

Users Guide

Version 3.5



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1 System Overview

ECMTUNE is a simple to use vehicle programming system consisting of a PC based software application and a USB based hardware device which connects directly to the 16 pin OBDII connector. The ECMTUNE solution has been designed with the capability of flash programming software to the Engine Control Module (ECM) in the vehicle via the vehicle's CAN network. The programming of a control module typically takes less than 3 minutes. As well as programming the tool supports the ability to read the software presently in a module if required. The read time varies depending on the control module. ECMTUNE also has a DTC read and clear capability for all control modules on the HSCAN bus, such as ABS, Gearbox etc making it a universal workshop tool.

2 System Requirements

The following minimum PC requirements are:

- Windows 2000, XP, Vista (32-bit)
- 256MB RAM (minimum)
- 800 x 600 Display Resolution (or better)
- Pentium 4 or greater CPU (or comparable Pentium M, Core, Athlon, etc)
- USB 2.0 port
- An internet connection in order to periodically synchronize with the server.

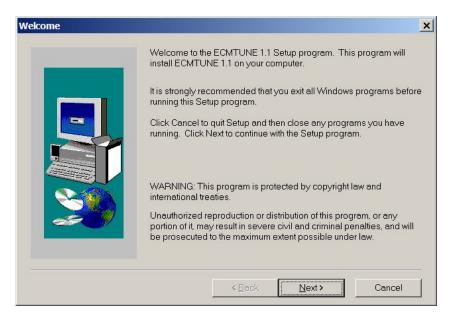
3 Contents in ECMTUNE System Box

- CANTUN
- USB cable
- CD
- ECMTUNE certificate with 10 digit serial number and CANTUN identifier

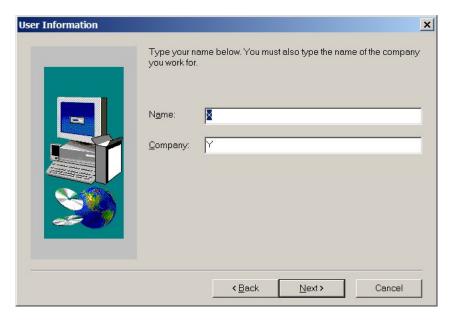
4 Installation Information

Insert the CD provided in the ECMTUNE System box into your computers CD-ROM drive. The setup should run automatically when the CD is entered. If it doesn't automatically run, double click on the setup.exe. It is strongly recommended that you exit all programs before installing ECMTUNE.

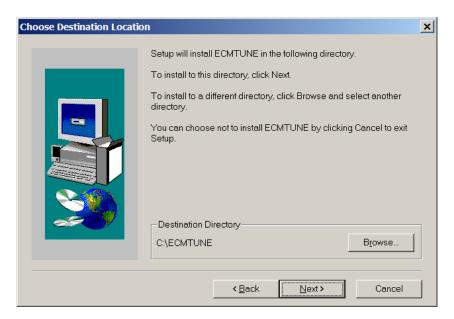
The screen below shows the ECMTUNE Setup Program welcome screen. Click the "Next" button when once you have completed this step.



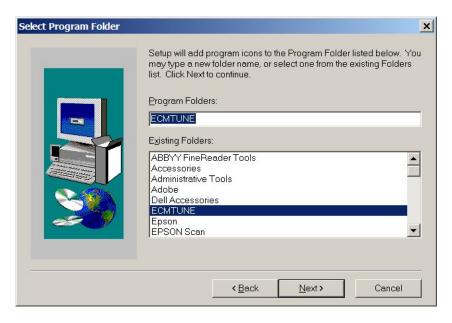
Insert your name and company name into the places provided. Click the "Next" button when once you have completed this step.



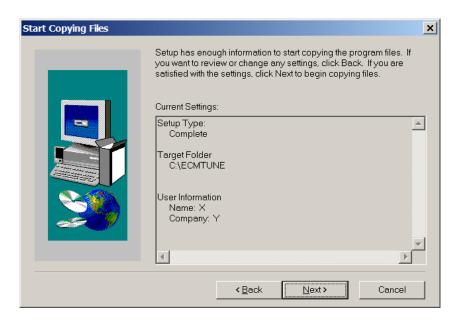
Choose the location to install ECMTUNE, the default directory is indicated on the screen below, under Destination Directory. To install to a different directory, click the "Browse" button and select another directory. Click the "Next" button when once you have completed this step.



Next, select the program folder. This is the folder name used on the Start Menu. Click the "Next" button when once you have completed this step.



Setup has enough information to start installing ECMTUNE, please review the information on the screen. Click the "Next" button when once you have completed this step.



The system installs files and sets up icons. Once this is complete, the following screen will be displayed. Click on the "Yes, Launch the program file" if you would like ECMTUNE to open immediately. Click the "Next" button when once you have completed this step.



Please refer to the CANTUN installation guide for more information on how to install the CANTUN hardware.

5 Registration Information

After installing ECMTUNE, run ECMTUNE (Start Menu \rightarrow Programs \rightarrow ECMTUNE \rightarrow ECMTUNE) for the first time. When ECMTUNE is launched for the first time, it will prompt you to register your version of the software.

Information needed to register:

- ECMTUNE product serial number Found on the ECMTUNE certificate
- CANTUN identification number Found on the ECMTUNE certificate

An internet connection is required for the registration process.



The screen above shows the initial registration screen, to start the registration process click the "Register" button. To cancel out of registration process, click the "Close" button.

Note: If you click the "Close" or "Cancel" button at any time during the registration process, you will not be able to run ECMTUNE until it has been successfully registered.

5.1.1 Step 1 - Enter the 10 digit product serial code.



After entering the ECMTUNE product serial number, click the "Ok" button. To cancel out of the registration process, click the "Cancel" button.

5.1.2 Step 2 - Enter the 3 digit CANTUN ID



After entering the CANTUN ID, click the "Ok" button to complete the registration process. To cancel out of the registration process, click the "Cancel" button.

5.1.3 Step 3 - Synchronize program



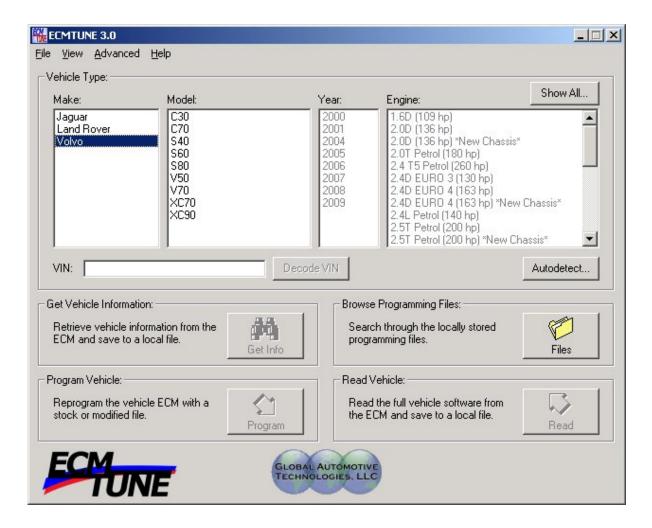
Synchronization is required at least every two weeks to ensure ECMTUNE is up to date. You will be prompted to synchronize upon opening ECMTUNE when it is required.

Click the "Sync Now" button to begin the synchronization process. This process will take up to 30 seconds to complete. To cancel out of the synchronization process, click the "Close" button.

Note: If you click the "Close" button, you will not be able to run ECMTUNE.

6 ECMTUNE Usage Information

This is the main screen of ECMTUNE.



From this screen you can:

- Make vehicle type selection
- Get Vehicle Information
- Browse Programming Files
- Program the Vehicle
- Read the Vehicle
- Change the program settings
- View ECM DTCs
- Synchronize ECMTUNE

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6.1 Vehicle Type selection

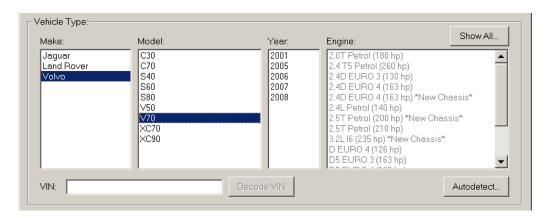
There are four ways to make the vehicle type selection.

- Vehicle selection boxes (Make, Model, Year, and Engine)
- Show All... button
- Autodetect... button
- VIN entry (VIN Decode)

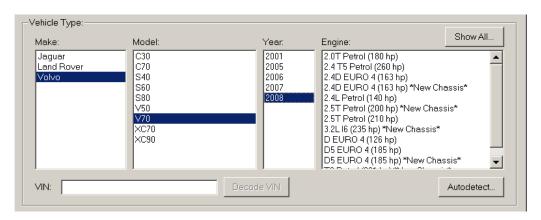
6.1.1 Vehicle Selection Boxes

Select the Make in the selection box (Jaguar, Land Rover or Volvo), and then the Model selection box will become available for selection. The selections available will be narrowed down based upon the previous selection.

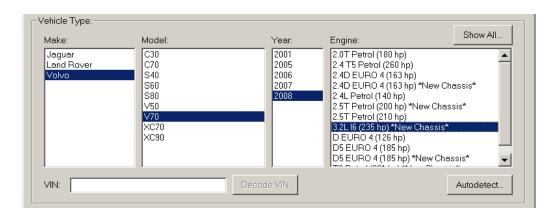
After the Model has been selected, the Year selection box will become selectable.



After the Year has been selected, the Engine selection box will become selectable.



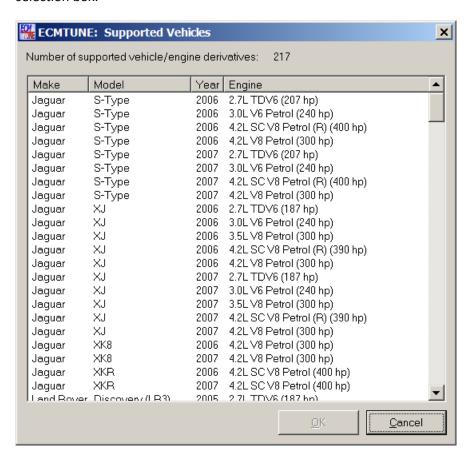
Completed vehicle selection



6.1.2 Show All Button



Another way to select the vehicle is using the "Show All" button on the top right hand side of the Vehicle selection box.



The supported vehicles box will show all of the vehicles supported by ECMTUNE. Once the vehicle is selected from the list, click the "Ok" button. You will be returned to the main screen with the vehicle shown in the selection boxes.

6.1.3 Auto-Detect Vehicle Button



Another way to select the vehicle is using the "Autodetect..." button on the bottom right hand side of the Vehicle Type box.

6.1.3.1 Step 1 - Confirmation of automatic vehicle detection



6.1.3.2 Step 2 - Verify ECMTUNE is the only program running



It is recommended that you close all other programs before proceeding to the next step.

6.1.3.3 Step 3 - Vehicle connection verification



Please be sure the CANTUN interface is connected to the vehicle and the USB port of the computer. Once both connections have been made, click "Next".

6.1.3.4 Step 4 - Ignition Position



Please be sure the CANTUN interface is connected to the vehicle and the USB port of the computer. Once both connections have been made, click "Next".

6.1.3.5 Step 5 - AutoDetection complete - vehicle type identified



Automatic Detection is complete, the vehicle type and VIN have been successfully retrieved.

6.1.3.6 Step 5 - AutoDetection complete - only VIN retrieved



Automatic Detection is complete, only the VIN has been successfully retrieved from the vehicle. The vehicle type was not able to be identified. Please specify the vehicle type manually.

6.1.4 Enter VIN for vehicle selection



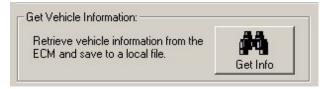
It is also possible to identify the vehicle by entering VIN manually and then select the "Decode VIN" button on the bottom left hand side of the Vehicle Type selection box.

Enter the VIN into the

VIN:	YV1MK685172002905	Decode VIN



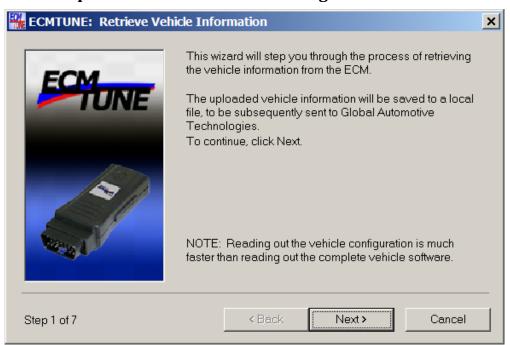
6.2 Get Vehicle Information (Get Info Button)



This is only selectable once a vehicle selection is complete.

This button will take you to a wizard to retrieve vehicle information from the ECM and save it to a local file. The following sections show the wizard process.

6.2.1 Step 1 - Confirmation of retrieving vehicle information

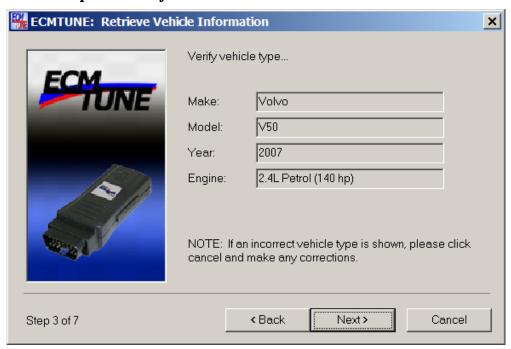


6.2.2 Step 2 – Verify ECMTUNE is the only program running.



It is recommended that you close all other programs before proceeding to the next step.

6.2.3 Step 3 - Verify the vehicle selected



If an incorrect vehicle is shown, click the "Cancel" button and make any corrections that are needed.

6.2.4 Step 4 - Additional information entry



Please enter additional information describing this upload. This information can be used for your tracking purposes in the future.

6.2.5 Step 5 - Vehicle connection verification



Please be sure the CANTUN interface is connected to the vehicle and the USB port of the computer. Once both connections have been made, click "Next".

6.2.6 Step 6 - Ignition Position



Please turn the ignition switch to the RUN position. Be sure not to start the vehicle. Once you click the "Next" button, ECMTUNE will verify communications with the vehicle.

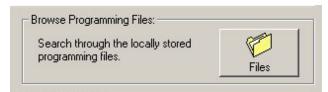
6.2.7 Step 7 - Vehicle information has been successfully retrieved



Your vehicle has been verified and the details your software provider requires have been saved to a file in the upload directory. Please email this file to your software provider for further analysis. The filename will be in the following format: upload_ABCDEFG0123456789_YYYYMMDDHHMMSS.ecm; where ABCDEFG0123456789 is the VIN of the vehicle uploaded

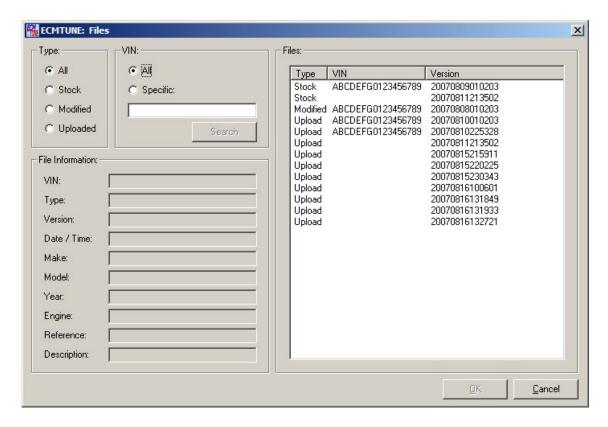
Please refer to Troubleshooting, section 10, if there are any problems while retrieving the vehicle information process.

6.3 Browse Programming Files



This is selectable at all times, regardless of the vehicle selection state.

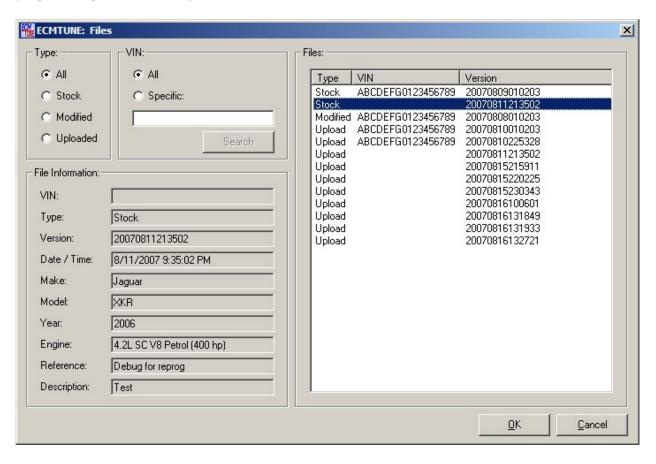
This "Files" button will take you to a new screen to show all of the ECMTUNE files that are located within the ECMTUNE file repository, upload, modified, and stock files. This screen will allow you to view the vehicle and reference information that is within the file.



To narrow down the files you might want to look at, there are a couple of different ways to do this. One way is by the type of the file, you have the option to look at 'All' files, the 'Stock' files, the 'Modified' files and the 'Uploaded' files by selecting the radio button accordingly. The other way to lessen the amount of files shown is by VIN, you can enter a specific VIN. You can also use a combination of both methods for narrowing down the file list. For example: You select Stock files with the VIN ABCDEFG0123456789, then according to the list shown in the example, only 1 file would shown. In addition to entering the entire VIN, a * (wildcard character) can be used to replace characters in the VIN. For example, ABCD*, would show all of the files available for any VIN starting with "ABCD". Another way to narrow down the search is to search for a vehicle serial number (the last 6 digits of the VIN), by typing *456789.

To view the vehicle and reference information that is in the file, select the file as shown below and the information will be filled into the left hand side of the screen in the grayed out section. This information is not editable.

If a stock or modified file has been selected, the 'OK' button will be available. By clicking on the 'OK' button, this will prompt you to enter into the programming wizard for that particular vehicle. Additionally, double clicking on a stock or modified file in the file will also prompt you to enter into the programming wizard for this particular vehicle.



6.4 Program Vehicle



This is only selectable once a vehicle selection is complete.

This button will take you to a wizard to reprogram the vehicle ECM with a stock or modified file.

There are three ways to enter into the programming wizard:

- Use the program vehicle button, as shown above.
- Use the browse programming files button, select the file available for the vehicle, then click the 'OK' button at the bottom of the screen, shown in section 0.
- Double click on a modified or stock .ecm file in Windows Explorer.

The following shows the wizard process.

6.4.1 Step 1 - Confirmation of retrieving vehicle information



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6.4.2 Step 2 - Verify ECMTUNE is the only program running.



It is recommended that you close all other programs before proceeding to the next step.

6.4.3 Step 3 - Verify the vehicle selected



If an incorrect vehicle is shown, click the "Cancel" button and make any corrections that are needed.

6.4.4 Step 4 - Vehicle connection verification



Please be sure the CANTUN interface is connected to the vehicle and the USB port of the computer. Once both connections have been made, click "Next".

6.4.5 Step 5 - Ignition Position



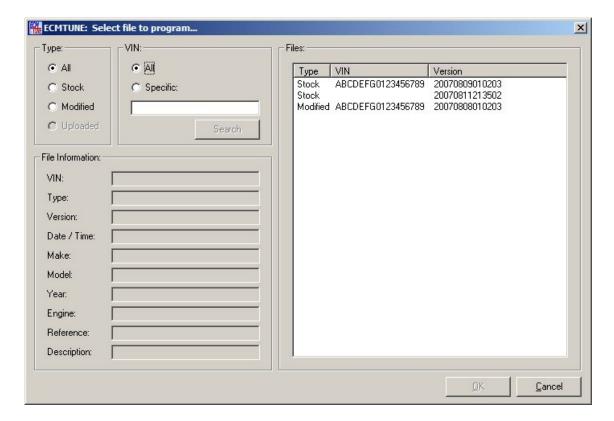
Please turn the ignition switch to the RUN position. Be sure not to start the vehicle. Once you click the "Next" button, ECMTUNE will verify communications with the vehicle.

6.4.6 Step 6 - Vehicle communication test complete



Please select/verify the file that will be programmed into the vehicle.

Click the 'Ok' button once the file has been found.

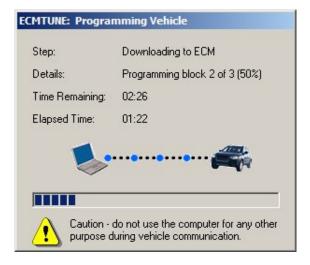


6.4.7 Step 7 - Ready to program the vehicle

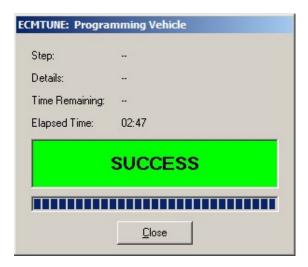


Please make sure the vehicle battery voltage is at lease 11.5V before proceeding.

Note: Do not use the computer for any other purposes during the programming process.



Once the programming is complete, ECMTUNE will display a success or failure



6.4.8 Step 8 - Vehicle Programming Status - Success



The vehicle has been programmed successfully programmed.

Please refer to Troubleshooting, section 10, if there are any problems during the programming process.

6.5 Read Vehicle



This is only selectable once a vehicle selection is complete.

This button will take you to a wizard to read the full vehicle software from the ECM and save it to a local file. The following shows the wizard process.

NOTE: For some vehicles, you will need to supply the VIN to your software provider before being able to perform a read.

Warning: Verify you want to do a full read. A full read is not recommended because the process can take from 2 minutes to 2 hours, depending upon the vehicle.



If you would like to perform a full read, click "OK"

If you would to do nothing at this time, click "Cancel"

6.5.1 Step 1 - Explanation of wizard



6.5.2 Step 2 - Verify ECMTUNE is the only program running.



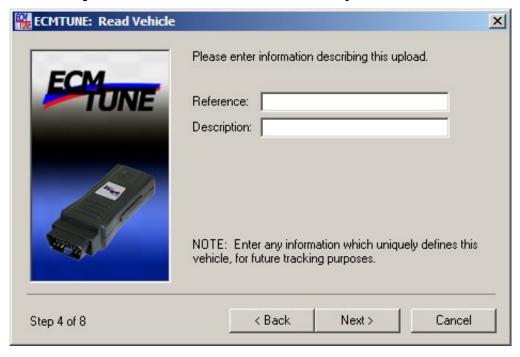
It is recommended that you close all other programs before proceeding to the next step. Additionally, CPU intensive programs or tasks, for example anti-virus applications and Windows Update, should be disabled before continuing.

6.5.3 Step 3 - Verify the vehicle selected



If an incorrect vehicle is shown, click the "Cancel" button and make any corrections that are needed.

6.5.4 Step 4 - Additional information entry



Two fields have been provided to help you identify the file that is being created. This information can be used for your tracking purposes in the future. Entry of this information is optional.

An example of reference information filled in.



6.5.5 Step 5 - Vehicle connection verification



Please be sure the CANTUN interface is connected to the vehicle and the USB port of the computer. Once both connections have been made, click "Next".

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6.5.6 Step 6 - Ignition Position

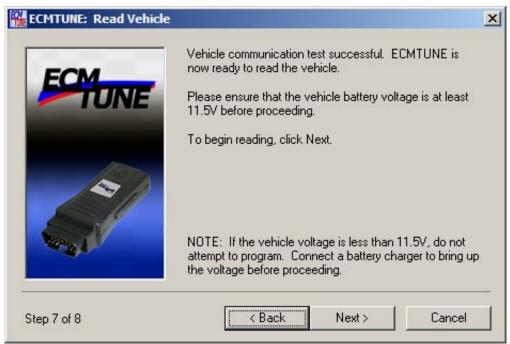


Please turn the ignition switch to the RUN position. Be sure not to start the vehicle. Once you click the "Next" button, ECMTUNE will verify communications with the vehicle.

6.5.7 Step 6a - Verifying vehicle communication



6.5.8 Step 7 - Ready to read from the vehicle

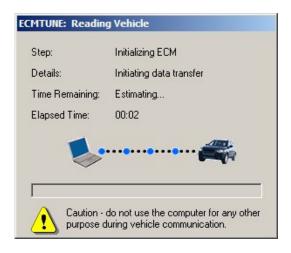


IMPORTANT NOTES:

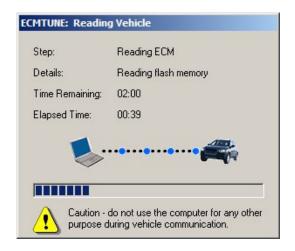
Please make sure the vehicle battery voltage is at least 11.5V before proceeding. If you are using a laptop, please make sure the laptop is plugged (battery charging). Additionally, make sure the computer will not hibernate, go into standby mode, or enter sleep mode.

Note: Do not use the computer for any other purposes during the read process.

Initializing the ECM which initiates the data transfer, this screen may take up to 2 minutes to display as ECMTUNE is calculating the amount of time needed to perform the read.



Reading the ECM - flash memory



Once the read is complete, ECMTUNE will display a success or failure



6.5.9 Step 8 - The vehicle has been successfully read



If your vehicle has been read successfully the details your software provider requires have been saved to a file in the upload directory. Please forward this file to your software provider for further analysis.

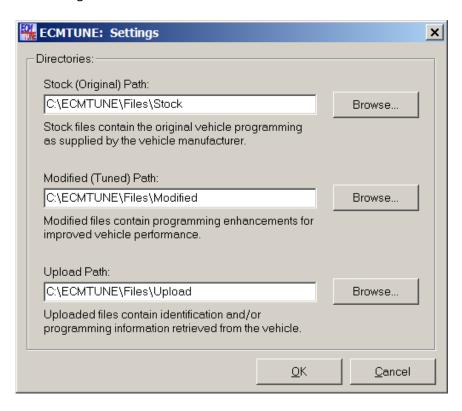
The filename will be in the following format: upload_ABCDEFG0123456789_YYYYMMDDHHMMSS.ecm

where ABCDEFG0123456789 is the VIN of the vehicle uploaded

Please refer to Troubleshooting, section 10, if there are any problems during the read process.

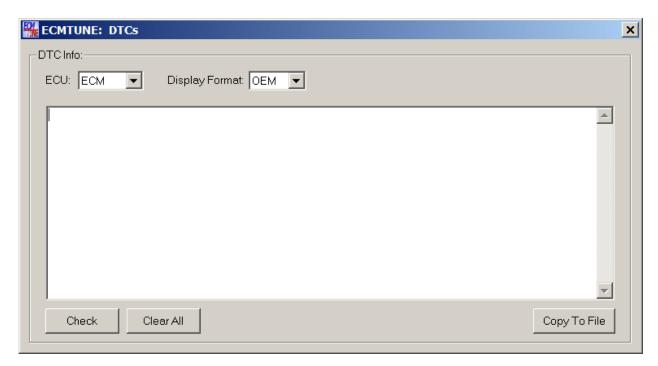
7 ECMTUNE File Settings

To view the location the files are saved automatically by ECMTUNE, click on the 'File' menu then click on the 'settings...'



8 DTCs

From the main ECMTUNE Screen, click on the 'View' menu, and then click 'DTCs' This is only selectable once a vehicle selection is complete.



To check the DTC's logged in the ECM, click the "Check" button.

To clear the DTC's logged in the ECM; click the "Clear All" button.

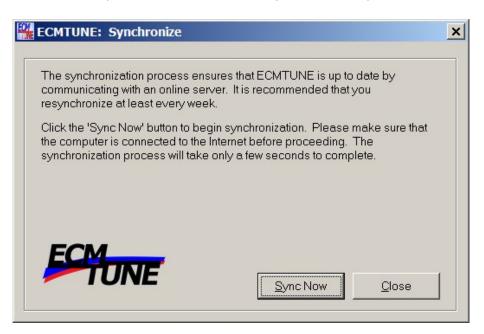
To copy the data displayed in the DTC Info box, click the "Copy to File" button, which will prompt you to save the file to a location you choose, with the default filename, "DTC.log".

DTCs in ECMTUNE can be displayed in two different formats, OEM and SAE. To change the display format, use the pull-down at the top of the screen.

9 Synchronization

Synchronization is required at least every two weeks to ensure ECMTUNE is up to date. You will be prompted to synchronize upon opening ECMTUNE when it is required.

Click the "Sync Now" button to begin the synchronization process. This process will take up to 30 seconds to complete. To cancel out of the synchronization process, click the "Close" button.





Additionally, you can force synchronization by going to the help menu then clicking synchronize. Forcing synchronization is a fast and easy way to communicate programming challenges with the software provider for diagnosis.

${\bf 10 \, Trouble shooting}$

Problem	Cause	Solution
Synchronization with server failed	No operational internet connection available	Verify Internet Explorer is operational and you can successfully navigate to web pages.
Vehicle Programming Failed	Computer does not meet minimum requirements to run ECMTUNE PC has too many other processes running	Use a computer which meets the requirements stated in section 0. Close all other programs and processes.
	The programming file selected is not correct.	Verify the programming file was for the vehicle you have selected
	No apparent problem with ignition or CANTUN	Enter Program Recovery Mode by clicking to "OK" button on the Error box. (refer to section 10.2 for more details)
Vehicle Communication Error (ECMTUNE is unable to	Ignition is not in the RUN position	Check the ignition is in the RUN position
communicate with vehicle)	CANTUN is not plugged into the vehicle diagnostic connector	Check CANTUN is plugged in to the vehicle diagnostic connector.
Unable to extract programming files	Improper programming files	Contact your software provider for more information
Unable to combine programming files	Incomplete programming files	Contact your software provider for more information
Programming file lacks necessary information	Incomplete programming files	Contact your software provider for more information
Programming file incompatible with this vehicle	Incorrect programming file	Verify the file selected is for the vehicle you are connected to.
Unable to retrieve Diagnostic Session Type	Ignition is not in the RUN position	Check the ignition is in the RUN position
	CANTUN is not plugged into the vehicle diagnostic connector	Check CANTUN is plugged in to the vehicle diagnostic connector.
	ECM is not in an operational state due to a past programming failure	When prompted enter Program Recovery Mode. See section 10.2 for more information.
Unable to retrieve Diagnostic Session Type while in Program recovery mode	The ECM is still not responding after the battery disconnect/reconnect process	The battery was not disconnected/reconnected properly. Try again.
Unable to create upload file	The specified upload directory is invalid, or is read-only	Check the upload directory is a valid path and you have write access to the directory.
Unable to perform automatic VIN decoding.	Specified VIN is not able to be decoded automatically	Please select vehicle manually.
Error writing to file.	Incorrect directory path	Verify directory path supplied is correct. Try again.
	Directory is read only	Verify you have read/write access to the directory supplied.

DTCs unable to be cleared	CANTUN connected to PC, but not connected to vehicle	Check CANTUN is plugged in to the vehicle diagnostic connector.
	Ignition not in the RUN position	Check the ignition is in the RUN position
Unable to retrieve logged DTCs.	CANTUN connected to PC, but not connected to vehicle	Check CANTUN is plugged in to the vehicle diagnostic connector.
	Ignition not in the RUN position	Check the ignition is in the RUN position
Unable to communicate with CANTUN vehicle interface.	The CANTUN interface is not connected to the computer	Please ensure that the CANTUN interface is attached to the PC.
You are not licensed to access this vehicle.	You do not have a license to access this vehicle.	Please contact your software supplier to purchase a software license for this vehicle.
Unable to activate programming recovery mode.	Synchronization with central server failed (no internet connection, etc)	Verify Internet Explorer is operational and you can successfully navigate to web pages. Use standard programming mode, which may not be able to recover an ECM from a past programming failure.
Unable to save upload file	Upload directory does not exist	Please ensure that the specified upload directory exists. Try again.
	Upload directory is read only	Verify you have read/write access to the upload directory.
The selected programming file is incompatible with this vehicle.	The wrong vehicle was selected	Verify the vehicle selected is correct. Try again.
	The programming file was created wrong by your software supplier	Please contact your software provider for a proper programming file for this vehicle.
Invalid data in file.	Programming file is corrupt	Please contact your software provider for a valid programming file.

10.1 Vehicle Communication Error

If the ECMTUNE is unable to communicate with vehicle, the following screen will be displayed.



Please check the ignition is in the RUN position and CANTUN is plugged in to the vehicle diagnostic connector.

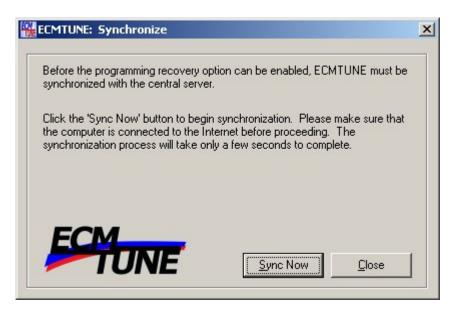
10.2 Program Recovery Mode

After a "Vehicle Communication Error" during programming, ECMTUNE will ask if you want to proceed with the programming recovery process. The programming recovery process will attempt to correct for a failed past programming attempt (incorrect file, lost communication, etc). This will process will require additional steps, as detailed below.



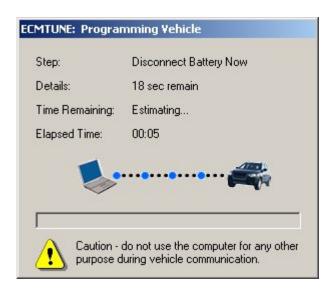
Click the 'No' button to return to the 'verify ignition position' page of the programming wizard. Click the 'Yes' button to proceed with the programming recovery process.

The following synchronization screen will be shown next. Synchronization is required to enter the programming recovery process.



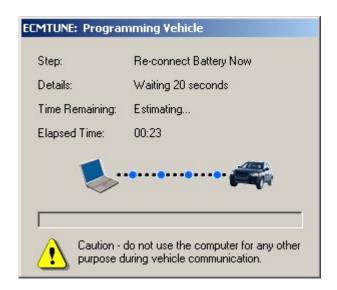
After the synchronization with the central server is complete, the normal programming process will resume (as detailed above). When ECMTUNE begins to program the vehicle, the following dialog will be displayed. The battery must be disconnected within 20 seconds of this screen being displayed. Your software provider may also recommend a different way of disconnecting power from the ECM. Contact your software provider for more information.

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This must be completed by the time the count down clock shows 0 seconds remaining.

The next screen will prompt to reconnect the battery. The battery must be reconnected within 20 seconds, as indicated by the dialog below. This screen will not show a count down clock.



Upon the re-connection of the battery, the ECMTUNE will attempt to communicate with the vehicle. If the communication is successful, the remaining programming steps will be followed as shown above. If this is not successful, please recheck the CANTUN connection to the vehicle and the ignition position before attempting a subsequent programming operation. If the failure persists, contact your software provider for more information regarding this problem.