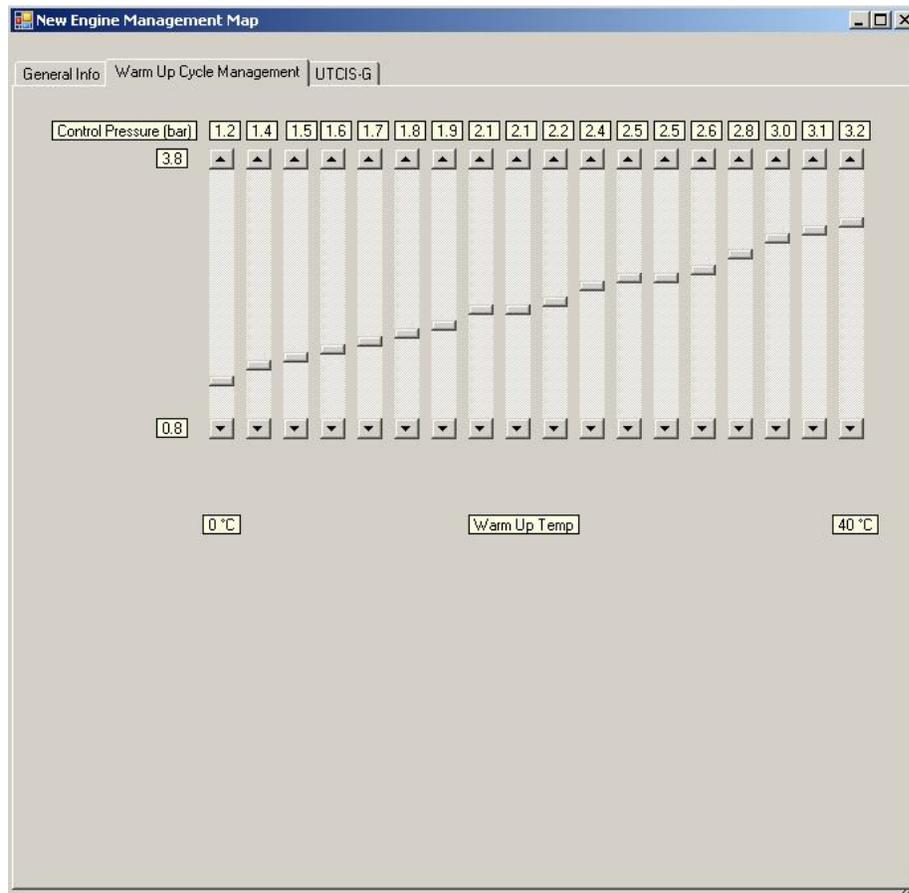




Managing Your Engine Map, continued.

Warm Up Cycle Management

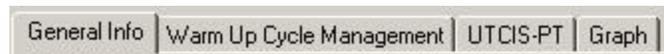
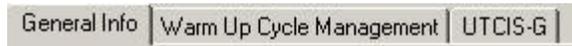
- The Engine Map's minimum settable Warm Up Control Pressure is 0.8 bar.
- The Engine Map's maximum settable Warm Up Control Pressure is 3.8 bar.
- The Engine Map's Warm Up Cycle operates over a temperature range extending from 0 to 40 degrees Celsius.
- Specify the desired Warm-Up curve by moving the slide bars up and down to select the desired Control Pressure in units of bar.





Managing Your Engine Map, continued.

Depending on the kind of Engine Map you are managing, there will be different options available for configuration. These specific options are found under a version specific tab, as seen below.



Regardless of the version of your UTCIS™ Engine Map (UTCIS-G™, UTCIS-V™, UTCIS-PT™), any time you specify Control Pressure for normal operation, ie, not Warm Up, the range of selectable Control Pressure is between 2.0 and 5.5 bar inclusive. Moving the slider bar up and down raise and lower the selected Control Pressure respectively.



NOTE: Be sure to know what values of Control Pressure are correct for YOUR installation. The UTCIS™ Engine Management Software is designed as a universal tool for our products, which operate a many different makes and models of vehicles. Some values can be harmful to YOUR vehicle.



Managing Your Engine Map, continued.

UTCIS-G™

UTCIS-G™ Engine Maps allow you to set the desired Control Pressure used when the unit is out of Warm-Up mode. This single value is the only configuration setting specific to the UTCIS-G™ Engine Map.

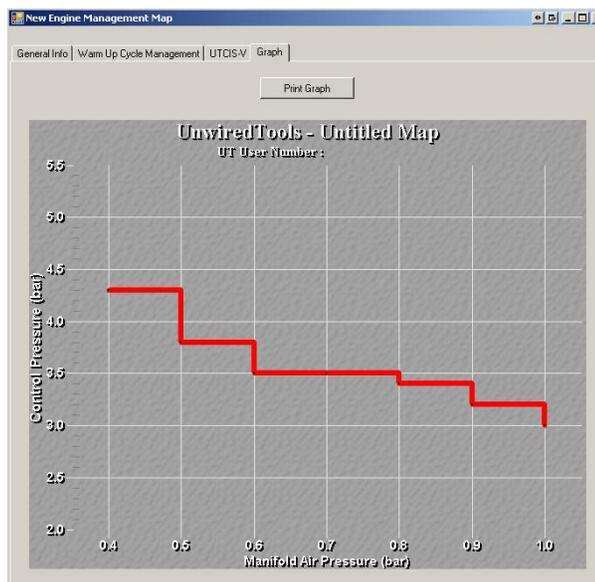
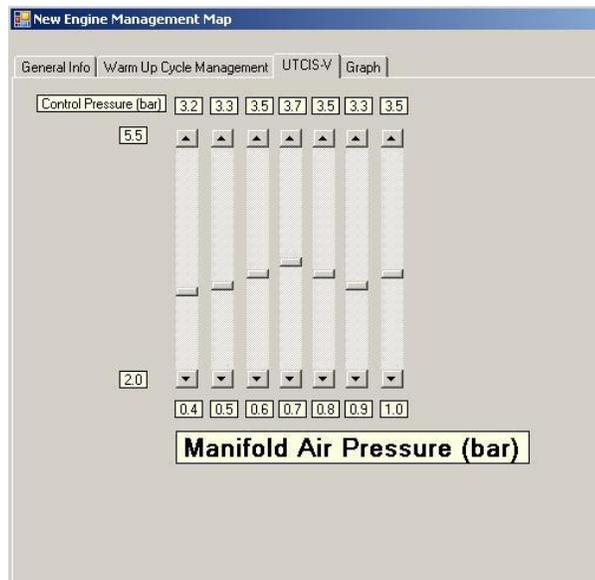




Managing Your Engine Map, continued.

UTCIS-V™

UTCIS-V™ Engine Maps allow you to set the desired Control Pressure values used when the unit is out of Warm-Up mode across a range of Manifold Air Pressure (MAP) values. The supported range of MAP is 0.4 through 1.0 bar (1 atmosphere), inclusive. Note that Turbo applications with MAP values above 1.0 bar (boost pressure) are not explicitly supported with the UTCIS-V™.





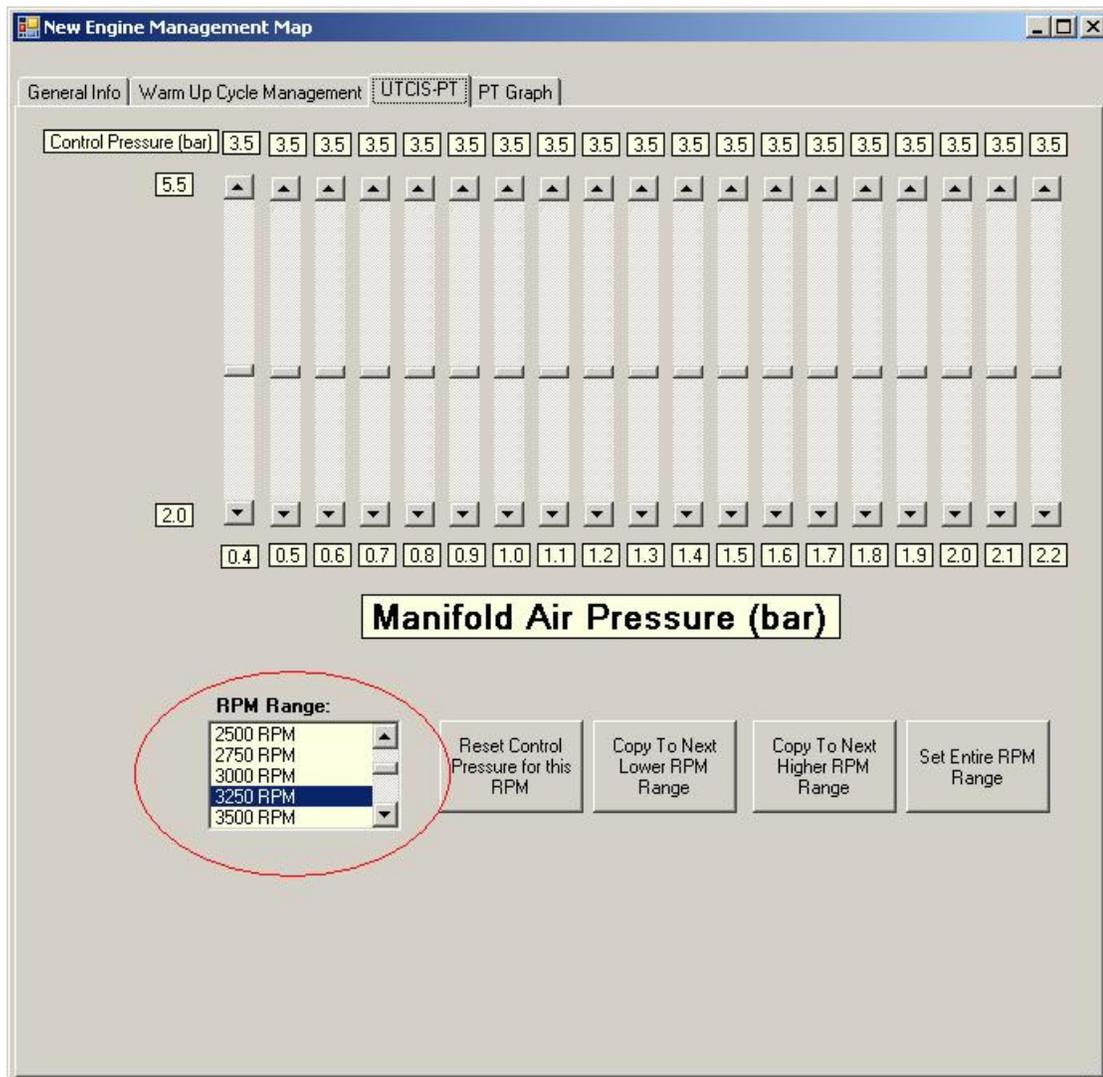
Managing Your Engine Map, continued.

UTCIS-PT™

UTCIS-PT™ Engine Maps allow you to set the desired Control Pressure values used when the unit is out of Warm-Up mode across a range of Manifold Air Pressure (MAP) values and at a series of RPM Ranges.

The supported range of MAP is 0.4 through 2.2 bar, inclusive.

The supported range of RPM is from 1000 through 7000 RPM in increments of 250.





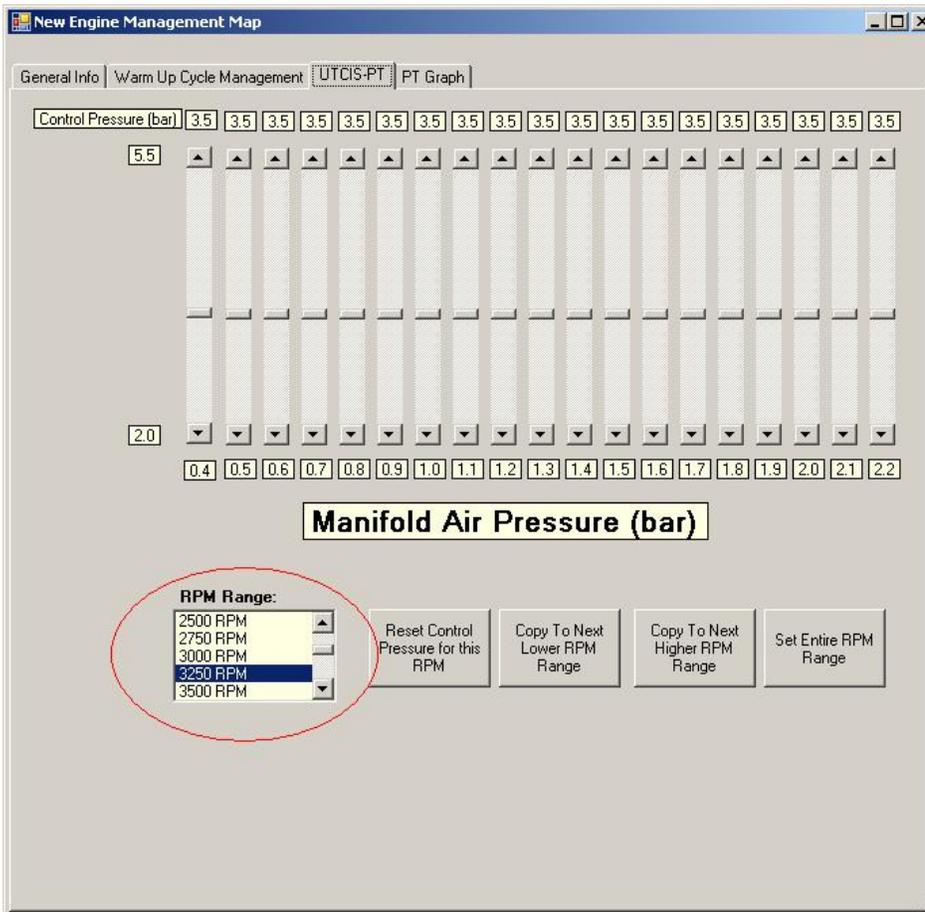
Managing Your Engine Map, continued.

UTCIS-PT™

UTCIS-PT™ Engine Maps allow you to set the desired Control Pressure values used when the unit is out of Warm-Up mode across a range of Manifold Air Pressure (MAP) values and at a number of RPM ranges. Control Pressure values for the UTCIS-PT™ are managed in RPM ranges.

The supported range of MAP is 0.4 through 2.2 bar, in increments of 0.1 bar.

The supported range of RPM is from 1000 through 7000 RPM in increments of 250.



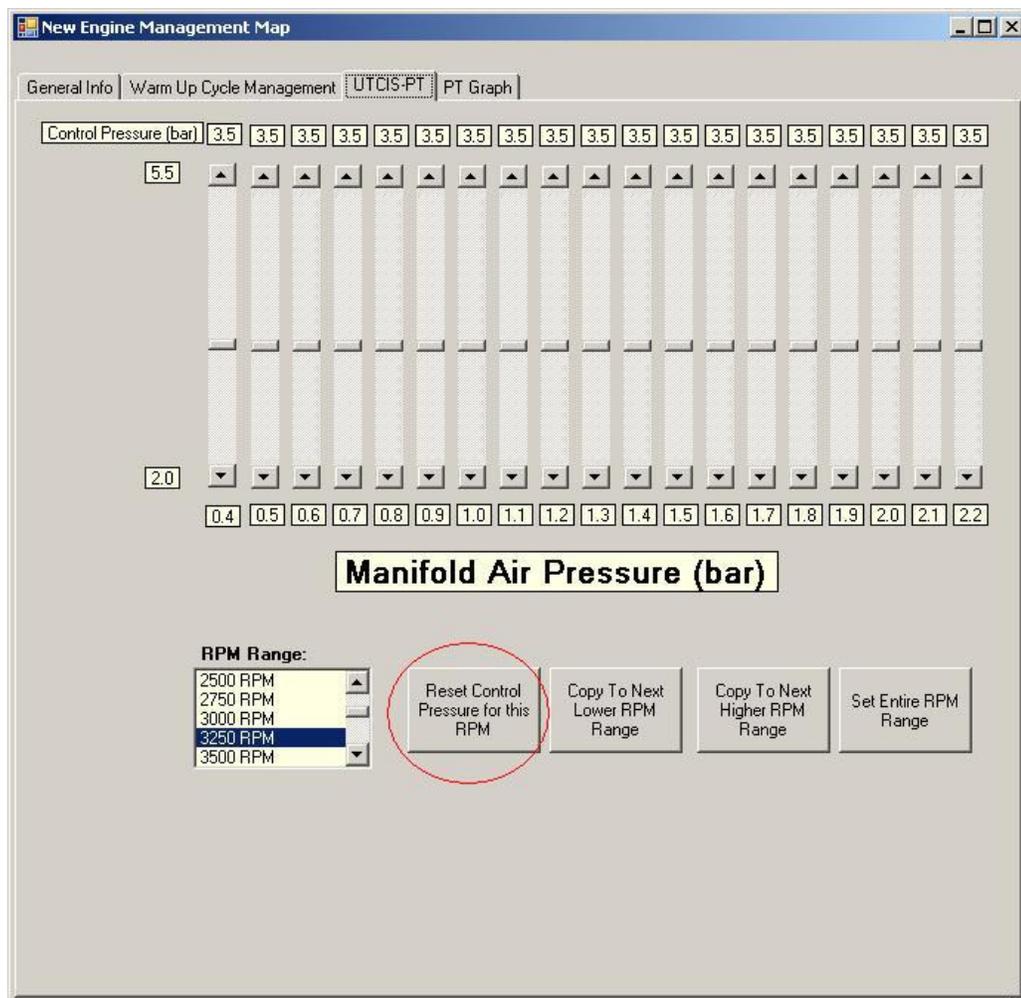
NOTE: All RPM ranges should be configured. There are a few helpful buttons at the bottom of the UTCIS-PT™ configuration page which assist in managing a UTCIS-PT™ Engine Map.



Managing Your Engine Map, continued.

UTCIS-PT™ - Reset Control Pressure

The 'Reset Control Pressure for this RPM' button sets all Control Pressure values for the selected RPM range to 3.5 bar.

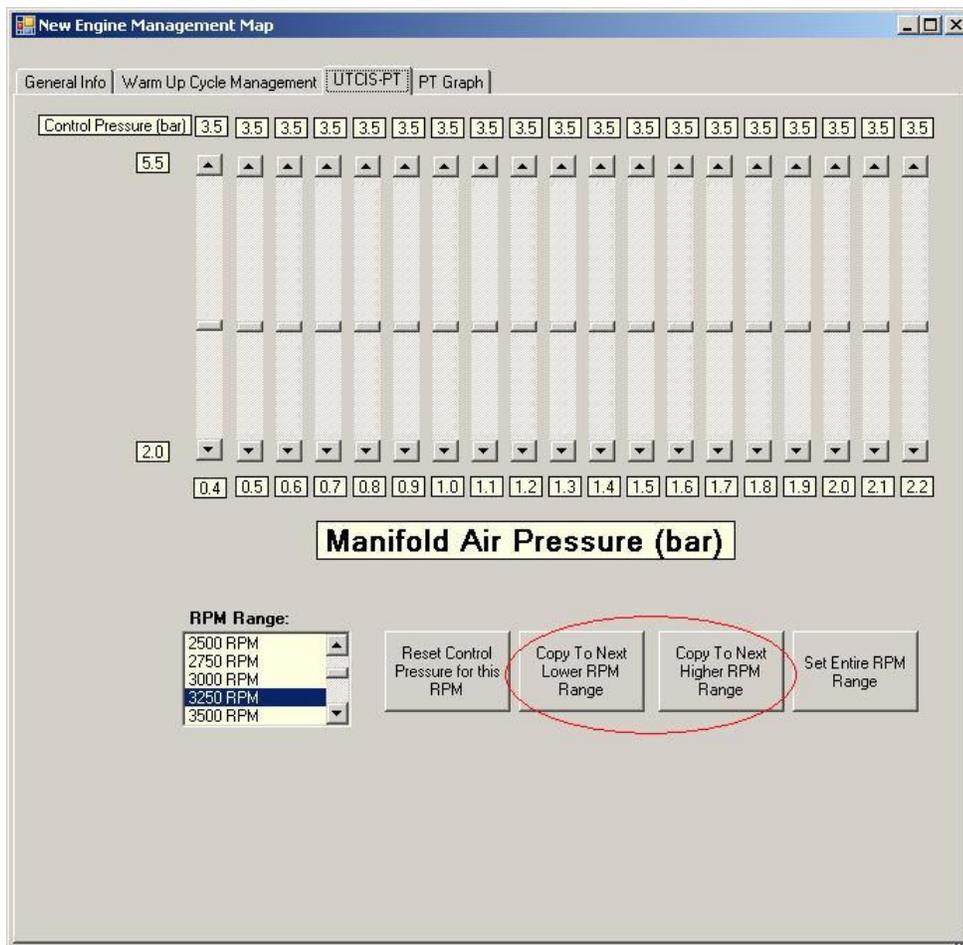




Managing Your Engine Map, continued.

UTCIS-PT™ - Copy RPM Range

A selected RPM range of Control Pressure values can be copied to the next lower or higher RPM range by selecting one of the “Copy” RPM range buttons.

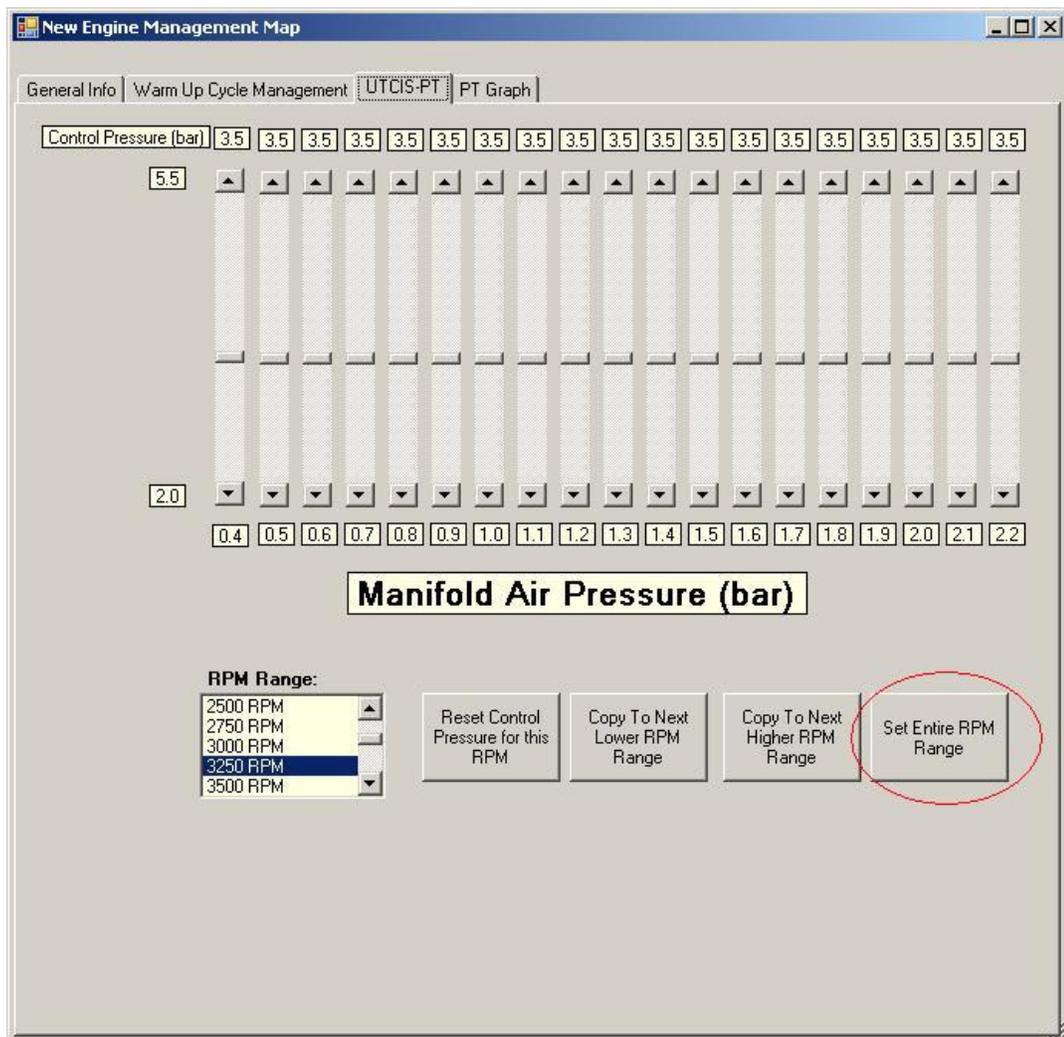




Managing Your Engine Map, continued.

UTCIS-PT™ - Set Entire RPM Range

You can set all RPM ranges in the UTCIS-PT™ Engine Map to match the Control Pressure values in the currently selected RPM range by clicking on the 'Set Entire RPM Range' button.

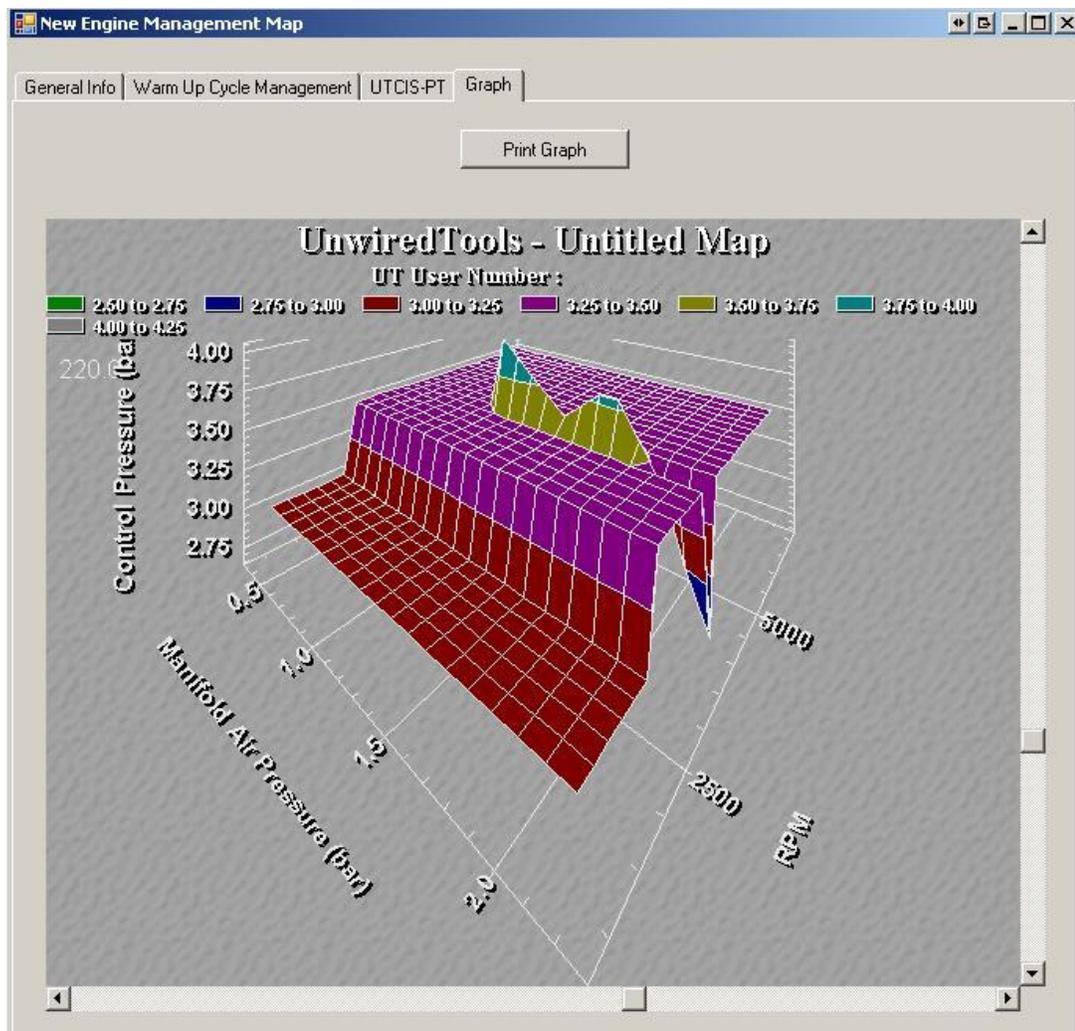




Managing Your Engine Map, continued.

UTCIS-PT™ - Graph

As you define the Engine Map, a 3D representation of the Engine Map is available under the 'Graph' tab. The graph may be rotated manually via the scroll bars or continuously rotate by double clicking it. Selecting the 'Print Graph' button will bring up a Printer Dialog so you can print a graph to your printer.



NOTE: This Engine Map is for demonstration purposes only. You are responsible for the values you configure into your UTCIS unit for your vehicle.



Advanced Operations

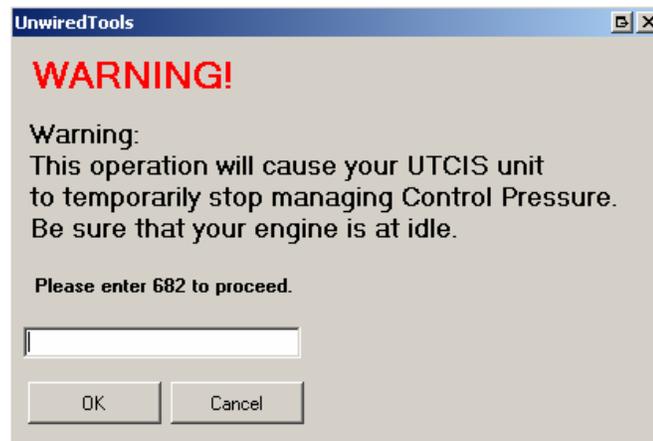
Support Mode

If it is deemed necessary to enter Support Mode, UnwiredTools will provide you with an Authentication Code which will put your Software into a Diagnostic Mode.

Upgrade

Your UTCIS™ product is able to be upgraded while in your vehicle. In the event that you need to upgrade your UTCIS™ unit's internal firmware, you will perform this upgrade step by selecting the Upgrade menu under the File | Advanced menu. You will be prompted for an upgrade file, which has an extension of **utupg**. You will have an opportunity to confirm this step to validate that Version information.

Please note that any time you Upgrade your UTCIS™ unit, you must confirm the action by entering a three digit authorization code. The UTCIS™ unit will temporarily stop managing control pressure as it communicates with the Software. **Be sure that your engine is at idle before proceeding!** This code is randomized to make sure that you stop to read the warning message.





UT Engine Management Software Manual Revision History

Date	Revision	Description
1/26/2008	1.2.0.0	Initial Release

Support:

Please visit **<http://unwiredtools.com>** for the latest product and support information. You can join the UnwiredTools support forum and view the latest manuals and tech notes as well as find an installer in your area.