

ECM TUNE EXPRESS

Users Guide

Version 3.5.1



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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. ECMTUNE also has a DTC read and clear capability for all control modules in the vehicle 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.
- CD-ROM drive

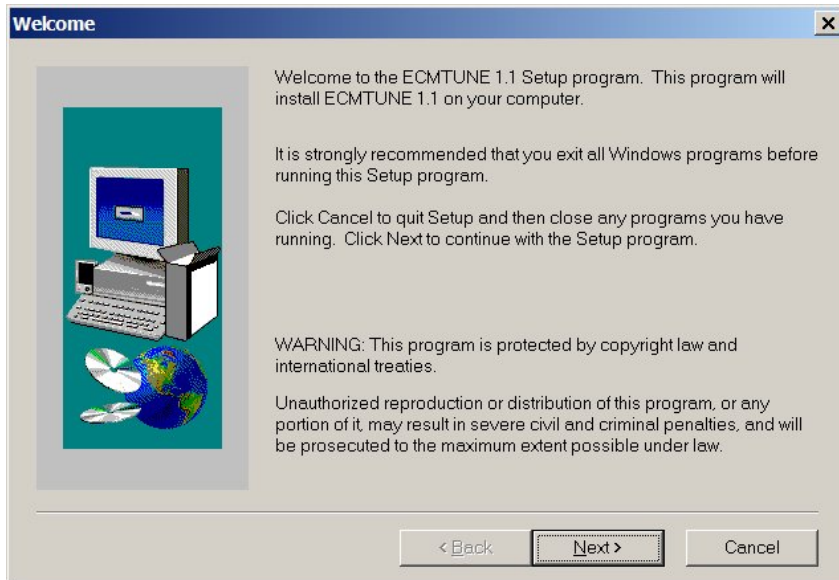
3 Contents in ECMTUNE System Box

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

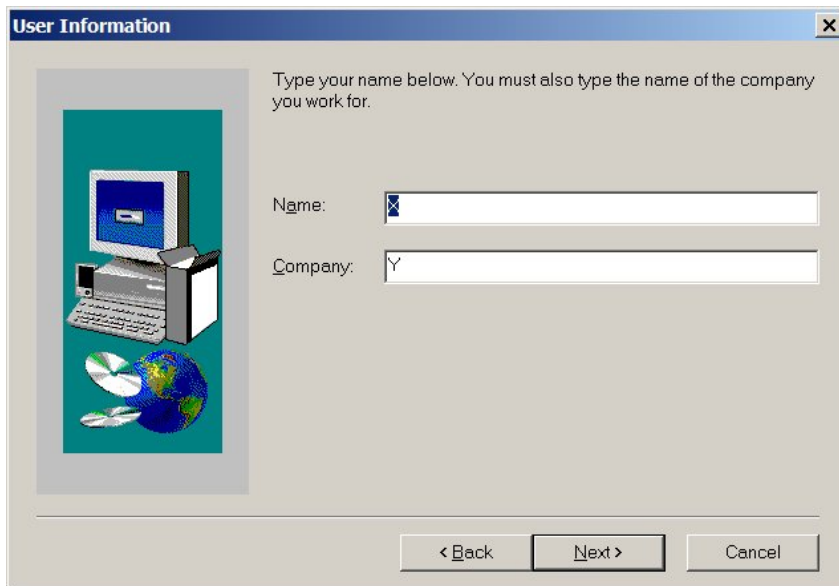
4 Installation Information

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.

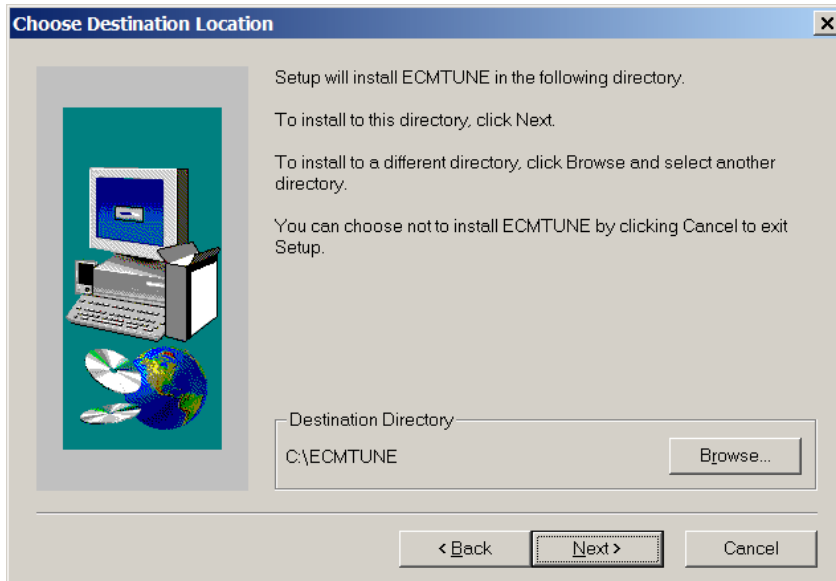


Insert your name and company name into the places provided. Click the "Next" button when once you have completed this step.

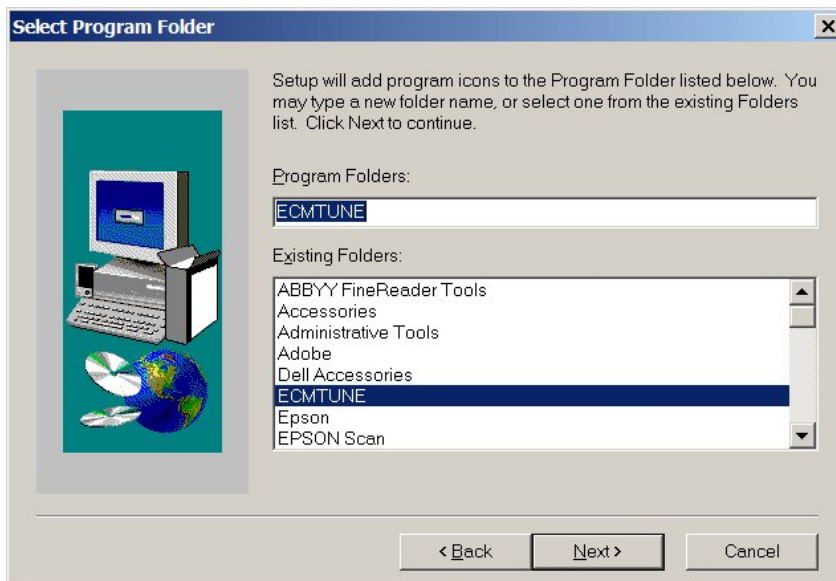


Choose the location to install ECMTUNE, the default directory is indicated on the screen below, under Destination Directory. To install to a different directory, click the “Browse” button and select another directory. Click the “Next” button when once you have completed this step.

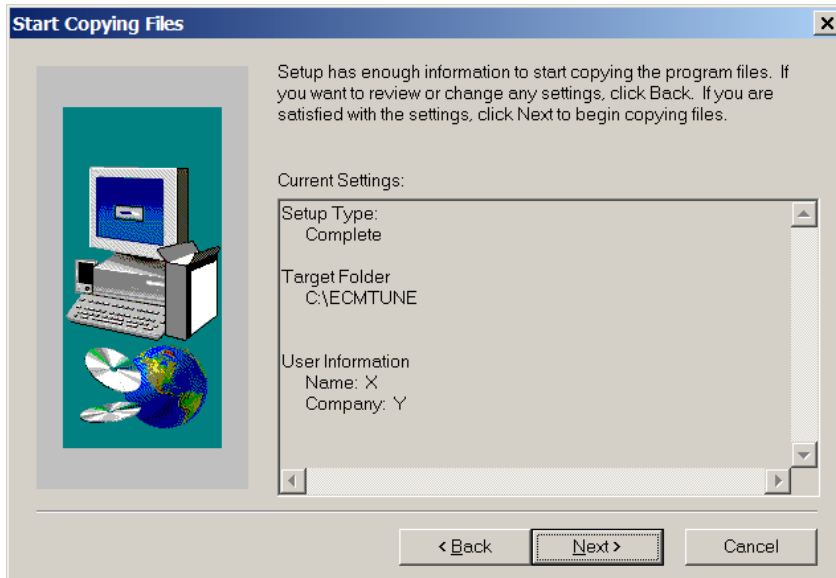
NOTE: It is highly recommended ECMTUNE be installed into the default directory.



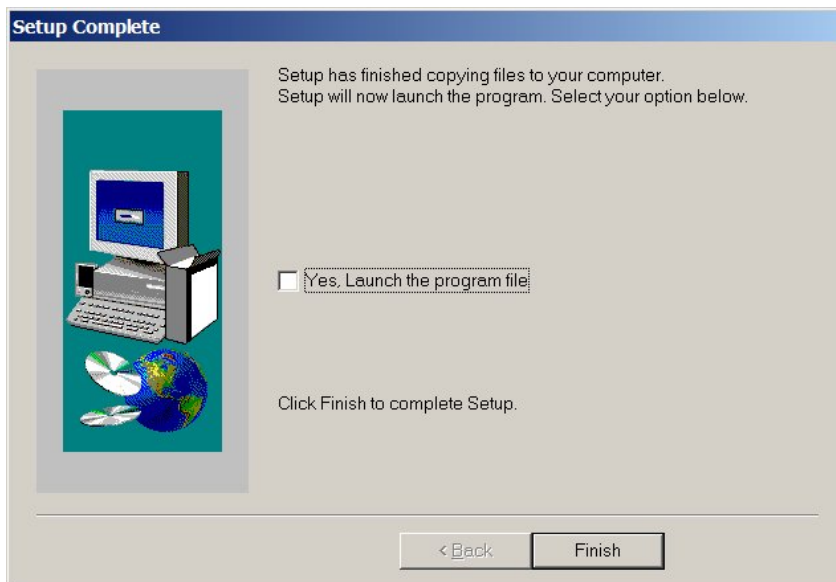
Next, select the program folder. This is the folder name used on the Start Menu. Click the “Next” button when once you have completed this step.



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.

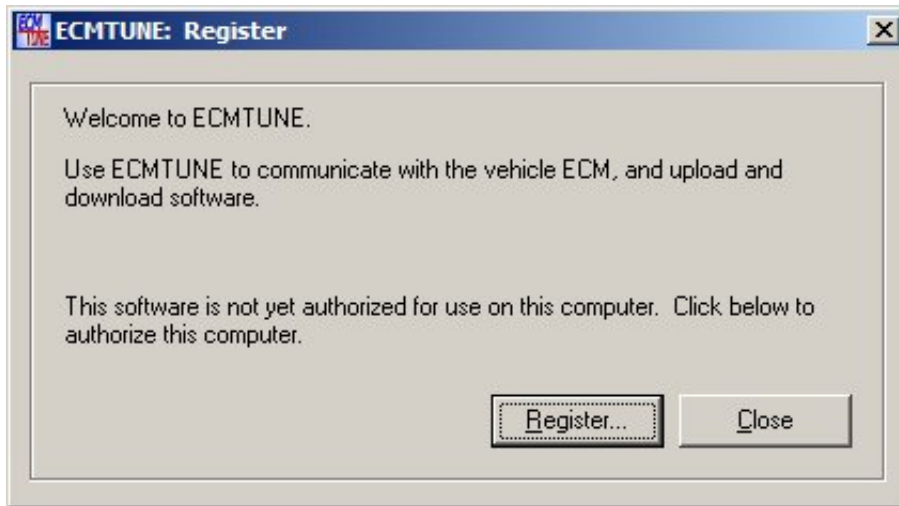
5 Registration Information

After installing ECMTUNE, run ECMTUNE (Start Menu → Programs → ECMTUNE → 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 or on the CANTUN (below the CANTUN logo, on the bottom of your interface device)

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



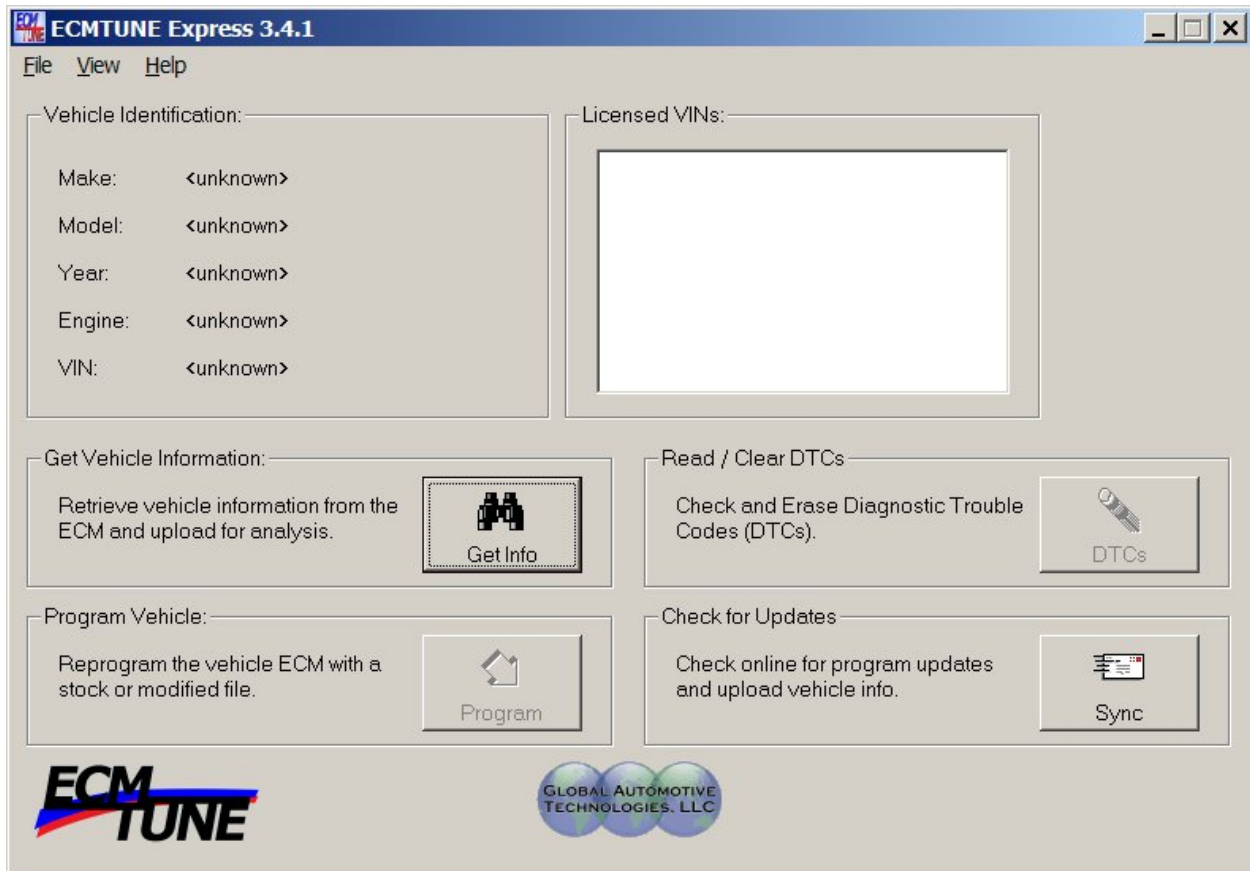
Synchronization is required at least every two weeks to ensure ECMTUNE is up to date. You will be prompted to synchronize upon opening ECMTUNE when it is required.

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 Express Interface Information

This is the main screen of ECMTUNE Express.

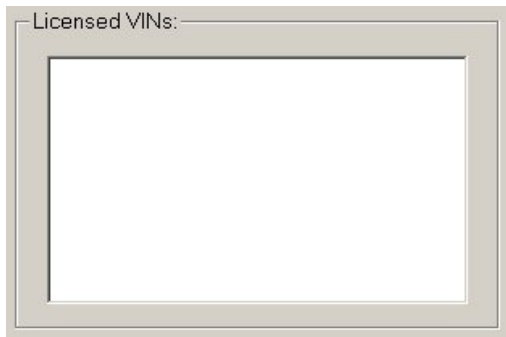


From this screen you can:

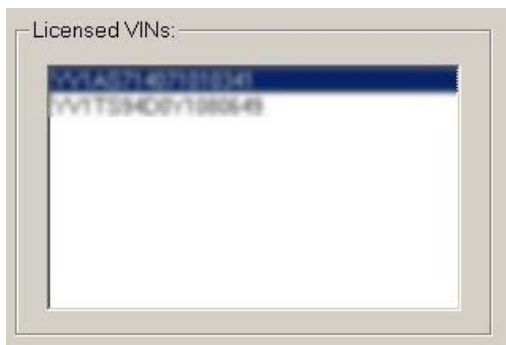
- View the vehicle identification information
- View the vehicles licensed for use
- Get Vehicle Information
- Program the Vehicle
- Read and Clear DTCs
- Synchronize ECMTUNE

6.1 Licensed Vehicles

Upon the initial installation, the 'Licensed VIN' box might be empty (as shown below). This might be due to your software provider has not licensed your vehicle with your ECMTUNE Express system or your VIN was not known at the time you purchased your ECMTUNE Express system. When no vehicle is selected, the Read and Clear DTCs and program vehicle buttons are grayed out and not usable.



When there is a VIN associated with your ECMTUNE Express system, it will be displayed in the 'Licensed VIN' box, as shown below. Typically there is only 1 vehicle VIN listed in the 'Licensed VIN' box. To select the vehicle you would like to work with, simply click on the VIN listed in the box. Once a VIN is selected, the vehicle identification box will be filled in. Additionally, all four buttons will be usable, program and DTCs will become available.



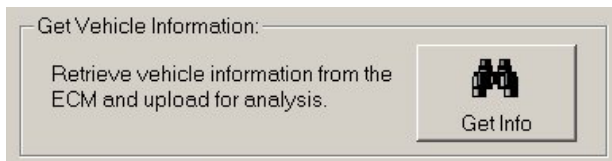
Upon closing ECMTUNE Express, the last used vehicle is saved. When ECMTUNE Express is opened the next time, the last vehicle will be selected.

6.2 Vehicle Information

Once a Licensed VIN is selected, the vehicle information should be displayed in the vehicle identification box, as shown below.



6.3 Get Vehicle Information (Get Info Button)

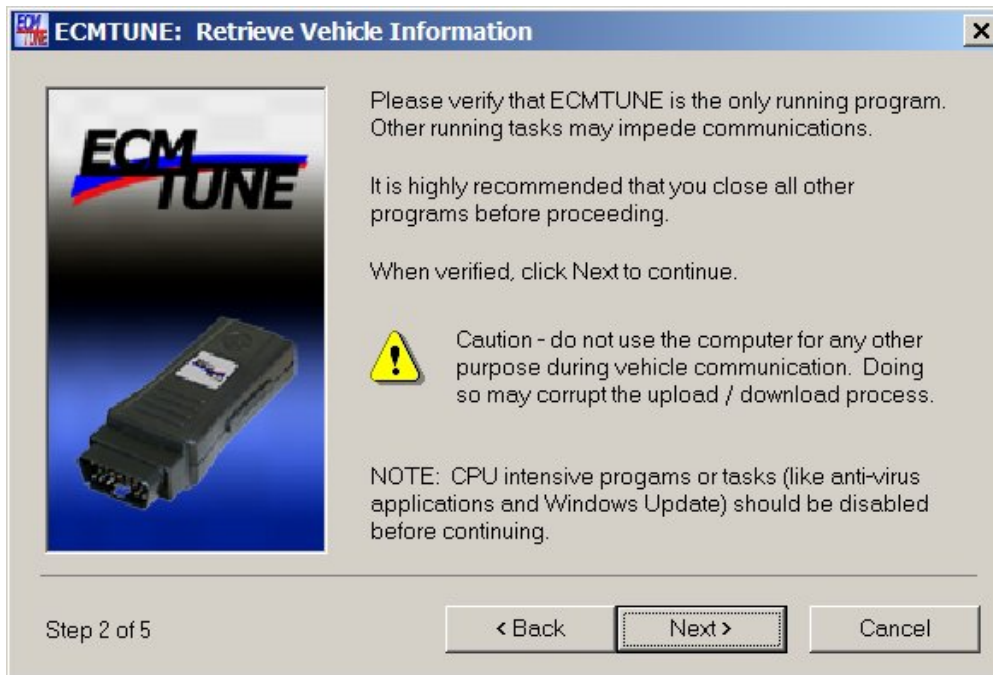


This button will take you to a wizard to retrieve vehicle information from the ECM and prompt you to send your vehicle information to your software provider. The vehicle information retrieval process will obtain information about your specific vehicle, so that the proper software can be provided by your software supplier. The following sections show the wizard process.

6.3.1 Step 1 - Confirmation of retrieving vehicle information



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



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

6.3.3 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".

6.3.4 Step 4 – 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.

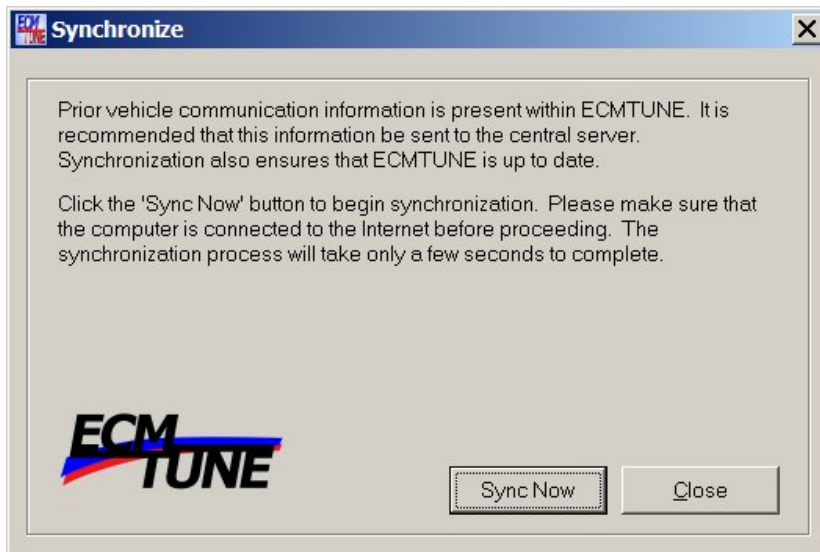
6.3.5 Step 5 – Vehicle information has been successfully retrieved



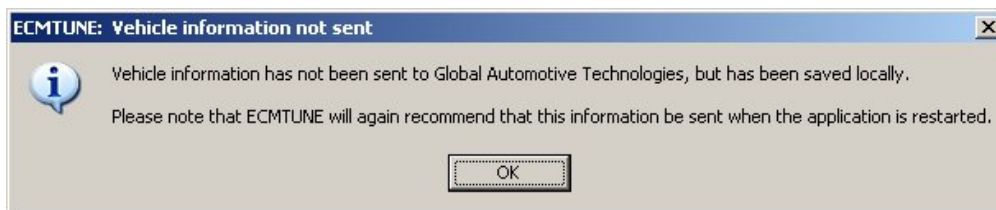
Once vehicle has been verified and the details your software provider requires have been saved to a file, you will be prompted to send the information to your software provider.



Click "Yes" to immediately send the vehicle information to your software provider. The following screen will be displayed when you are sending the information about your program.

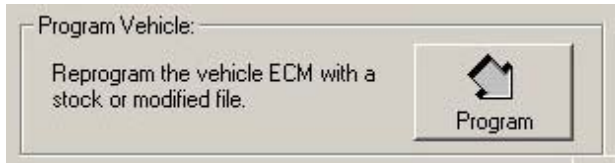


Click "No" to wait to send the vehicle information to your software provider. If you click the "No" button, the following screen will be displayed.



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

6.4 Program Vehicle



Programming is only available when a vehicle has been selected.

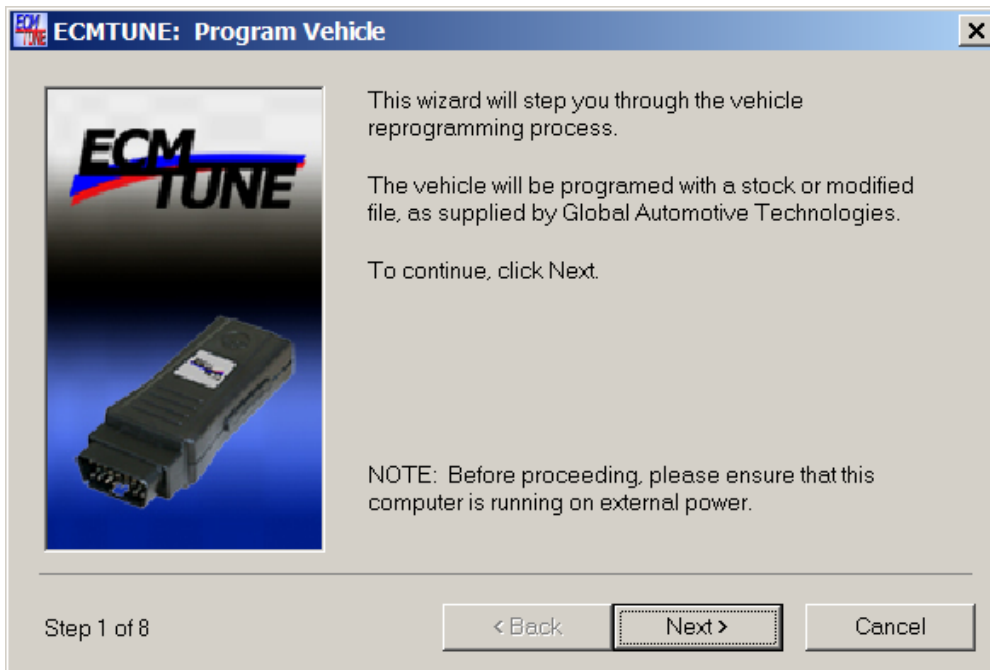
This button will take you to a wizard to reprogram the vehicle ECM with a stock or modified file.

There are two ways to enter into the programming wizard:

- Use the program vehicle button, as shown above.
- 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 the vehicle reprogramming process



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



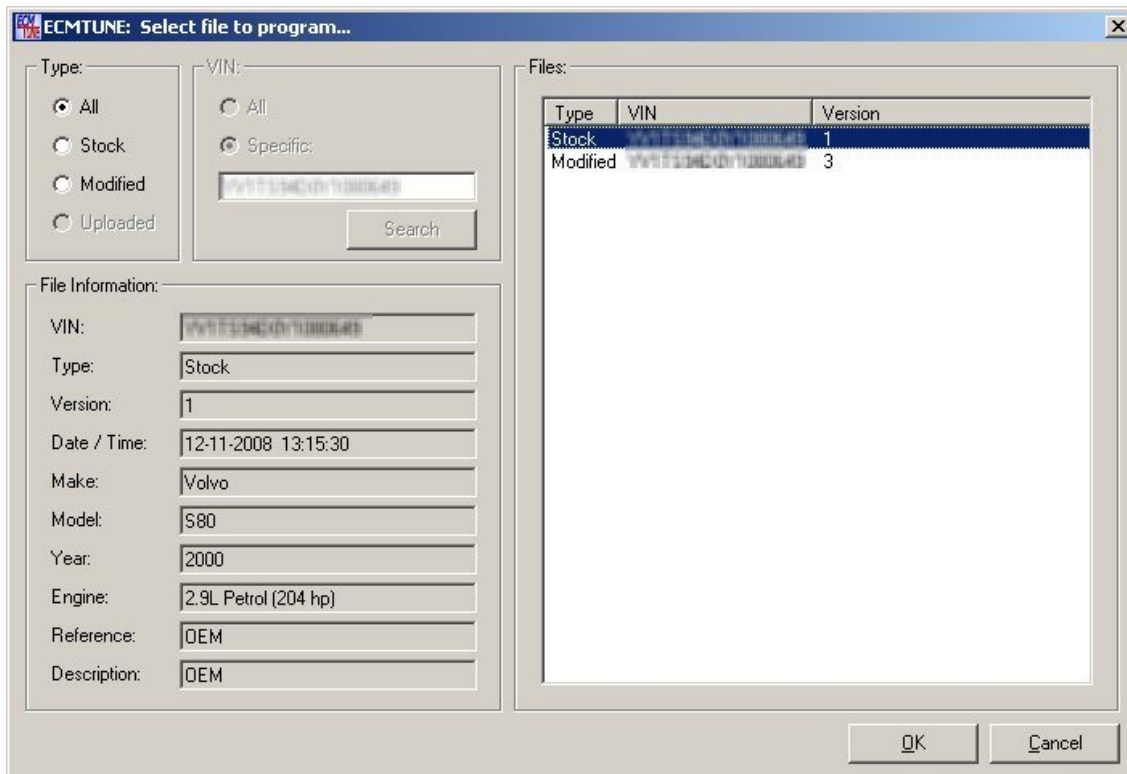
Please turn the ignition switch to the RUN position. Be sure not to start the vehicle. Once you click the “Next” button, ECMTUNE will verify communications with the vehicle.

6.4.6 Step 6 – Vehicle communication test complete

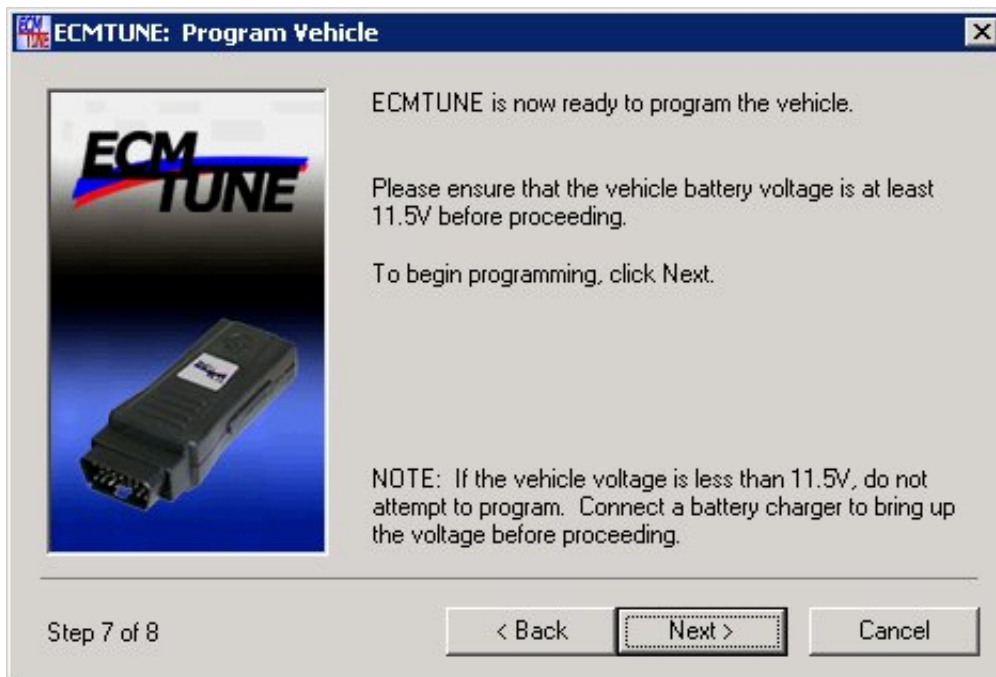


Please select/verify the file that will be programmed into the vehicle.

Click the 'OK' button once the desired file has been selected.

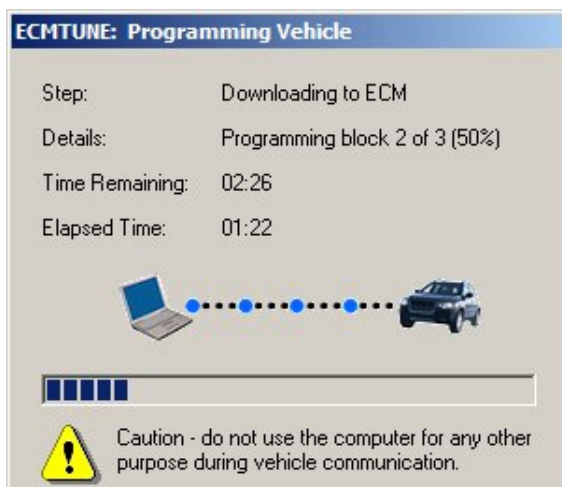


6.4.7 Step 7 – Ready to program the vehicle

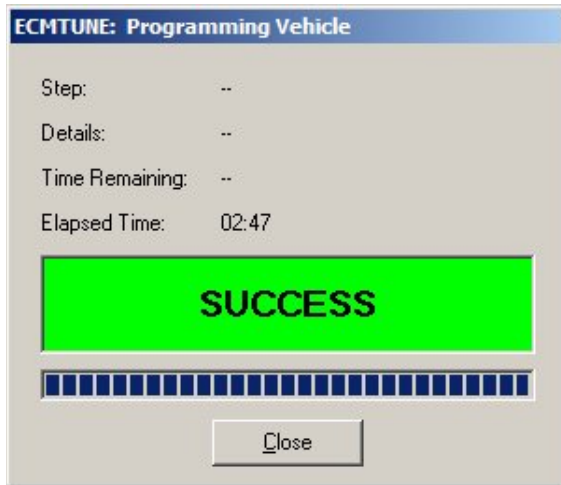


Please make sure the vehicle battery voltage is at least 11.5V before proceeding.

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



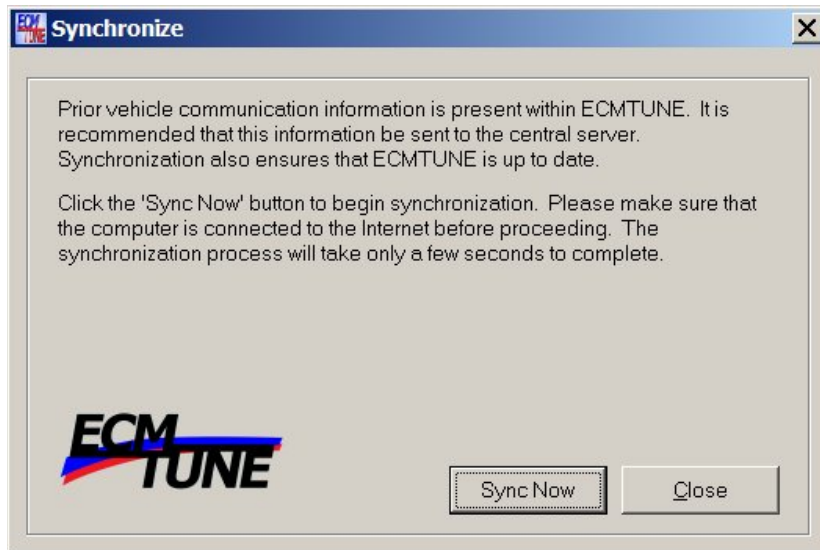
6.4.8 Step 8 – Vehicle Programming Status – Success



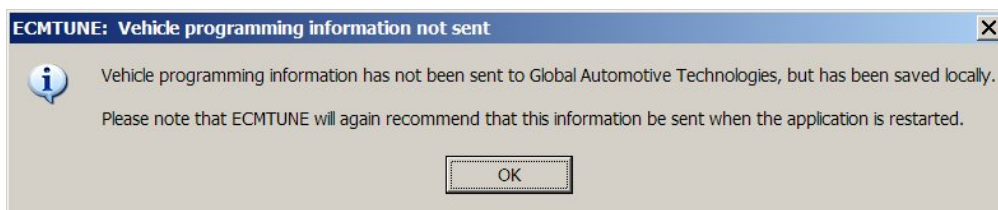
Once vehicle has been successfully programmed, it is recommended the details of your program be sent to your software provider.



Click "Yes" to immediately send the vehicle programming information to your software provider. The following screen will be displayed when you are sending the information about your programming results.



Click "No" to wait to send the programming information to your software provider. If you click the "No" button, the following screen will be displayed.



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

7 Typical Usage Scenario

Once ECMTUNE Express and the CANTUN has been installed you can start updating your vehicle. This is an example of how a typical ECMTUNE Express programming session should work.

1. Connect the USB cable to the CANTUN.
2. Plug the CANTUN into the cars OBDII port.



3. Connect the other end of the USB cable to the computer.
4. Launch ECMTUNE Express, if not already open.
5. Select your vehicle from the list, as described in section 6.1.
6. Get the vehicle information by follow steps in the wizard, as described in section 6.3.
7. Send this information to your software provider by using sync process either at the end of your get vehicle information session, as described in section 6.3.5, or by using the synchronization button, as shown in section 9.
8. Once your software provider has received the information for your vehicle, your software provider will make your stock and modified files. When the files are complete, your software provider will send an email with your files attached. You should receive at least two (2) files from your software provider.

The files will be in the format of:

stock_VIN_reference.ecm
modified_VIN_reference.ecm

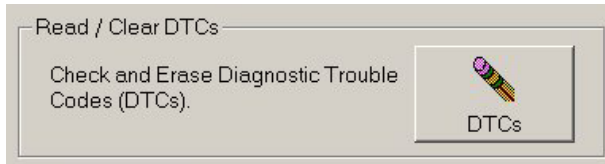
Where the VIN is your vehicle identification number and reference will be information identifying your software information to your software provider.

For Example: `modified_YV1MK123456780123_V11.ecm`

9. Save the files to `c:\ecmtune\files\stock` and `c:\ecmtune\files\modified`, accordingly.

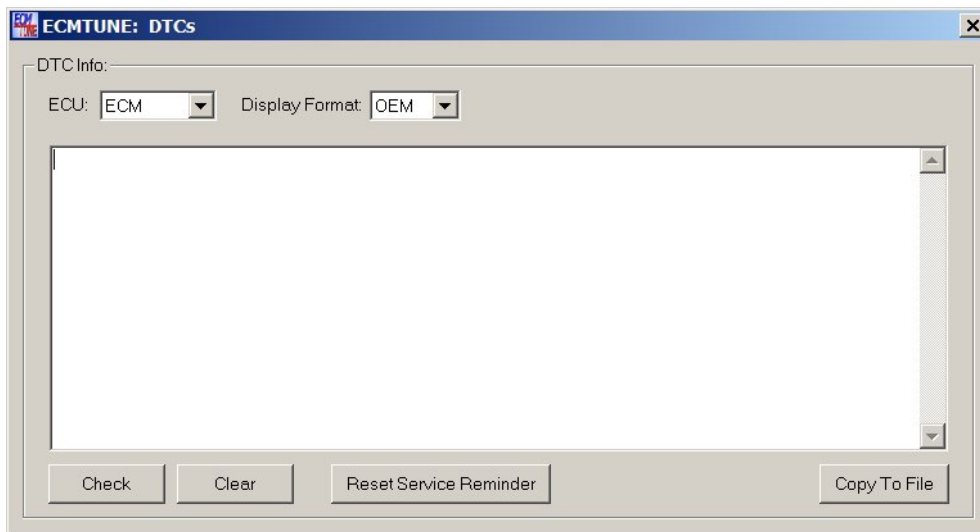
10. Repeat steps 1 – 4, if necessary.
11. Click the 'Program vehicle' button, the follow steps in the wizard as shown is section 6.4.
12. Send this information to your software provide by using sync process either at the end of your programming session, as described in section 6.4.8, or by using the synchronization button, as shown in section 9.

8 DTCs



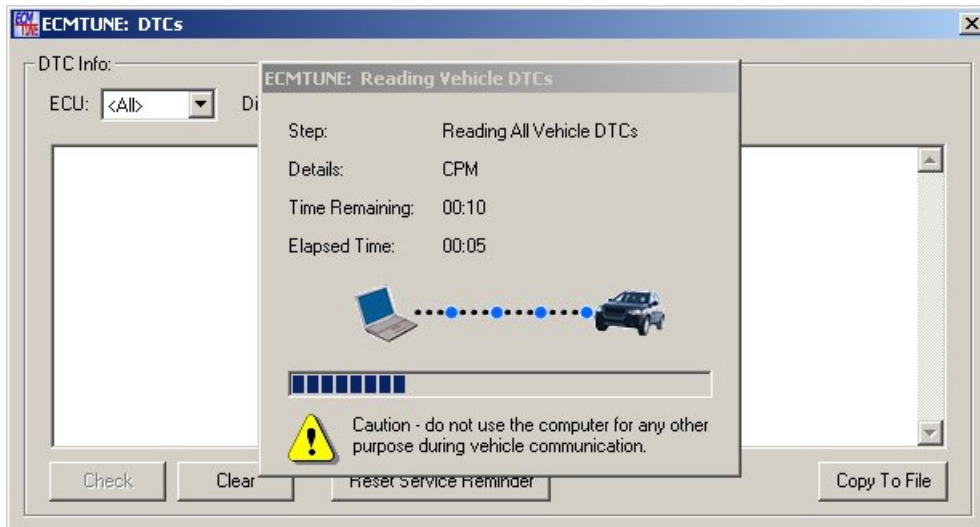
This feature is only available once a vehicle has been selected.

DTCs are also available from the main ECMTUNE Screen, click on the 'View' menu, and then click 'DTCs'

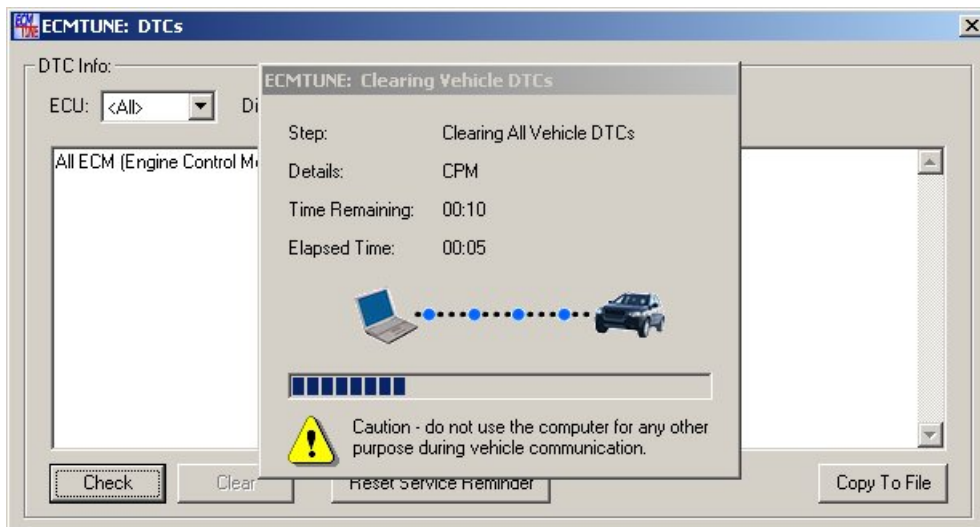


In the ECU pull down box, select the module you would like to work with. If you would like to work with all of the modules on the vehicle, select 'All'.

Once the module has been selected, click the "Check" button. The following screen will be displayed during the DTC checking process.



To clear the DTC's logged in All of the control modules; click the "Clear" button.

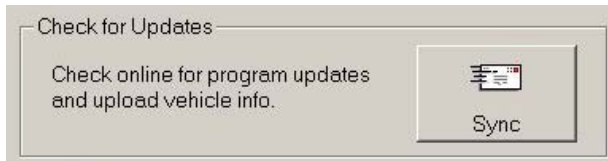


To copy the data displayed in the DTC Info box, click the "Copy to File" button, which will prompt you to save the file to a location you choose, with the default filename, "DTC.log".

The Reset Service reminder is also available from the DTC screen, simply click the "Reset Service Reminder" button.

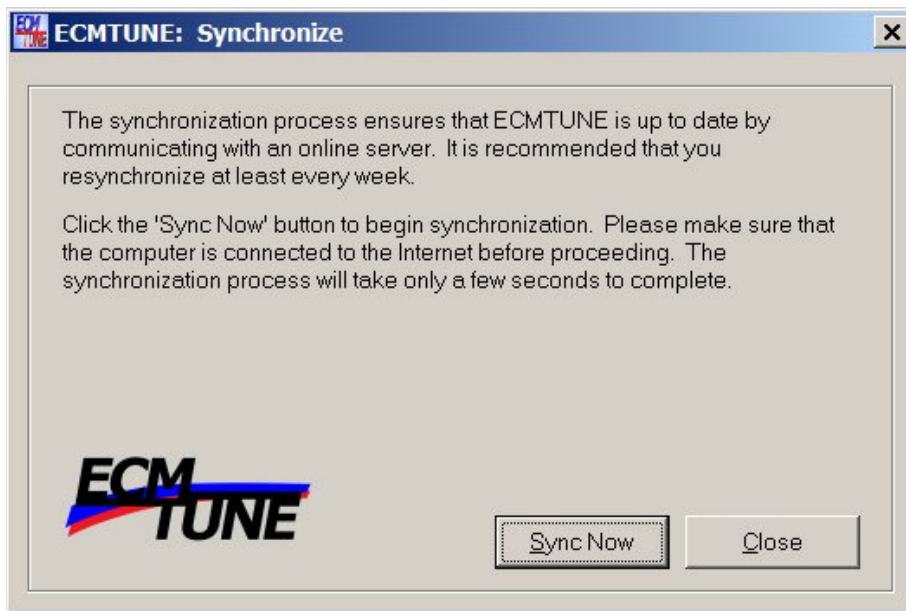
DTCs in ECMTUNE can be displayed in two different formats, OEM and SAE. To change the display format, use the pull-down at the top of the screen.

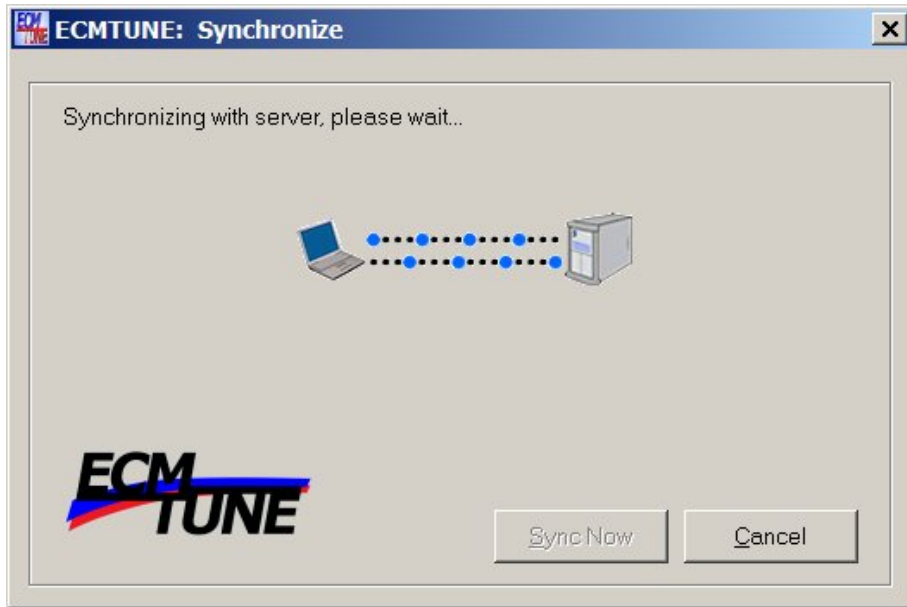
9 Synchronization



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. Synchronization is also recommended if your vehicle information retrieval or programming session information has not sent at the time of completion.

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 from the main screen, and clicking on the “Sync” button. Forcing synchronization is a fast and easy way to communicate programming challenges with your software provider for diagnosis, and to check for ECMTUNE updates.

10 Troubleshooting

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	Use a computer which meets the requirements stated in section 2.
	PC has too many other processes running	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 communicate with vehicle)	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.
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.
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.

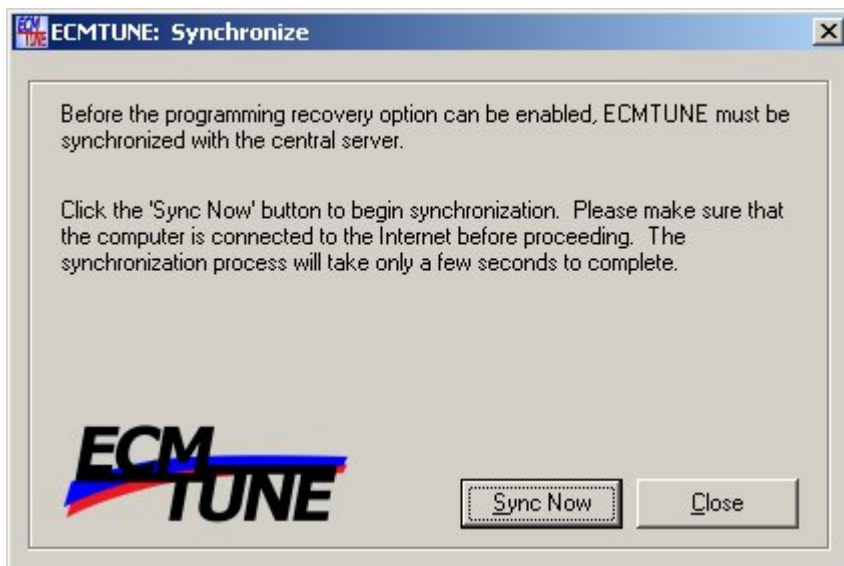
10.2 Program Recovery Mode

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.

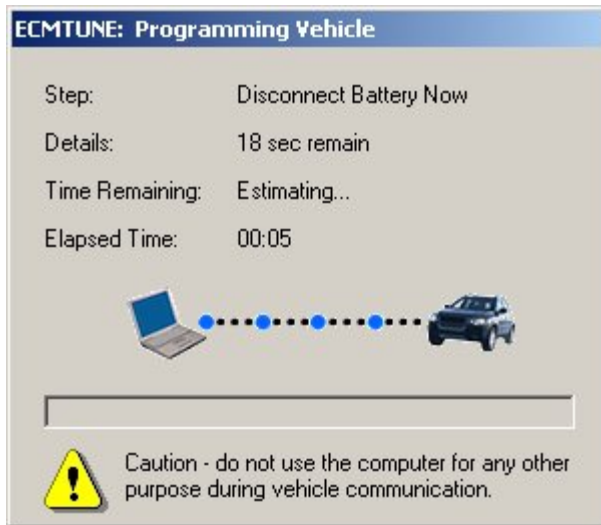


Click the 'No' button to return to the 'verify ignition position' page of the programming wizard. Click the 'Yes' button to proceed with the programming recovery process.

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

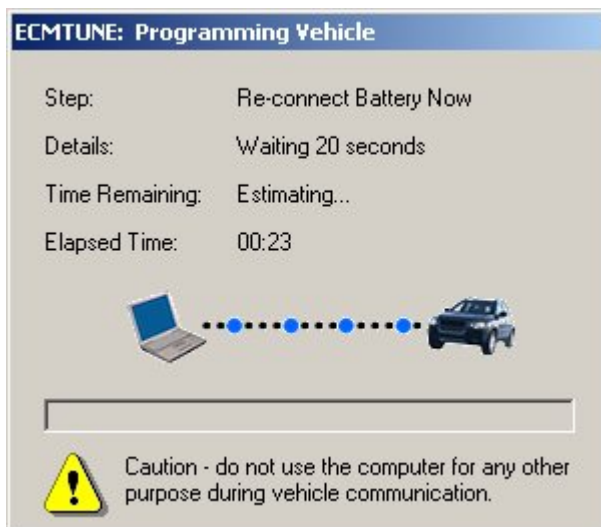


After the synchronization with the central server is complete, the normal programming process will resume (as detailed above). When ECMTUNE begins to program the vehicle, the following dialog will be displayed. The battery must be disconnected within 20 seconds of this screen being displayed. Your software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



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.