TunerPro RT Setup and Use With OSEPlugin V1.40

www.DELCOHACKING.net

OSEPlugin is free software! If you paid for it, get a refund!

Contents

Introduction

This guide is intended to show the basic installation, setup and use of the OSE Plugin V1.40 when combined with an NVRAM and ALDL communications interface. **If you are not using an NVRAM then the OSEPlugin is not required, use the default logging engine built in to TunerPro RT.**

The OSEPlugin combines two parts of TunerPro, the logging engine and the emulation engine, and allows them both to operate over a single ALDL data bus at the same time. It can write anything from a single byte to the entire calibration. Unlike other types of emulation and tuning packages everything can be contained inside the ECU/PCM (ie fully installed and behind the factory kick panel) with all tuning and logging done from the factory data connector found under the steering column of VR and later Commodores.

On VN and VP Commodores a small circuit board can be installed inside the ECU to allow 8192 baud ALDL data over a regular USB or RS232 serial cable.

Setting Up The Required Tools

Installing TunerPro RT V5

Download and install TunerPro RT V5. Ensure you download the **RT** version, this version contains the emulation capabilities required by the OSEPlugin. http://www.tunerpro.net/downloadApp.htm

TunerPro is a free software package and will work indefinitely however if you would like to support the hard work of the author and to remove the start-up delay please use the donate button in the pop-up.

USB Communications Setup

If the ALDL interface is USB then FTDI drivers need to be installed before turning the ignition on. **This is very important on VT and later vehicles**. Windows 7 will connect to the internet and download the correct drivers.

However if you need to install the drivers they can be downloaded from... http://www.ftdichip.com/Drivers/VCP.htm . The drivers are provided in a couple of formats, the automated install is the preferred method however if the drivers fail to install the manual method may be required.

Automated Install: On the right hand side you can download an exe file that does the installation for you. Click the 'Available as setup executable' link and run the exe.

Manual Install: To manually install the drivers a zip file is provided. A guide to installing from this method is available here .. http://www.ftdichip.com/Support/Documents/InstallGuides.htm

After the drivers are installed a new virtual communications port will be available. You need to find out the number of this port to be able to setup TunerPro, this can be found in the device manager of your PC. On the desktop or start menu right click 'My Computer' and select 'Properties'. Select the device manager from that window, depending on the operating system the device manager link is in a different spot ..
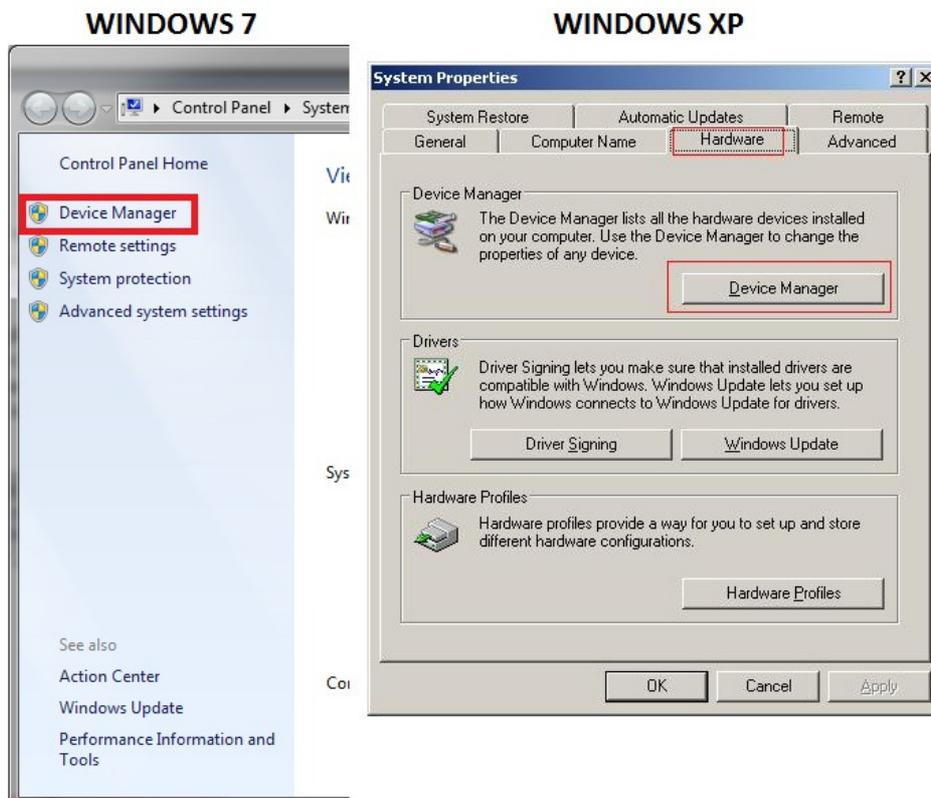
In the device manager under Ports there should be a USB serial port. In this case COM6 is the new virtual com port that TunerPro and the OSEPlugin will be using for all communications.
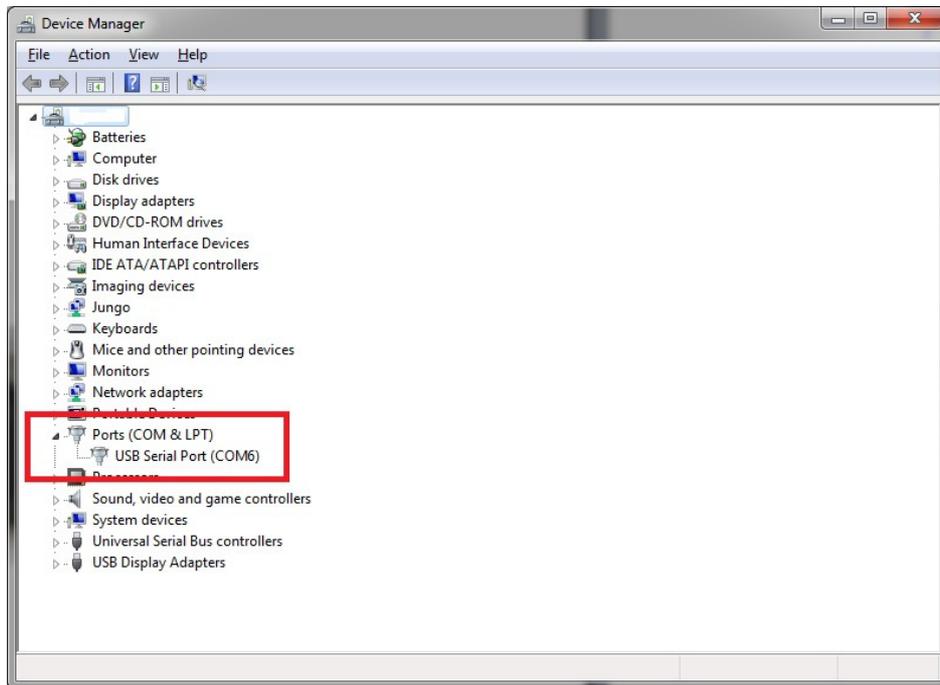
Installing The OSEPlugin

Download the OSEPlugin from the delcohacking.net forums ..
http://delcohacking.net/forums/viewtopic.php?f=3&t=590

The downloaded file is a ZIP file, it must be extracted before use. Open the ZIP file and extract the OSEPlugin.dll file to the My Documents\TunerPro Files\Plugins directory.
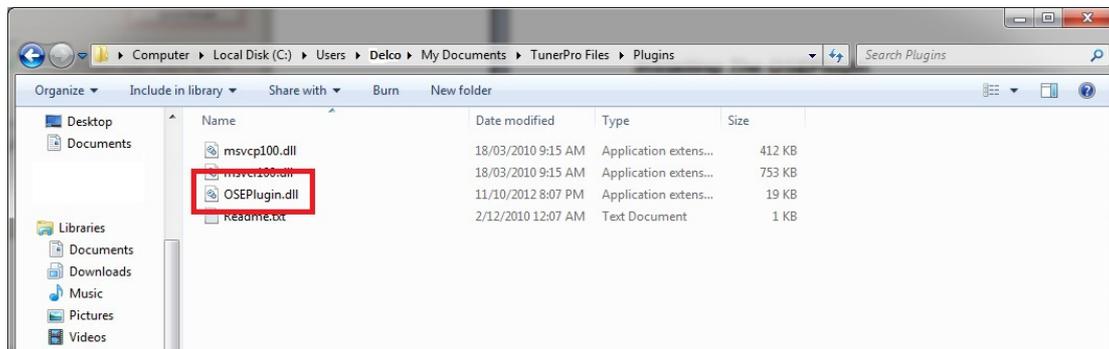
Checking the install and troubleshooting the OSEPlugin

OSEPlugin requires Microsoft VC 2010 runtime package to work. Most of the time this is already installed, and you can move on to the next step. However, if you start tunerpro and get an error similar to this then you will need to download and run the installer from microsoft available here:

http://www.microsoft.com/en-au/download/details.aspx?id=5555
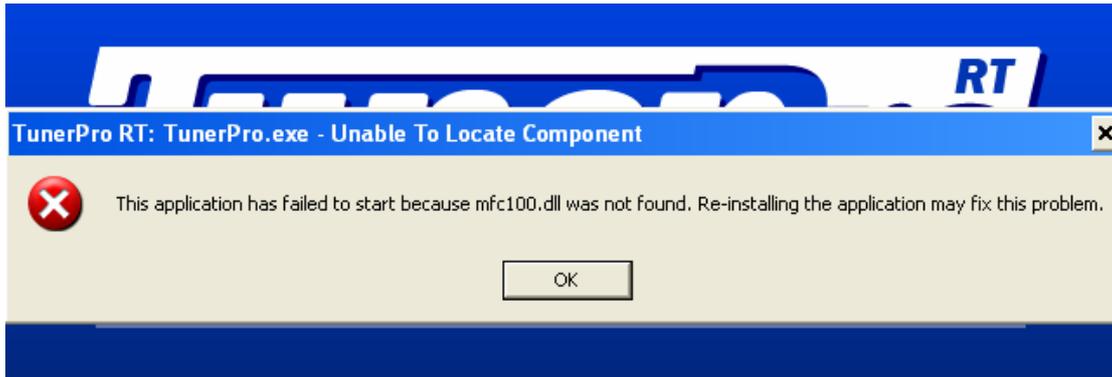
If tunerpro starts up without error, check help->plugins and make sure the plugin is listed. If it is not, then check that the dll exists in the right location on the pc. If it is listed, move on to the next step.
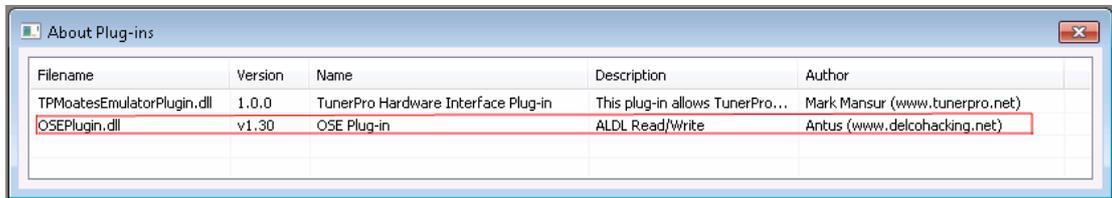
Setting Up The OSEPlugin

Now that the OSEPlugin is in the correct directory open TunerPro and navigate to the Tools and Preferences menu..
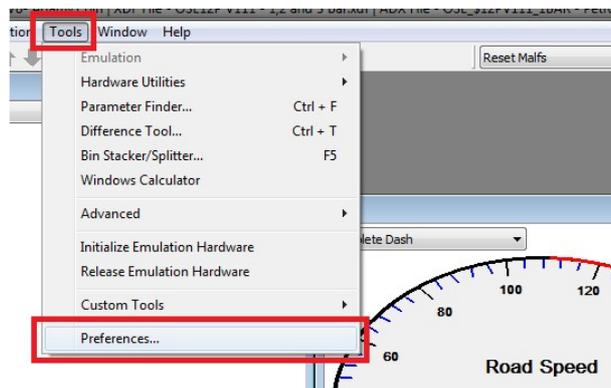
Under the Data Acq./Emulation tab the OSEPlugin can be selected in both drop down boxes. After it is selected in both click the Configure Plugin-in Component (can click either button, they both open the same options window). Select the Port (for USB this is the virtual com port), tick the Calibration Area Only Read checkbox and choose the cable echo type. The speed selection should be set to 8192 unless using the delcohacking ALDL Logger V2

Cable Echo Setting
USB Communication (including '808) or VR and later – Ticked
'808 RS232 – Cleared
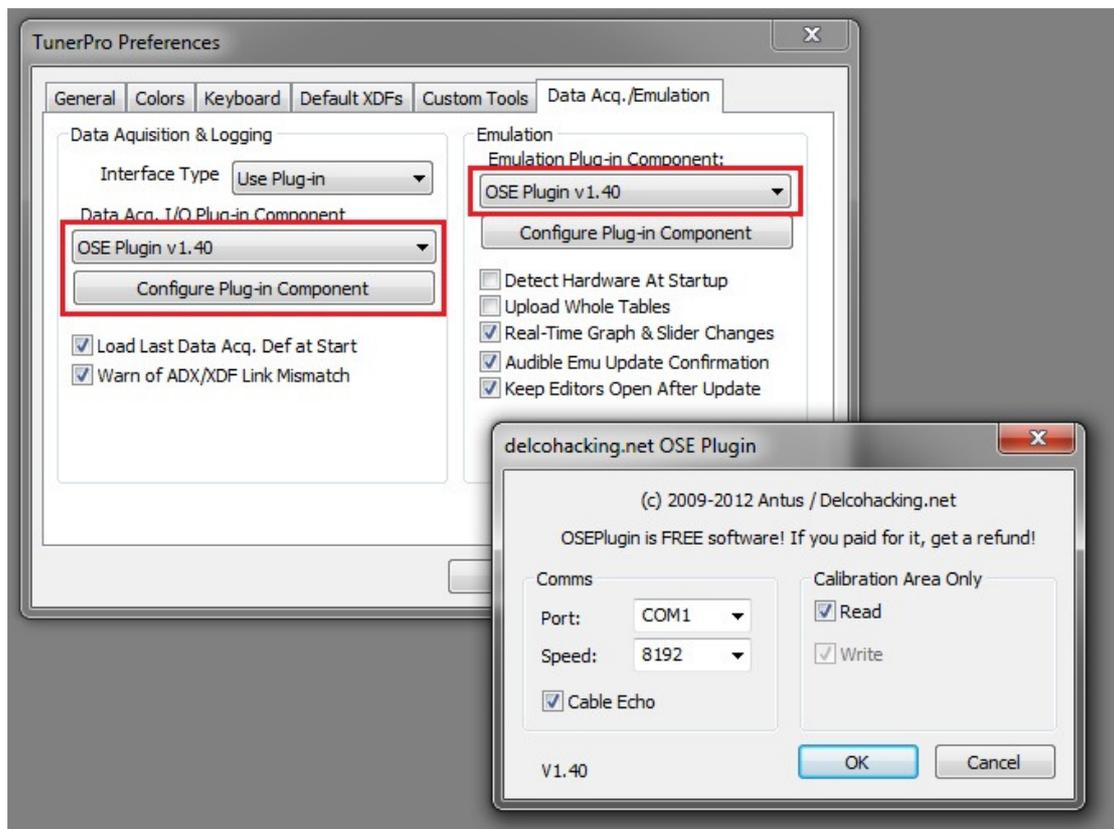
ECU/PCM Setup and Requirements

Before starting to log and tune you will require the ECU/PCM to have the NVRAM installed and be loaded with a Real-Time enabled binary. How this is loaded to the NVRAM board is detailed in the instructions that came with the NVRAM. If you purchased a NVRAM board from delcohacking.net it will be pre-loaded and ready to go with the RT bin you chose.

You will also require the matching XDF for editing/tuning the bin and a matching ADX for logging. The XDF is what tells TunerPro where in the ECU memory each parameter and table lives, the ADX tells TunerPro how

it should request the data for logging and how to display it in a human readable format.

The RT enabled bins and the corresponding XDF and ADX files can be found on the delcohacking forums.
RT Enabled Bins
http://delcohacking.net/forums/viewtopic.php?f=27&t=613
Enhanced RT Bins
http://delcohacking.net/forums/viewtopic.php?f=27&t=2518

OSE 12P
If you are using an '808 or VR/VS (not Ecotec) manual ECM then OSE12P is recommended. In the zip package are all the required ADX and XDF files for various fuels and MAP sensor configurations. It also has some factory calibrations to get you started …
http://delcohacking.net/forums/viewtopic.php?f=27&t=356

Using the OSEPlugin to Make RT and Offline Tuning Changes
1) Turn the ignition key to the on position (all dash lights on). It is not necessary to start the engine for TunerPro to connect.
2) Open TunerPro V5. If you get error messages about missing DLL files the final section in this guide has links on how to fix them.
3) By default TunerPro will search for hardware when loading, if your plugin settings are correct it will find the device and display what is connected in the status bar at the bottom of the screen
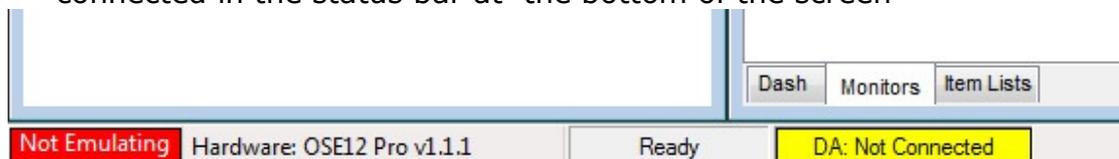

4) You can now load the matching XDF so the calibration can be edited.
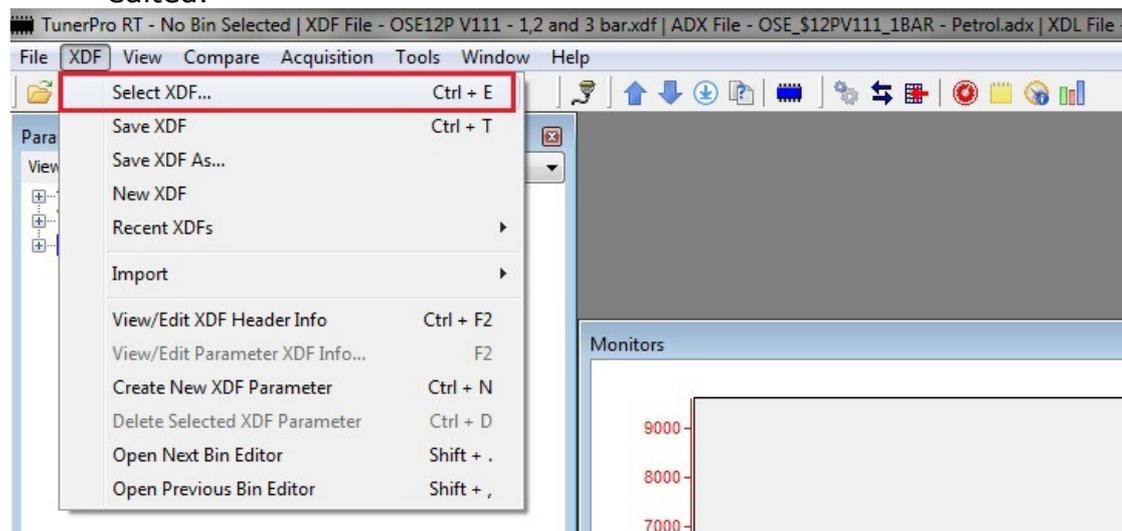
The selected XDF will be displayed in the title bar..
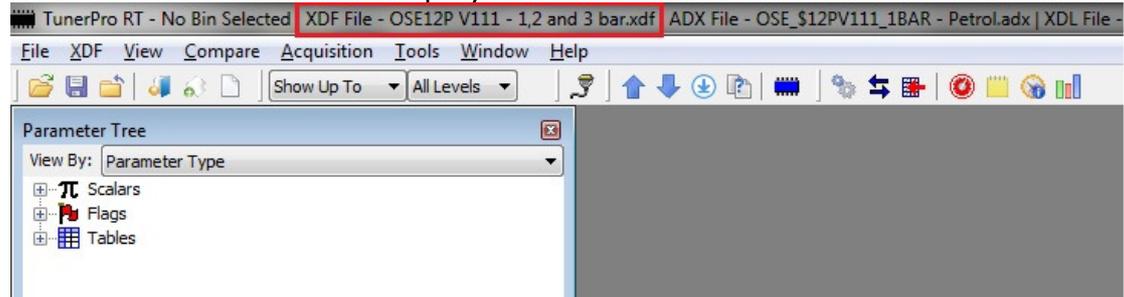
5) To get the current configuration from the ECU click the 'Download Bin From Emulator to TunerPro' button
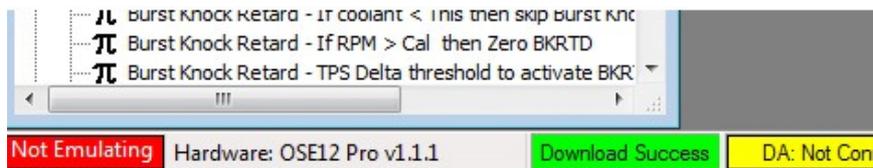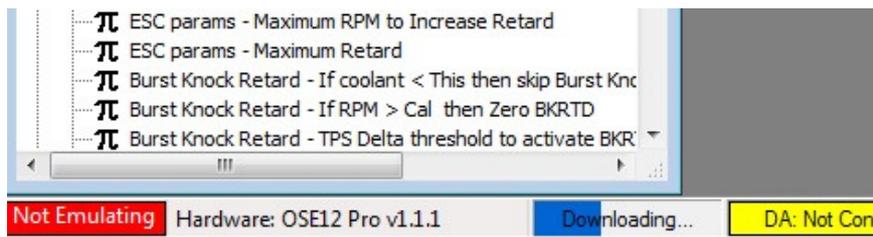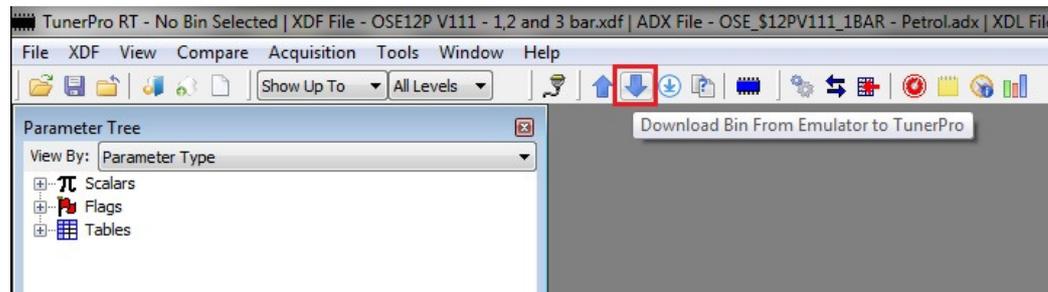
6) TunerPro now has a snapshot of what data the ECU is currently using for the calibration. You can now use the Scalars, Flags and Tables headers under the parameter tree to view these items. The parameter tree can be displayed by pressing F6.
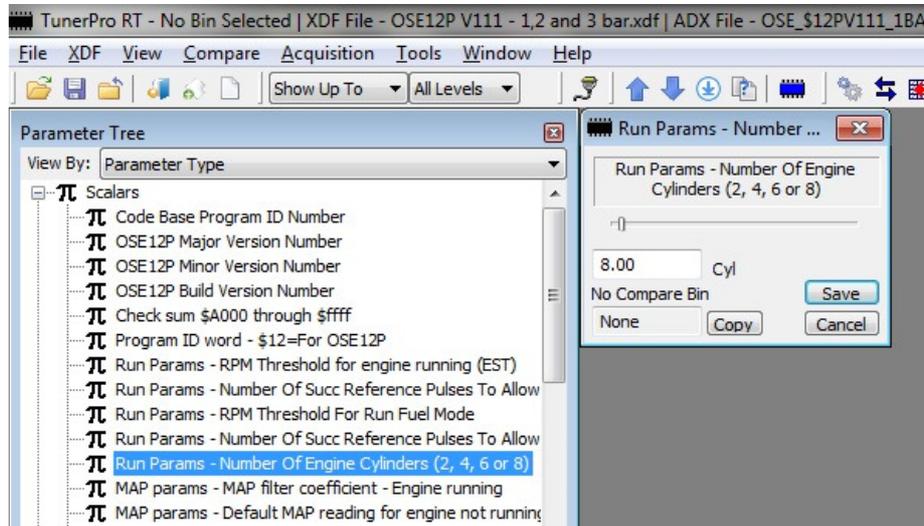

7) At this point if you edit anything you are not changing the calibration data in the ECU, all that is changing is what is in TunerPro's data buffer ie what you get to see on the screen and not what the engine is actually using. There are two options …

    a) Edit the TunerPro buffer and when you have made all your changes click the up arrow 'Upload Current Bin to Emulator'. The ECU will begin to use the changes immediately.
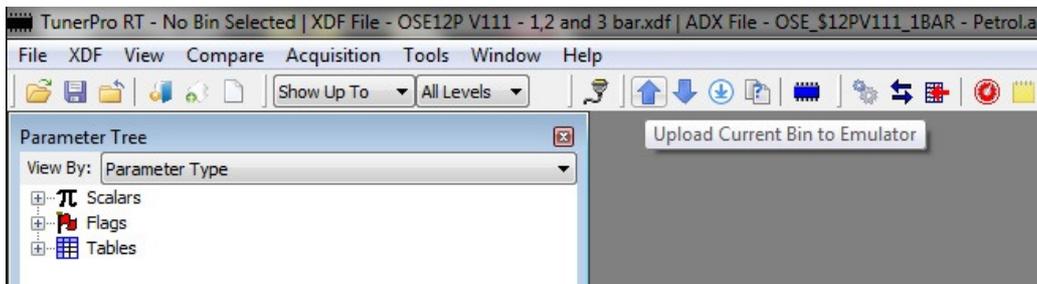
    b) Change to emulator mode (or Real-Time mode) and make the changes directly to the ECU. As soon as you make changes they are also transferred to the ECU.
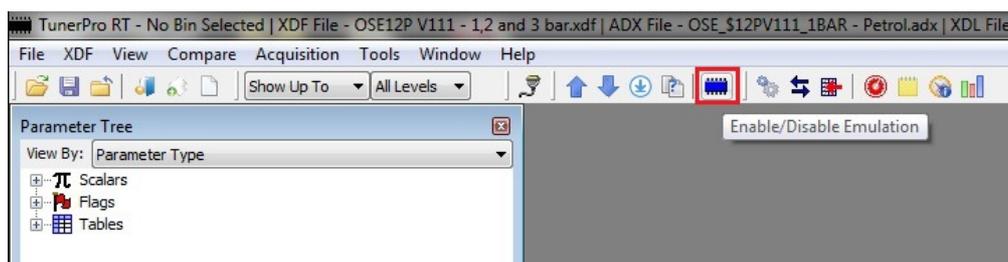
In emulation mode the 'Save' button on each scalar and flag item will change to 'Update' and the 'Save' button on the table editor will change to one with an arrow for upload. When you click the update/upload button any changes you make are instantly sent to the ECU and become active. A good test to demonstrate it is working but without changing anything critical is to change the desired idle RPM.
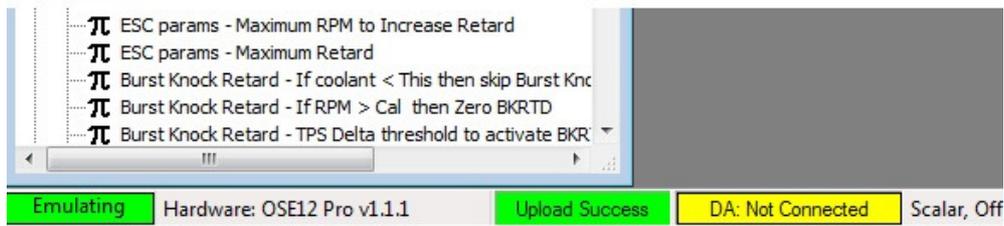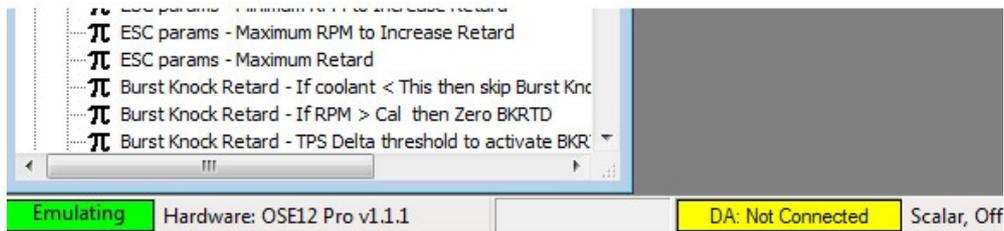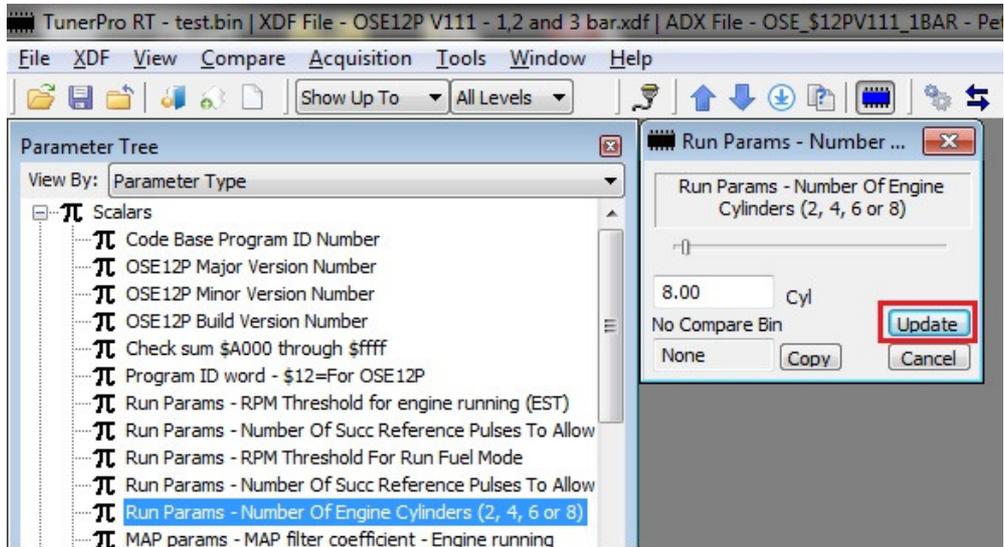
8) When you have finished tuning it is a good idea to save the current calibration in the ECU. Click the 'Download Bin From Emulator to TunerPro' button to get the current snapshot of what the ECU is using, then under file select 'Save Bin As..'
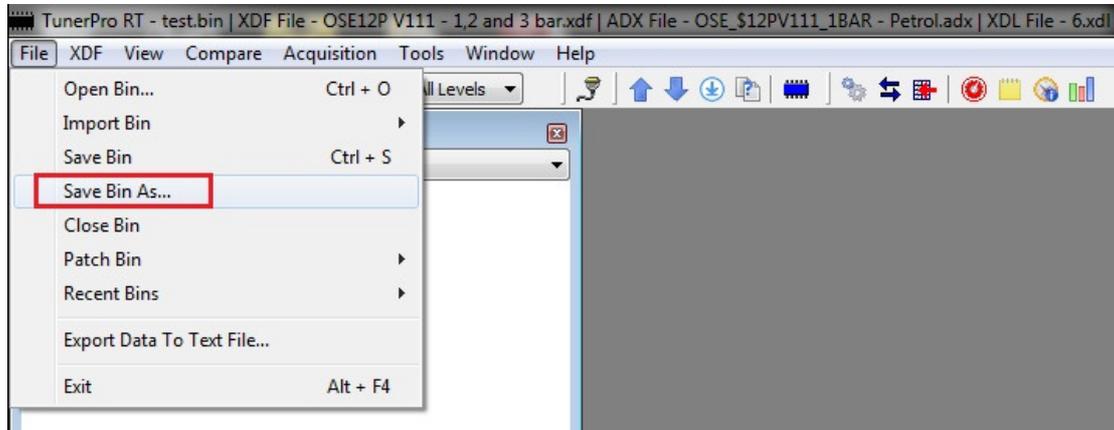
Please note: The bin file you have just saved is only the calibration data. You cannot burn this file directly to an EPROM. To get the entire binary use the Flashtool or un-check the 'Calibration Area Only' option in the OSEPlugin settings. Be careful with this though, factory GM code has a bug that means the very last byte of the received binary will be wrong. This has been fixed in OSE12P but all original factory code has the issue.

Using The OSEPlugin To Change The Entire Calibration (ie V6 to V8)

1) With TunerPro open and after it has detected the ECU select 'File' and then 'Open Bin'
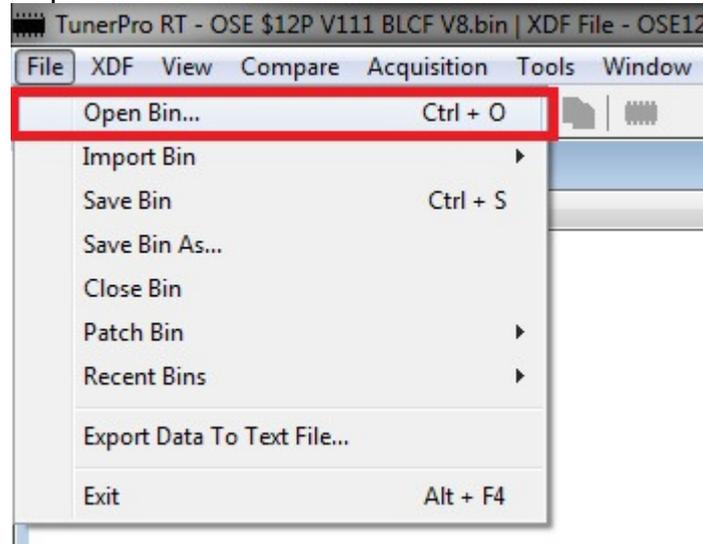
2) Choose the bin file you want to load. It must match the currently loaded type. ie a 12P V111 bin to load to a 12P V111 ECU, only the cal (the tuning part) can be different.
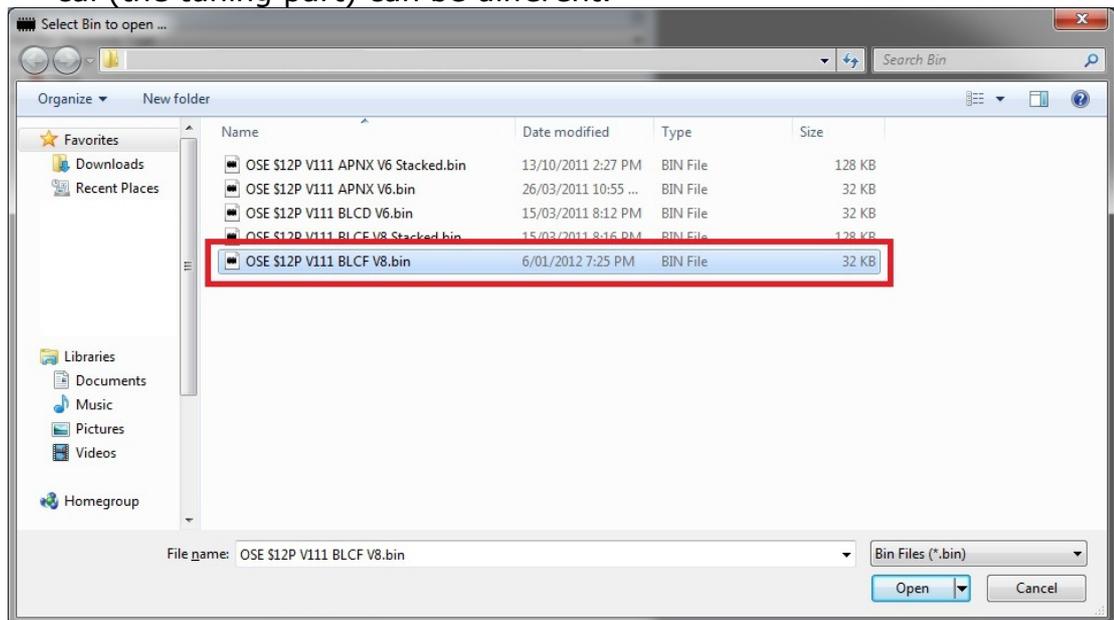
3) Now the bin is loaded click the up arrow 'Upload Current Bin to Emulator'…
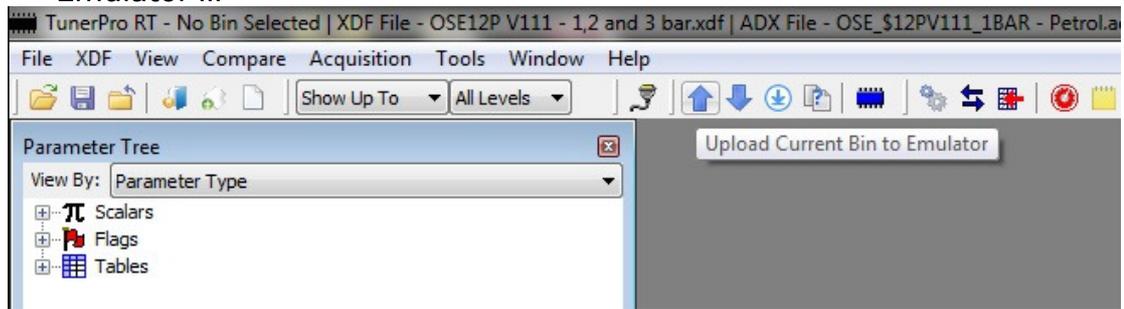

Using the OSEPlugin to Data Log

1) Open TunerPro V5
2) TunerPro uses ADX files for setting up the logging. This file defines all the commands that get sent to the ECU, what the expected return data should be and how to display it in a human readable format. The ADX must match the type of bin that is loaded on the NVRAM. Select 'Load Definition File' from the Acquisition menu and select the appropriate ADX file…
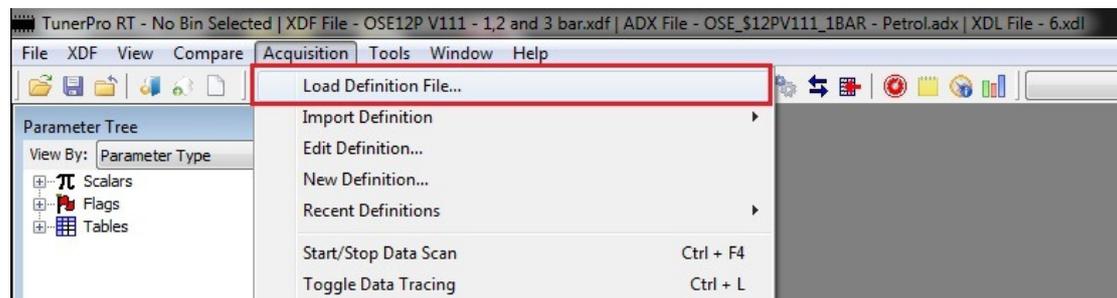
The selected ADX file is then displayed in the title bar..
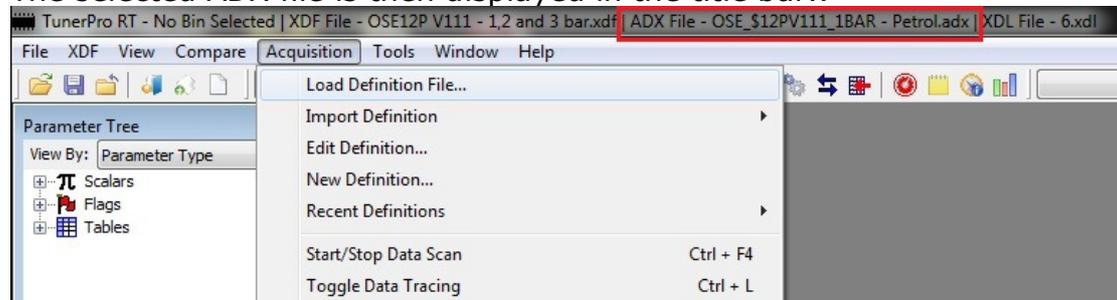
3) The OSEPlugin setup takes care of the com port and echo control so you are now ready to start logging. Click the button with 2 blue arrows …
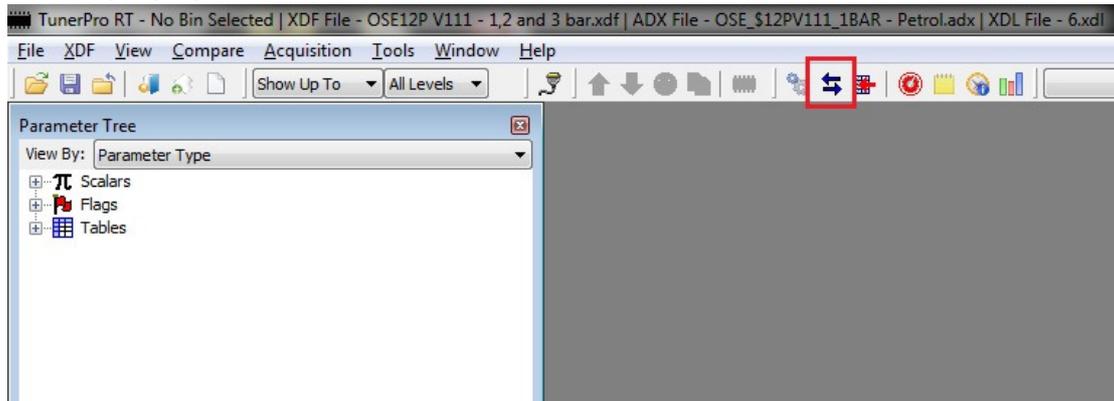
At the bottom of the TunerPro screen there is a status bar. This will change from not connected to Connected and showing the connected data rate…
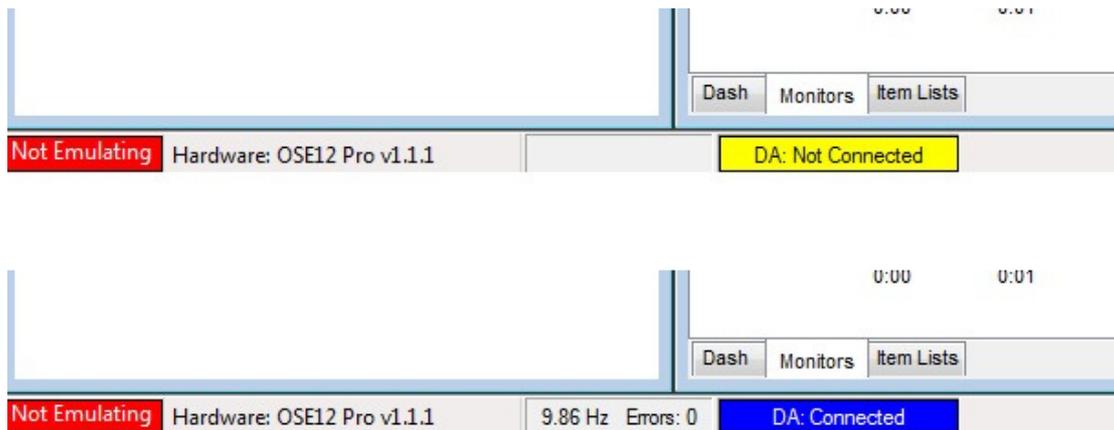
4) You can now display the ALDL data in various formats. The options are Data Dash, Data List, Data History or Data Monitor

5) The ADX can also be setup to have data tracing, a black bubble will float around tables showing exactly what cell the ECU is currently operating from. This is very useful when RT tuning to quickly show which cell needs to be modified.

Common Setup and Use Issues

VT and later: These models do not currently work the OSEPlugin while the BCM is connected due to the large amounts of data bus traffic, however the Flashtool can be used to read and write to the NVRAM. If the BCM is disconnected from the vehicle bus OSEPlugin allows RT tuning and logging. Information on disconnecting the BCM from the vehicle bus can be found here ..
http://www.delcohacking.net/forums/viewtopic.php?f=9&t=1990

The Mouse Cursor is Going Crazy: This happens if the FTDI VCP drivers are not installed before the USB interface is connected to the vehicle. It happens mostly on VT and later vehicles where a ALDL data packet causes the FTDI device to be incorrectly detected by windows. It instead installs the device as a generic mouse. If you open the device manager you will not have a USB serial device under the Ports heading. Correctly installed VCP drivers will show up similar to this…
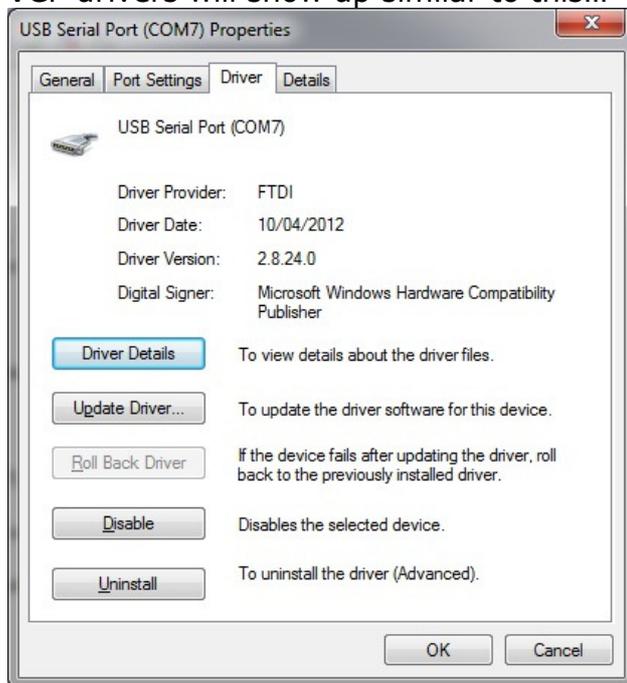
If you have an extra mouse under the Human Interface Devices heading the FTDI drivers will need to be re-installed.

The OSEPlugin is Not Listing My Com Port: Sometimes other software packages steal control of the com port and not release it correctly. A reboot or full power cycle of the PC is sometimes required for the port to be available.

Error Messages

There are two common error messages after installing the plugin and opening TunerPro.

MFC100.dll missing ..
See the section in this guide "Checking the install and troubleshooting the OSEPlugin" or visit the delcohacking forums ..
http://delcohacking.net/forums/viewtopic.php?f=3&t=1983&p=19592

MSC100.DLL missing..
http://www.delcohacking.net/forums/viewtopic.php?f=3&t=590 just below the OSE plugin download has a link to the VC2010 redist exe to add the required files.