INSITE™ Overview

Electronic Service Tools

2018 Version

Public Information

Customer Success.
Every™ Time.

Contents

Getting Started

- Windows-based PC obtained that meets or exceeds system requirements
- Latest version of INSITE installed
  - Includes License Configuration Tool
- Latest version of Update Manager installed
- RP1210 adapter (such as INLINE 7) with connection cables available for use
- Appropriate licensing purchased through authorized distributor
- If any of these steps are not done, please contact your local distributor for further assistance.

System Requirements (as of Jan 2018)

Component	Recommended	Minimum Requirements to Install
Platform:	INTEL i5 Processor & AMD K10 Core (32bit or 64bit)	INTEL i3 Processor & AMD K10 Core (32bit or 64bit)
Operating System:	Windows 10 (32bit or 64bit) *Windows 8.X (32bit or 64bit) *** - Windows 8.x Starter or Windows 8.X RT are not supported**	Windows® 7 (32bit or 64bit) **Note: Windows 7 Starter Edition or Basic Edition, Virtual PC and XP Mode are not supported**
Processor:	2.1 GHz or greater Quad-Core	2 GHz or greater Quad-Core
RAM:	12 GB or greater	Windows 7 - 8GB
Hard Drive:	2 GB or greater available disk space	2 GB available disk space
Media device (needed for installation in most cases and INCAL):	Dual Layer - Double Density DVD-ROM	DVD-ROM (may be internal or external as needed for installation)
Display:	**Minimum Resolution 1024 x 768	**Minimum Resolution 1024 x 768
Keyboard:	101-Key Enhanced	101-Key Enhanced
Pointing Device:	Windows Compatible Device	Windows Compatible Device
Multimedia:	PCs that will be used for Virtual College training will require multimedia and sound capability	Any Windows Compatible Sound Device
Other Software:	Adobe Acrobat Reader v9.0 or higher Microsoft .NET Framework 4.5.2	Acrobat Reader 9.0 or higher Microsoft .NET Framework v4.5.2
Printer (optional):	Windows Compatible Device	Windows Compatible Device
Internet connection:	DSL / Broadband high-speed	DSL / Broadband high-speed
Available Ports:	2x USB 2.0	See datalink adapter manufacturer for port specifications.

** Dual Monitor Displays are not supported

All Software section defines the level of PC Hardware required to run all of these applications.

Minimum installations will limit performance. For optimal performance use the recommended hardware or better.

Licensing Information

Product Based

- **MR/HD Automotive** provides access to the EPA 2007 and above on highway engines in North America and the Euro VI engines for Europe which are listed below.

ISM - CM876	ISL9 CM2250
ISX - CM871	ISX12/11.9/15 CM2250
ISB - CM2150	ISX12 G CM2180 EJ
ISC - CM2150	ISB4.5 CM2350 B104
ISL - CM2150D	ISB6.7 CM2350 B101
ISL G - CM218	ISL9 CM2350 L1010
ISB6.7 CM2250	ISX12/15 CM2350 X102/X101
ISC8.3 CM2250	Turbo Actuator Controller
Aftertreatment Diesel Exhaust Fluid Controller	

- **MR/HD Plus** provides access to all applications and engines except High Horsepower (HHP) engines.
- **Service Plus** provides access to all engines and applications that INSITE supports.

Functionality Levels

- **Pro** is the highest level of functionality that INSITE provides, which includes calibration download.
  - **NOTE: Requires certification by Cummins distributor to obtain this type of license.**
- **Lite** provides all of the functionality of Pro except for calibration download capability.
- **RSGR/Industrial Pro** functionality limits the access to Road Speed Governor parameters and Industrial Pro provide calibration download to Industrial products only.
- **Basic** functionality is read only and does not have adjustment or calibration download capability.

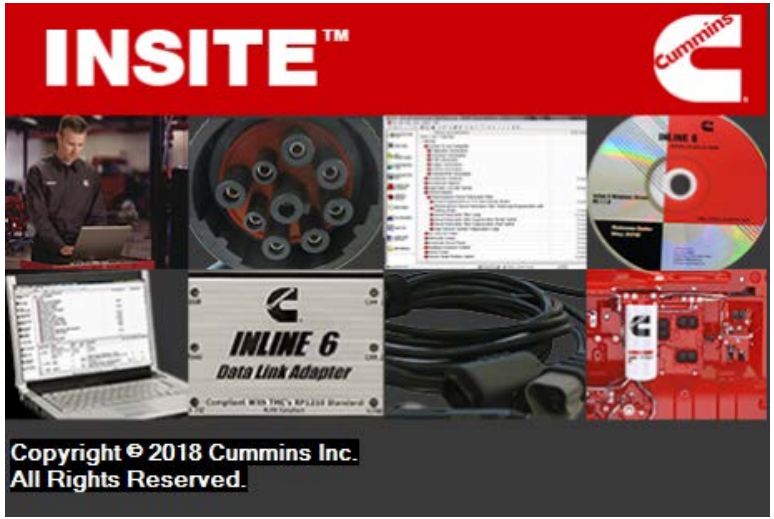
RP1210 Device Compatibility

- **Supported**
  - INLINE 7
    - NOTE: INLINE 5 & INLINE 6 do work with INSITE, but are no longer supported
  - Any RP1210 Compliant Datalink Adapters
  - Additional information available on insite.cummins.com

Launching & Licensing

Launching INSITE

- After INSITE has been installed, you should have a shortcut icon on your desktop that looks like  .
- Double-click INSITE shortcut.
- An INSITE splash screen should be displayed as shown to the right.



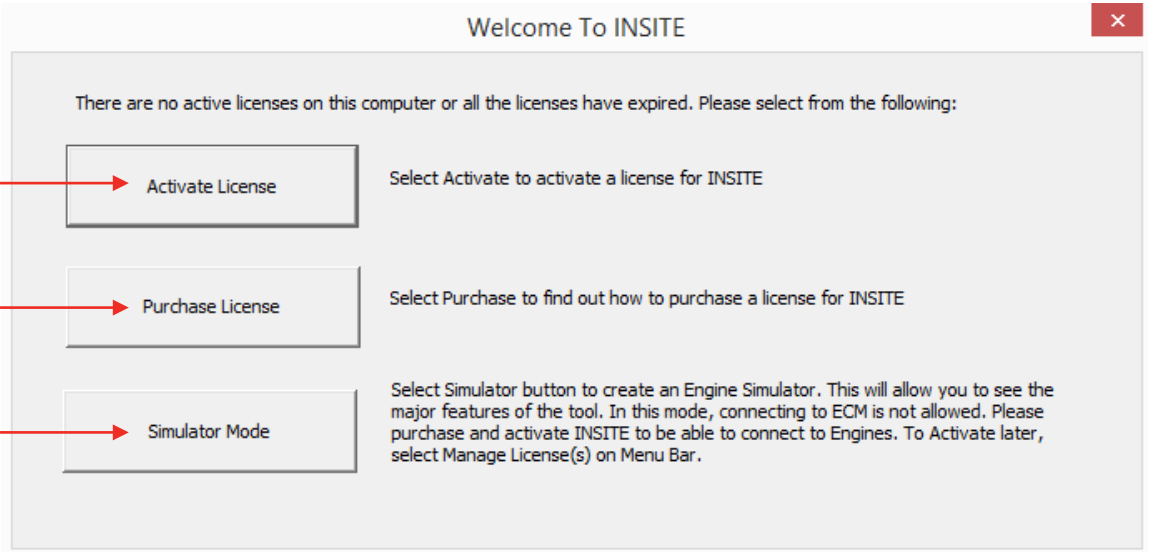
Launching INSITE

- If no licenses have been activated, a “Welcome to INSITE” window will appear
- If licenses have already been activated, INSITE will launch

Launches License Configuration Tool

Locate distributor contact information

Launches INSITE in Simulator Mode



NOTE: This window must be closed if “Activate Licenses” is selected to allow licenses to activate properly.

Navigating INSITE™

Title Bar

Menu Bar

Tool Bar

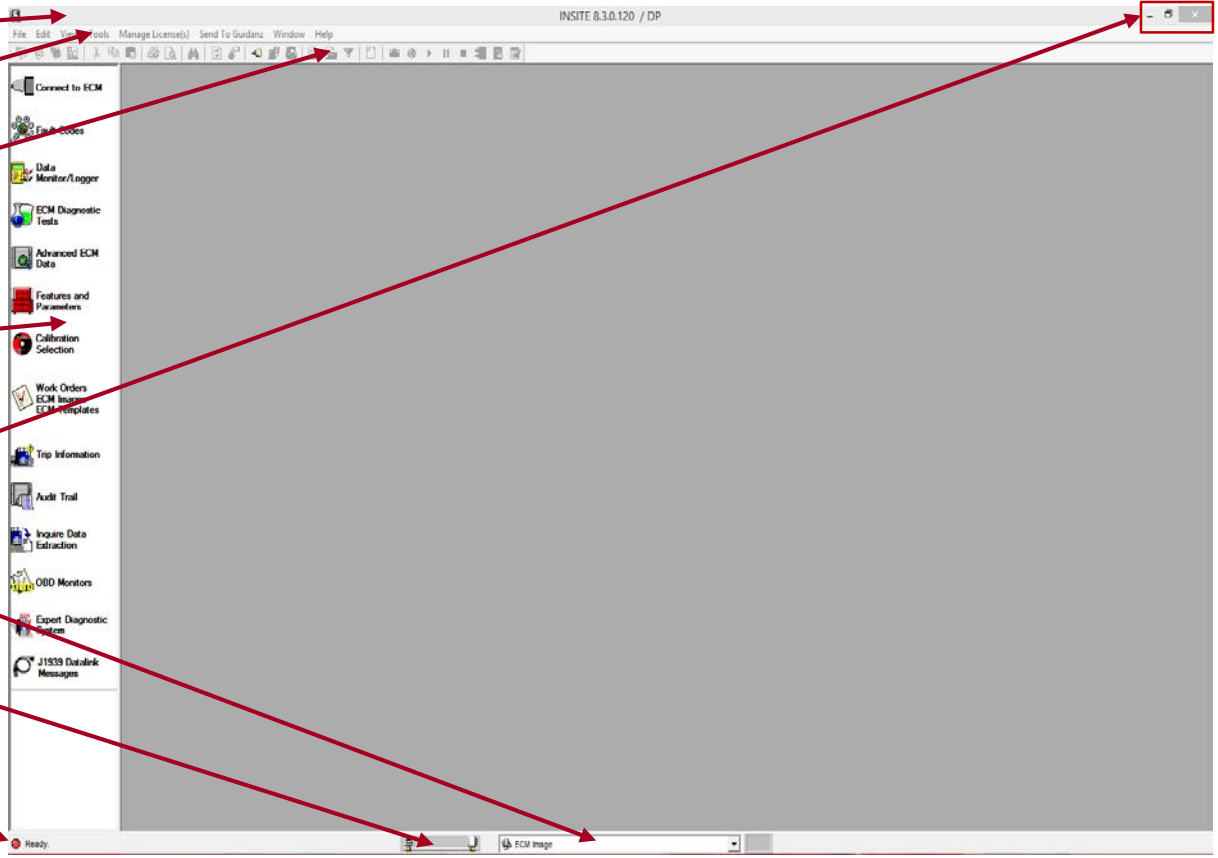
View Bar

Minimize / Maximize / Exit

Selected Connection

Communication Status

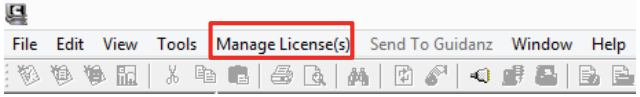
Connection Status

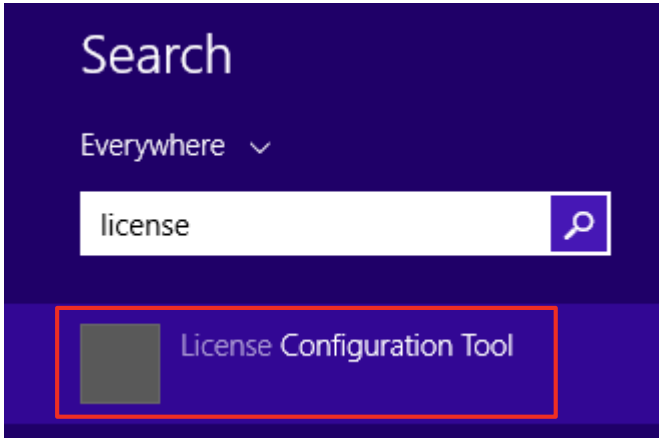


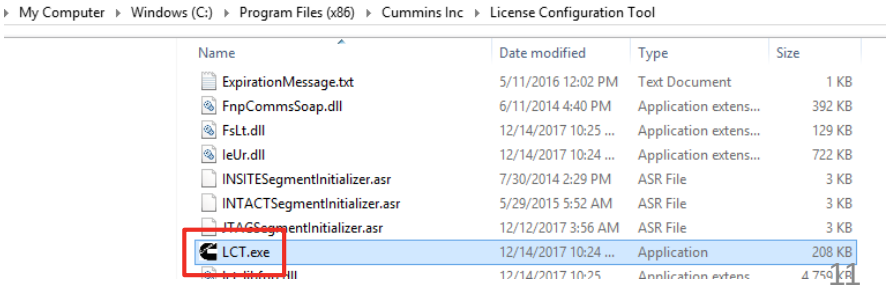
Launching License Configuration Tool (LCT)

- Standalone utility to manage licenses and counts for INSITE™ and can be found several ways

- Click “Manage Licenses” from the menu bar in INSITE
- From the Windows Start Screen or Start Menu
  - Varies by operating system
  - For Windows 7 or 10 users, Type “license” into search bar of Start menu.
  - For Windows 8 users, type “license” while Start screen is open.
  - Click on result “License Configuration Tool” to start launching.
- Through File Explorer
  - 32-bit OS: C:\Program Files\Cummins Inc\License Configuration Tool
  - 64-bit OS: C:\Program Files (x86)\Cummins Inc\License Configuration Tool

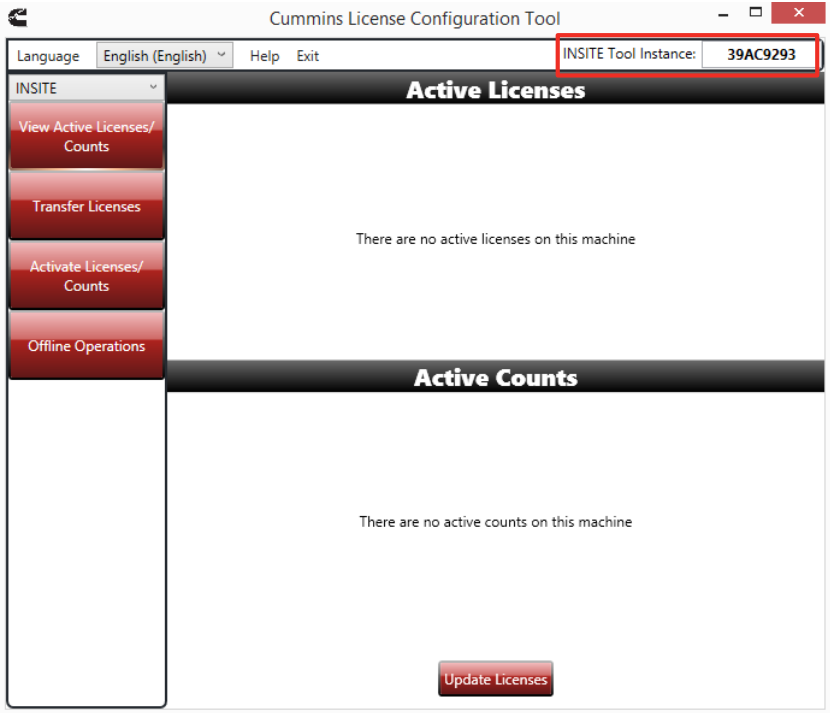






Tool Instance

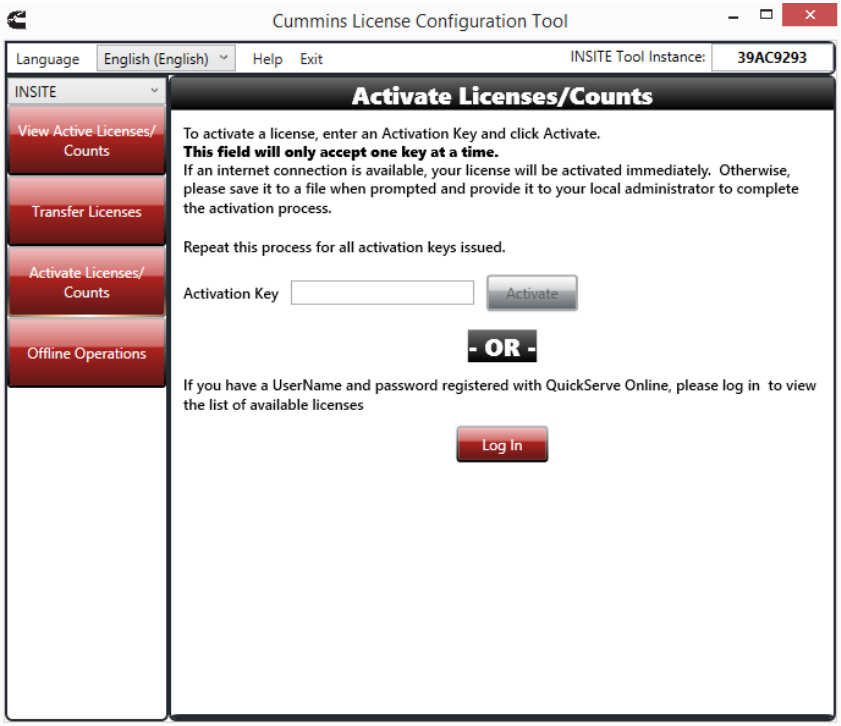
- Once LCT is launched, you should obtain a tool instance in the upper-right corner.
  - Tool instances should be unique to each system.
  - Very important to document the tool instance in the event of a system crash or sudden replacement.
  - If a tool instance is not obtained (N/A), it is recommended to contact your I.T. or network administrator to ensure there are no issues with communication being blocked.
  - If a tool instance is obtained, you should have communication and ability to activate licenses properly.



Activating Licenses

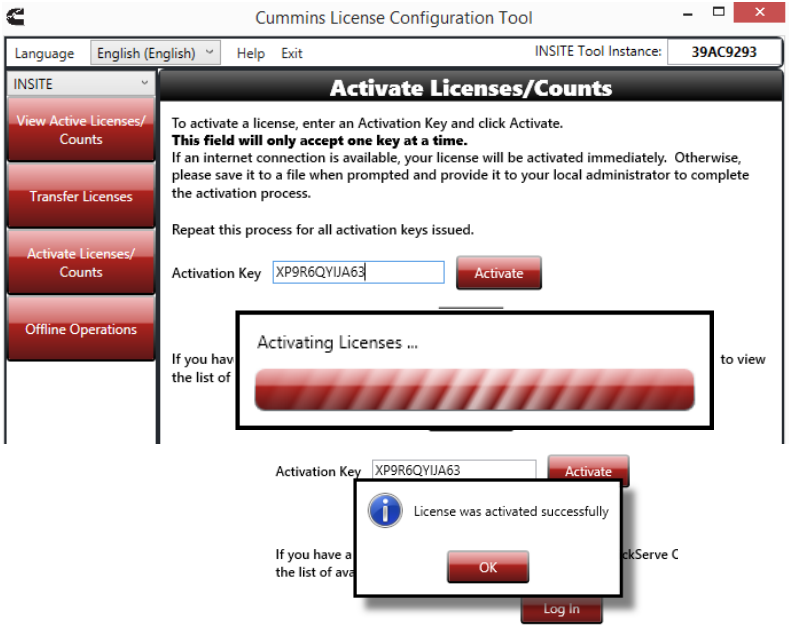
- Click on Activate Licenses/Counts tab at left of LCT.

- There are 2 different methods
  - Enter activation keys manually
  - Activate available licenses using QSOL Log In



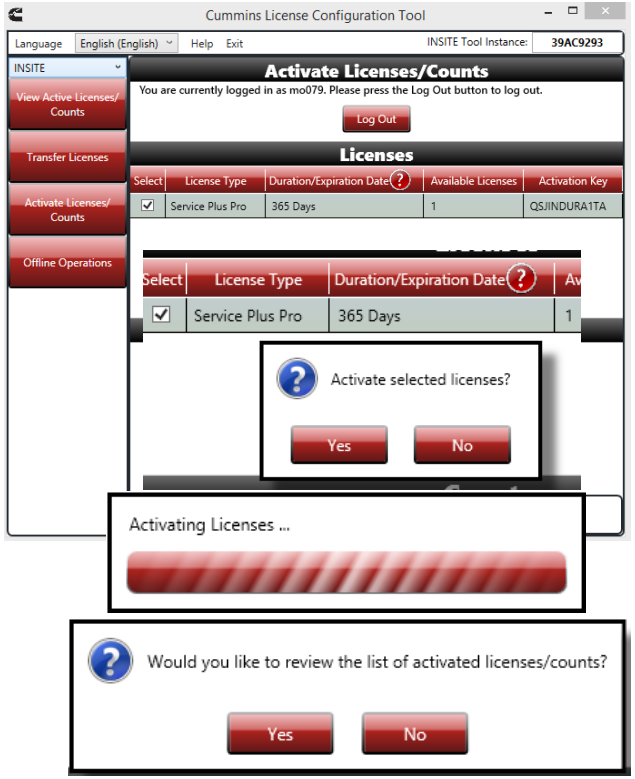
Activating Licenses using Activation Keys

- Enter license activation keys manually, one at a time
- After activation key has been entered, click “Activate” button
- A window will appear showing “Activating Licenses…”
- Once license is activated successfully, you will see a prompt.
- Repeat this process as needed to activate all licenses issued.
  - A Basic & Functional license key is required for full functionality



Activating Licenses using QSOL Log In

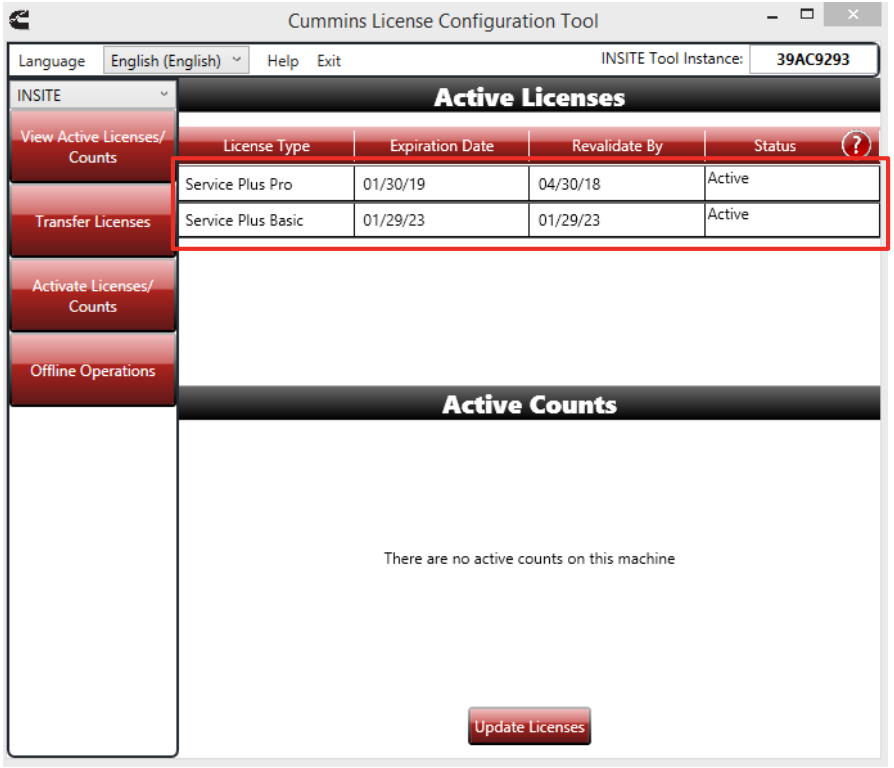
- If you have a Quickserve (QSOL) account and the licenses have been registered to your QSOL ID, you can click on “Log In” button to start activation.
- Once logged in, any licenses available for activation, will be displayed.
  - Any licenses already activated will not appear when logged in.
- Select the desired licenses, then click “Activate” to continue.
- You will then be prompted to confirm activation of selected items.
- Once selection is confirmed, licenses will begin to activate and prompt to review after activation is successful.



Viewing Active Licenses & Counts

- Once licenses are activated, you can click on “View Active Licenses/Counts” tab and licenses should display as shown.

- After licenses are initially activated, INSITE can be launched again.



Additional Resources

For additional information on other functions of LCT, please view the tutorial videos using the links provided below.

How to Activate Licenses and Counts

How to Transfer Licenses and Counts

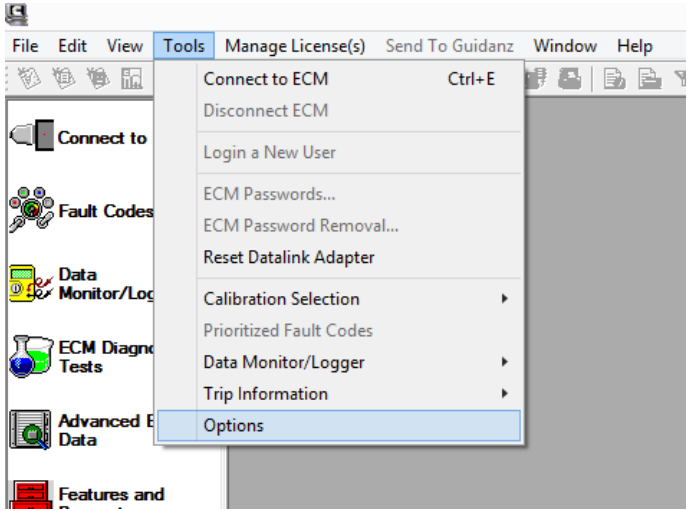
How to Repair and Revalidate your Licenses

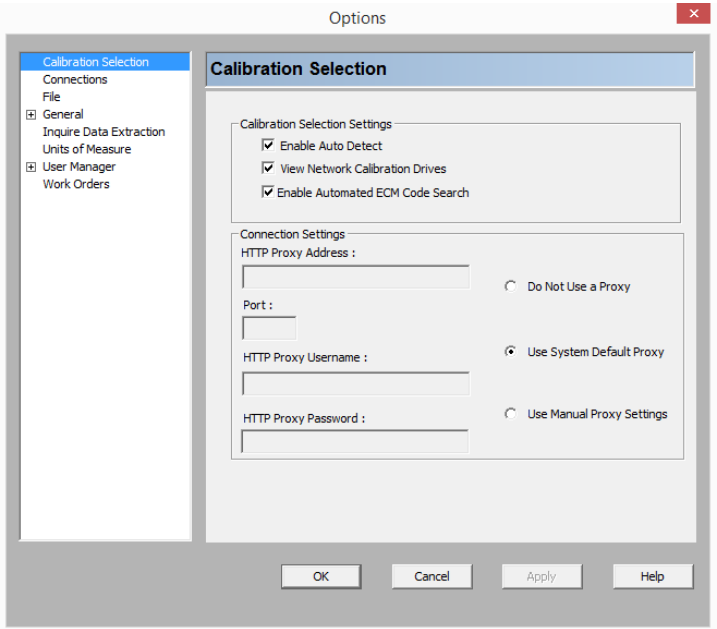
Offline License Operations

Configuring Options

How to Configure Options in INSITE™

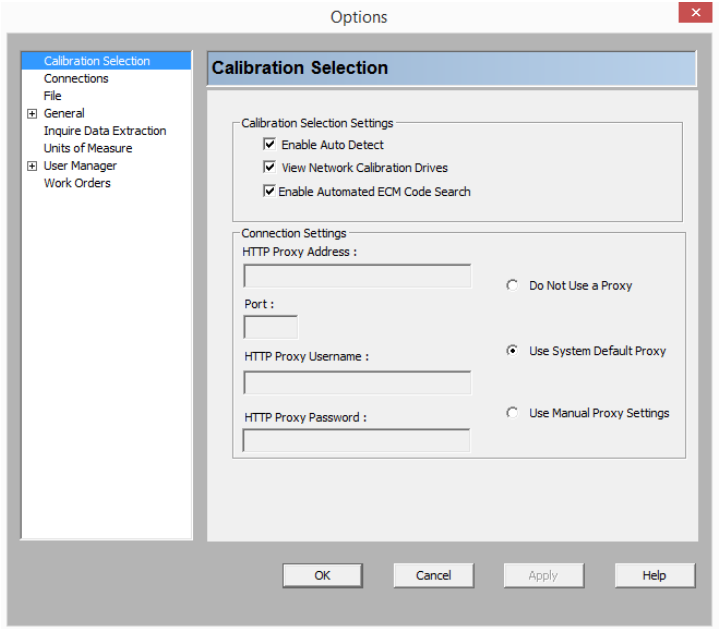
- In the menu bar, navigate to Tools > Options
- The Options dialog screen should appear





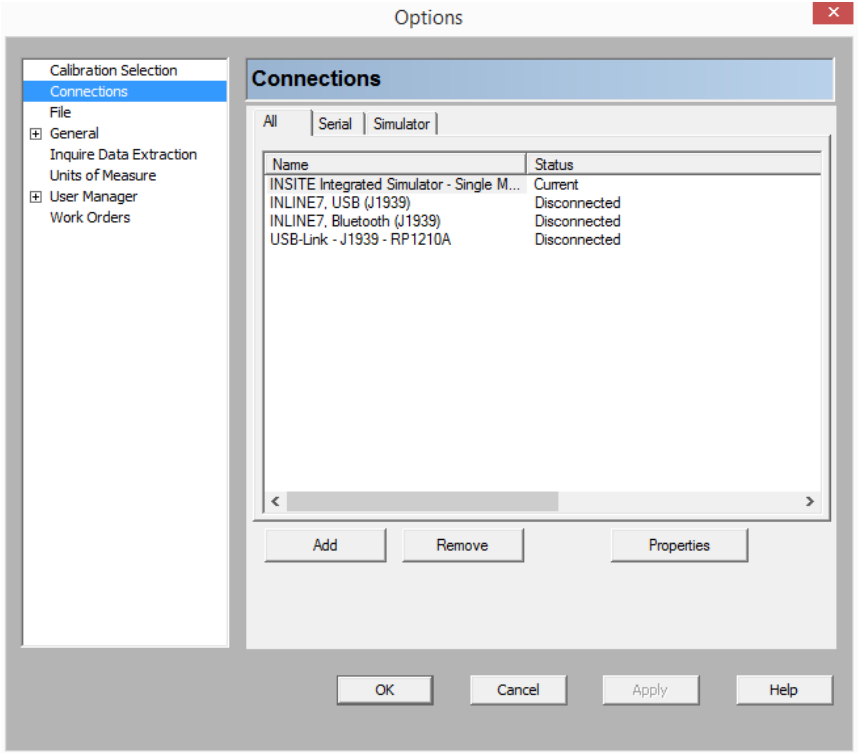
Calibration Selection Options

- Calibration Selection Settings
  - Enable/Disable Auto Detect
  - View Network Calibration Drives
  - Enable/Disable Automated ECM Code Search
- Modify network proxy settings



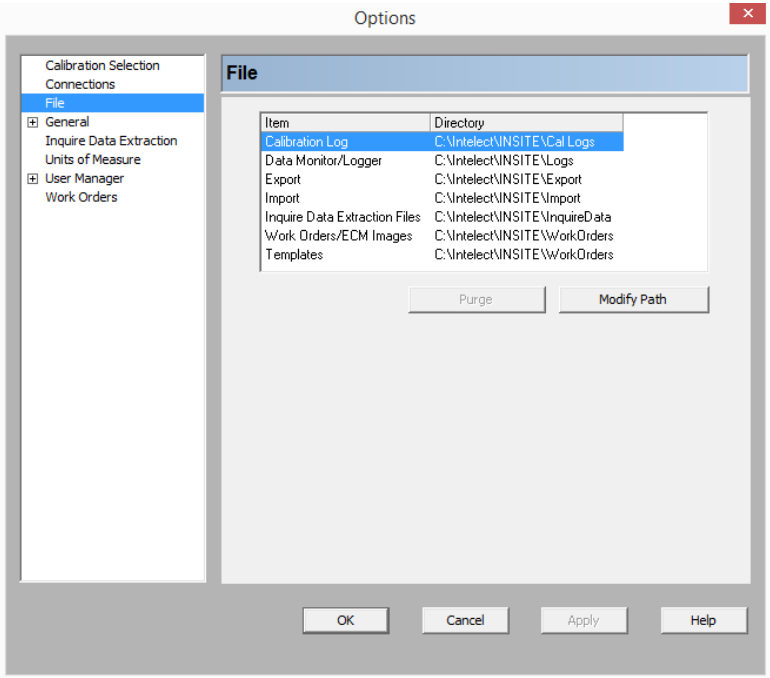
Connections Options

- Allows user to add and remove datalink adapters and simulators used for connections.
- Existing connections can be renamed through Properties.



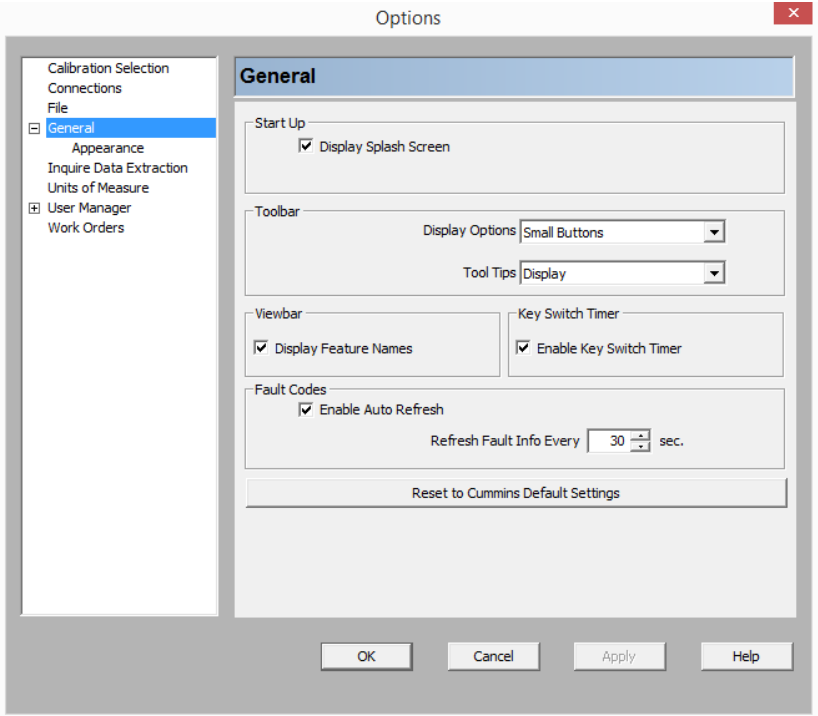
File Options

- Allows user to modify location paths for saved items such as…
  - Calibration Logs
  - Data Monitor/Logger Logs
  - Exported images, templates and logs
  - Imported images, templates and logs
  - Inquire Data Extraction files
  - Work Orders & ECM Images
  - Templates
- Default settings are recommended



General Options

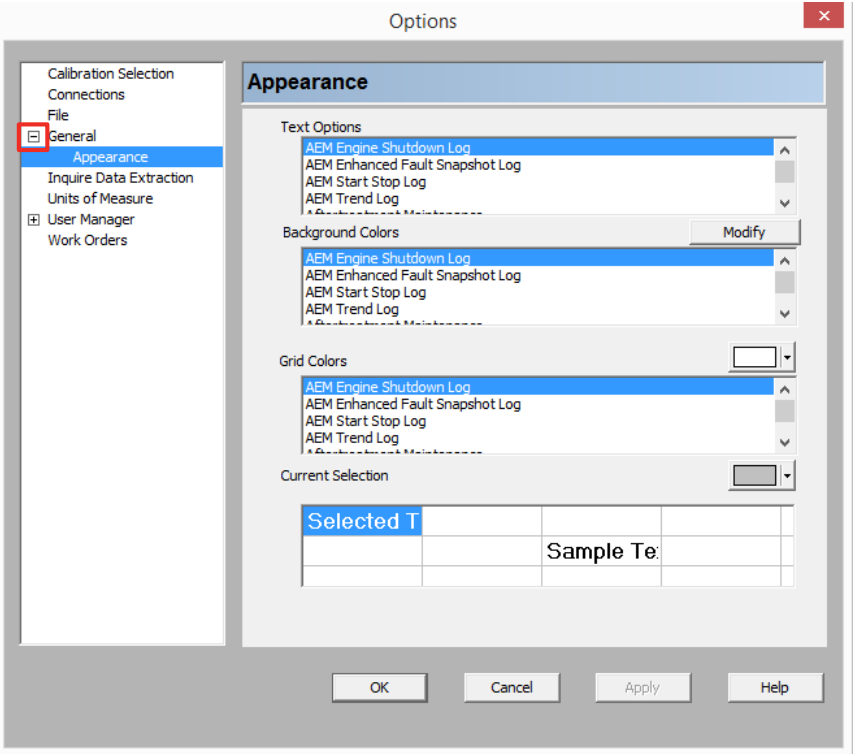
- Start Up
  - Display/Hide Splash Screen at launch
- Toolbar
  - Set display button size
  - Display/Hide Tool Tips
- Viewbar
  - Display/Hide feature names
- Key Switch Timer
  - Enable/Disable
- Fault Codes
  - Set Auto Refresh rate
- Reset INSITE to Cummins Default Settings



Appearance Options

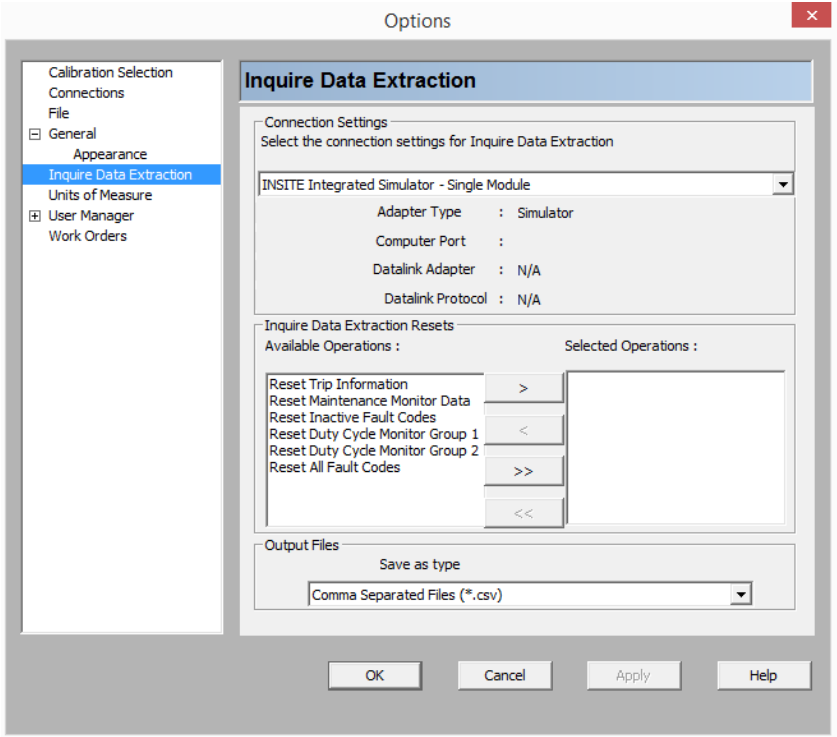
- Allows user to customize appearance of…
  - text size, font, and color
  - background colors
  - grid colors

- Appearance options are available when General category is expanded.



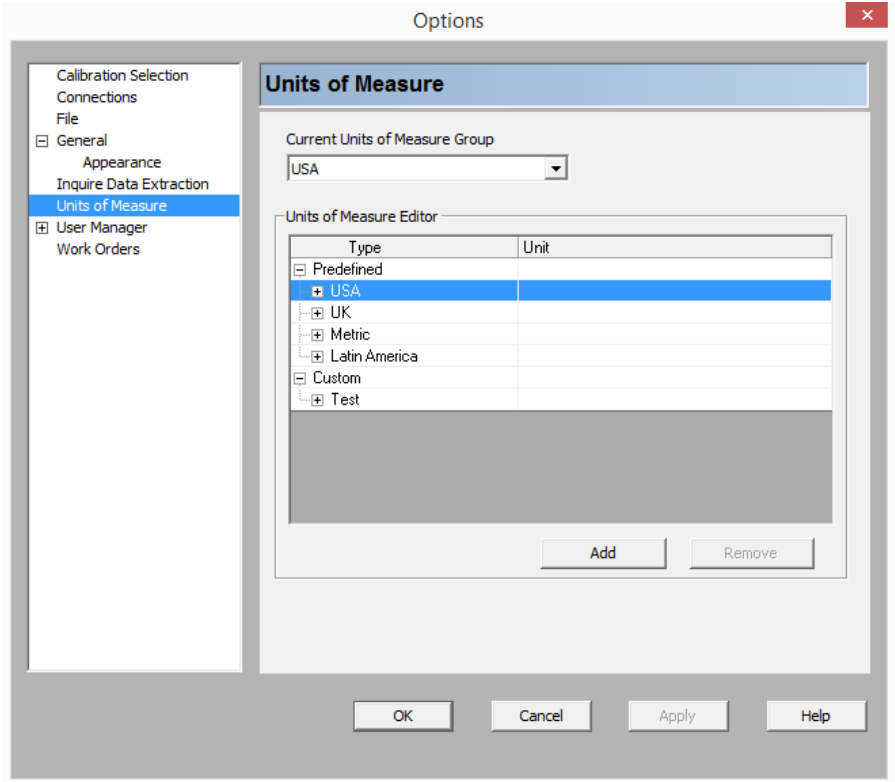
Inquire Data Extraction Options

- Select options for connection settings
- Select operations for Inquire Data Extraction resets
- Modify output file to save as either .csv or .txt



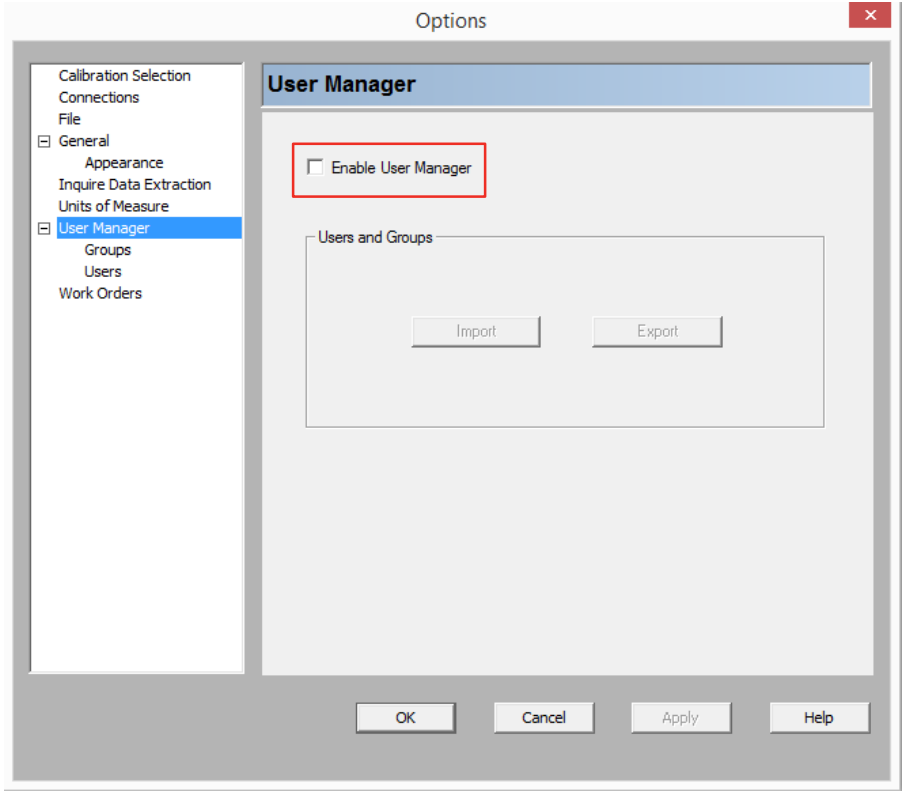
Units of Measure Options

- Allows user to modify units of measure to predefined or custom settings.



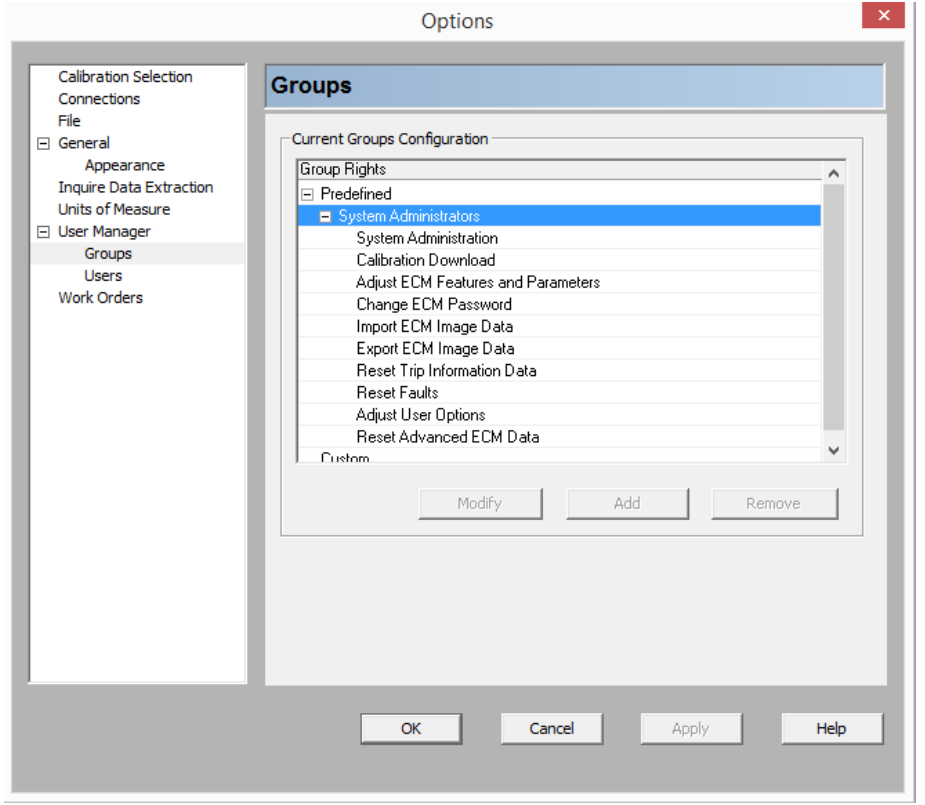
User Manager Options

- Enables a system administrator to assign specific access rights to individual users and groups
- When enabled, a login is required to open INSITE™
- Multiple users and groups can be created



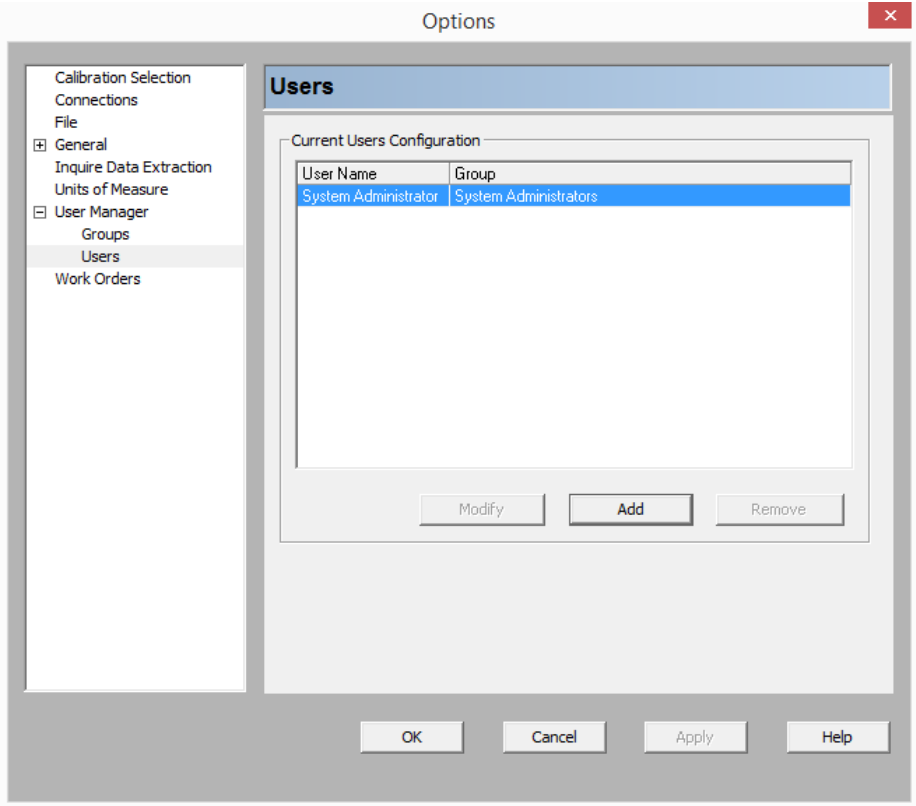
User Manager Groups Options

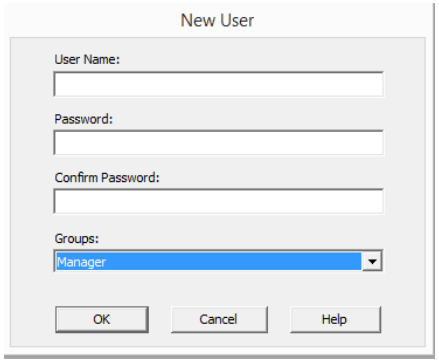
- Add, remove or modify group rights
- Create custom group rights



Users Options

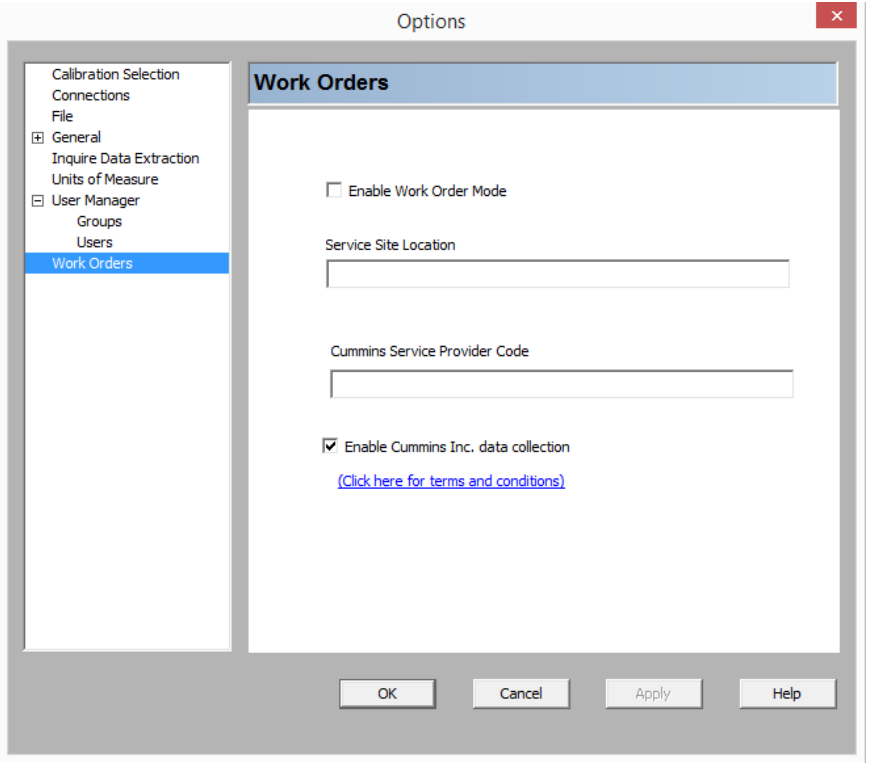
- Add and remove users
- Modify user accounts
- Assign new users to group





Work Orders Options

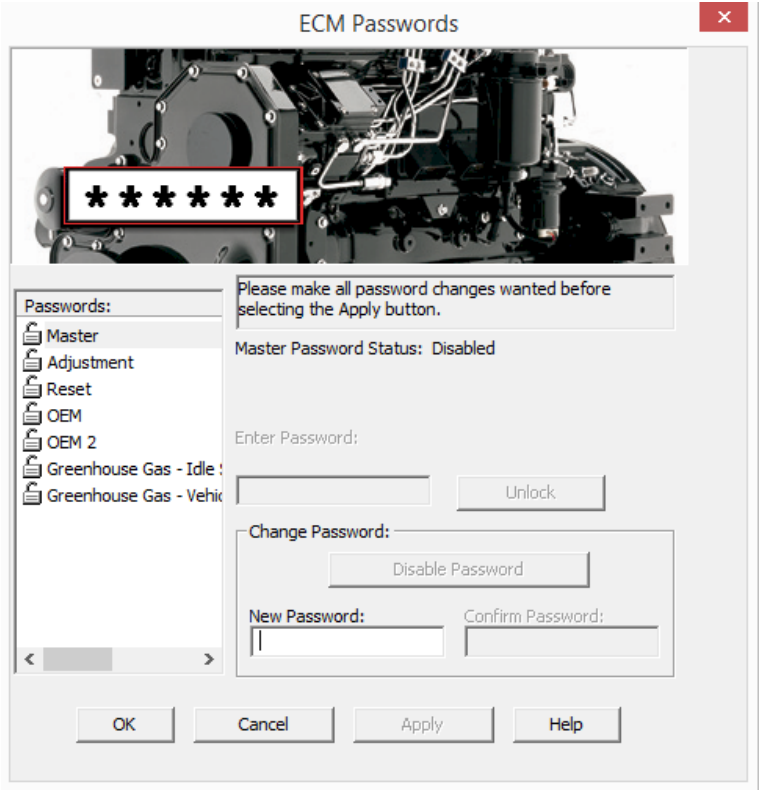
- Enable/Disable Work Order Mode
  - Enabled is recommended
- Predefine Site Location & Cummins Service Provider Code
- Enable/Disable Cummins Inc. data collection
- When Work Order Mode is enabled and no compatible Work Orders exist, a New Work Order dialog will be displayed after connection to the ECM is established.



ECM Multi-Level Security

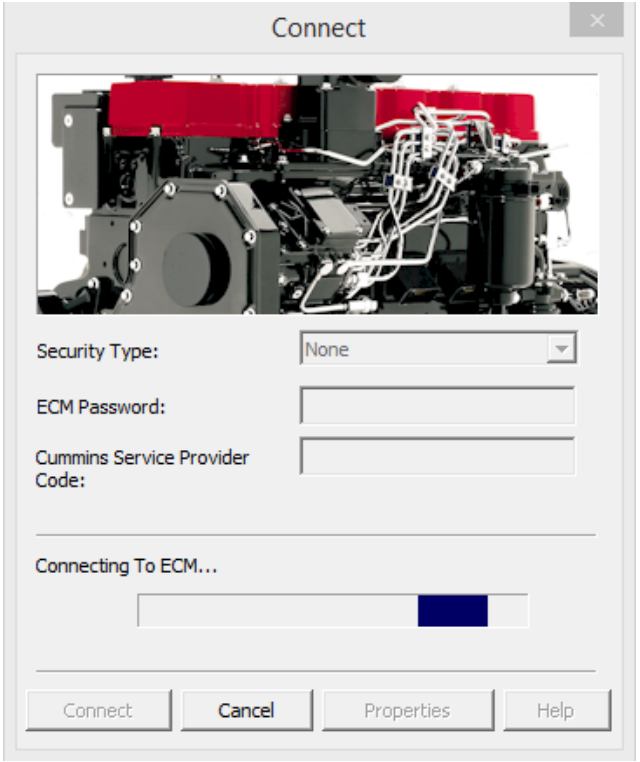
ECM Passwords

- Most Cummins ECMs have 5 levels of password capability
  - Master
    - Master password allows all writes, adjustments and resets
    - If Master password is set, but not entered
      - No Changes to ECM allowed
  - Adjustment
    - Master password must also be set
    - Only allows changing ECM adjustments
    - Features and parameters
  - Reset
    - Master password must also be set
    - Only allows ECM resets
    - Fault Codes & Trip Information
  - OEM & OEM 2
    - Master password does not need to be set
    - Protects OEM specific parameters from adjustment
  - Greenhouse Gas
    - Do not use unless directed by Cummins Inc.



ECM Passwords

- Used to protect the ECM from users attempting to make unauthorized adjustments
- Different levels can be set to allow for:
  - Resets only (Reset Password)
  - Feature Adjustments (Adjustment Password)
  - Full functionality (Master Password)
- Master password must be set when using ECM security
- INSITE will operate in read-only mode if appropriate password is not provided during ECM connection.



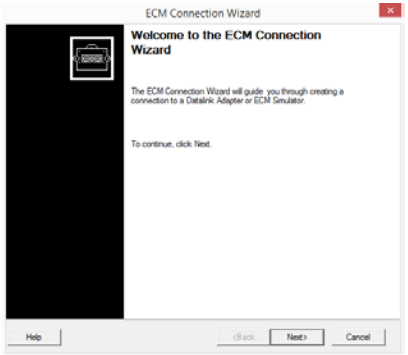
ECM Password Removal (Zap-IT)

- To remove ECM and OEM passwords:
  - Select **Tools> ECM Password Removal...** on the menu bar. The **ECM Password Removal** window will appear. This window is also called the **ZAP-IT** window.
  - Select the type of ECM Passwords to be removed.
  - Select **ZAP-IT**. The **ECM Password Removal Confirmation** window will appear.
  - Select **Yes** and follow the prompts to remove the ECM passwords.
  - The **ECM Password Removal** window will display the number of counts remaining, if any.
  - Select **Cancel** to close the **ECM Password Removal** screen.
- **Zap-IT** passwords are entered using the Cummins License Configuration Tool (LCT)
- **Zap-IT** Counts can be obtained from local Distributors

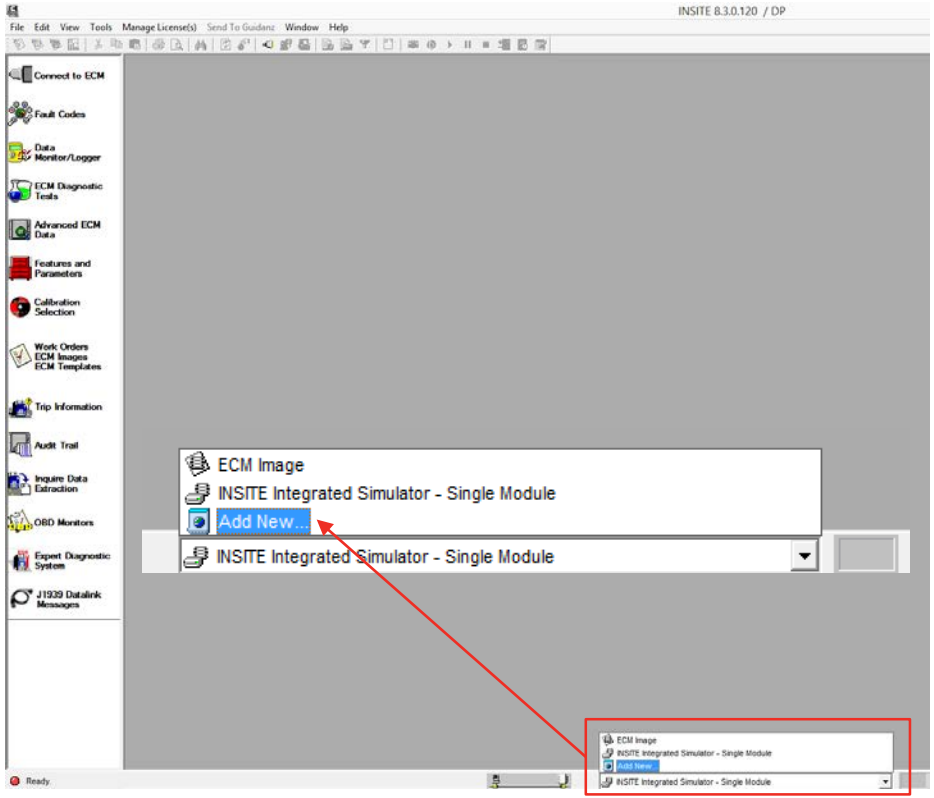
ECM Connections

Adding New Connection

- Click on connection
- Select “Add New…”
- Dialog box for ECM Connection Wizard should appear as shown.

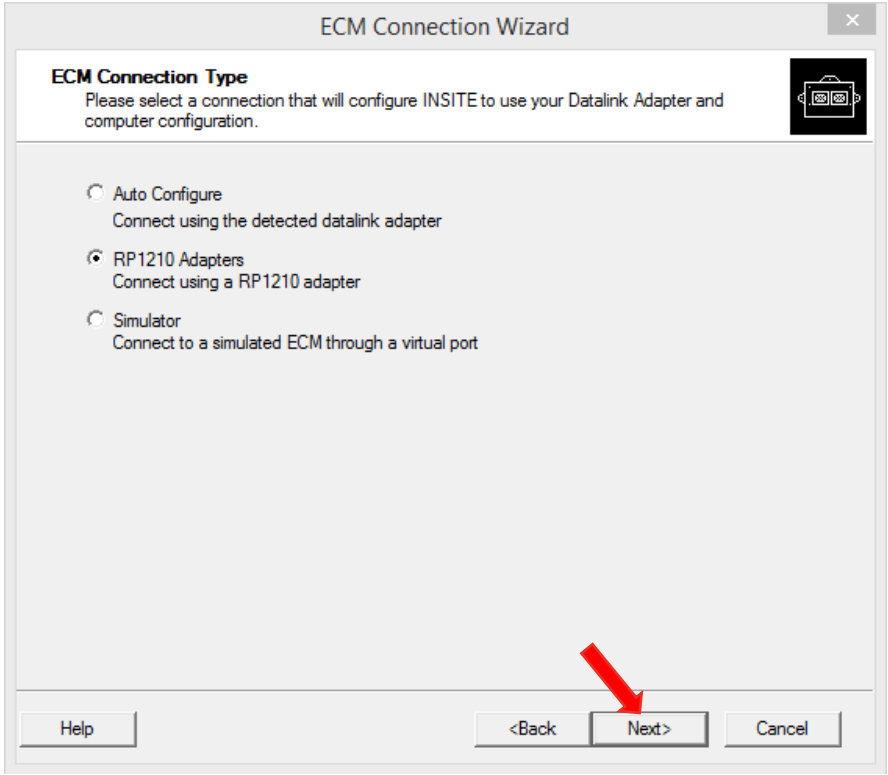


- Click “Next” to continue.



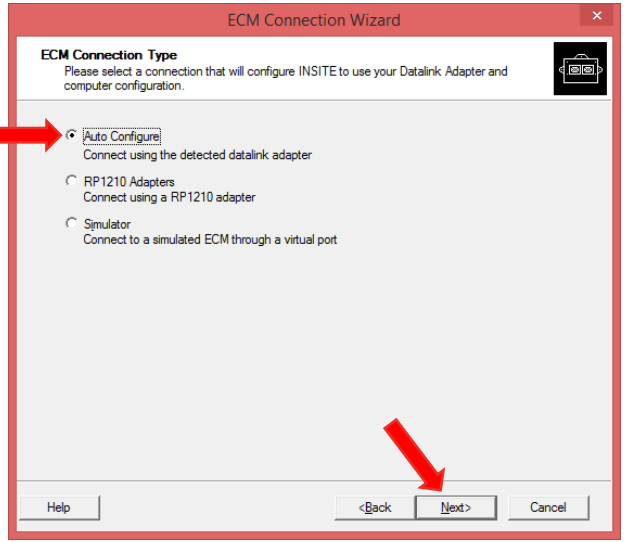
Adding New Connection

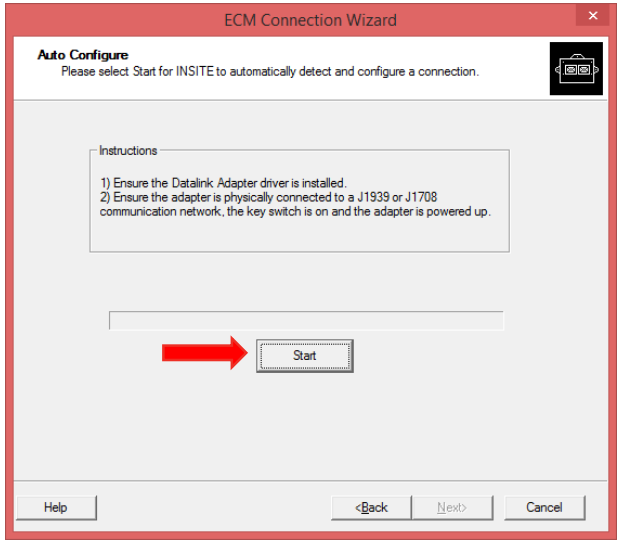
- Select appropriate connection.
  - Auto Configure
    - Automatically detects installed datalink adapters
  - RP1210 Adapters
    - Manually configure the datalink adapter connection
  - Simulator
    - Creates simulated ECM environment using virtual port
- Click “Next” to continue.



Auto Configure

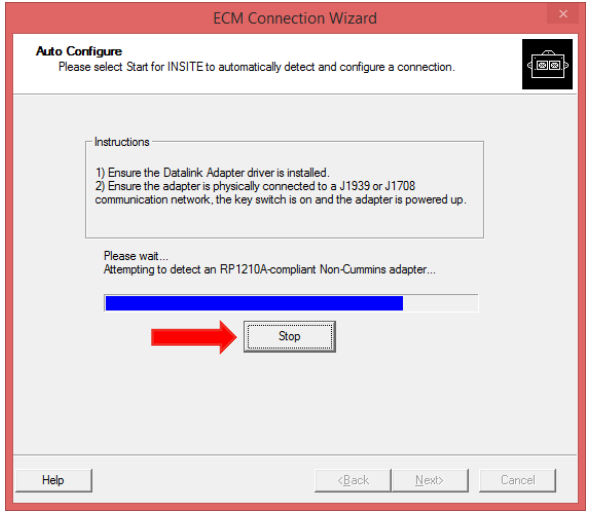
- Auto Configure will automatically detect and connect to an RP1210A compliant adapter that is installed on the PC
- Select Auto Configure and click the Next button
- Ensure that the steps listed in the Instructions have been completed
- Click the Start button

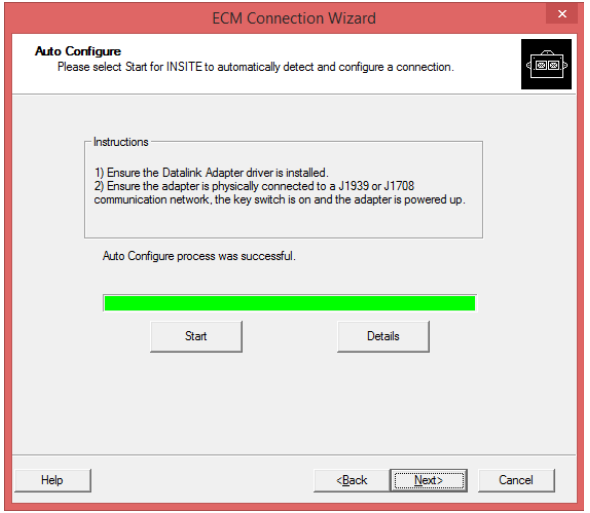




Auto Configure

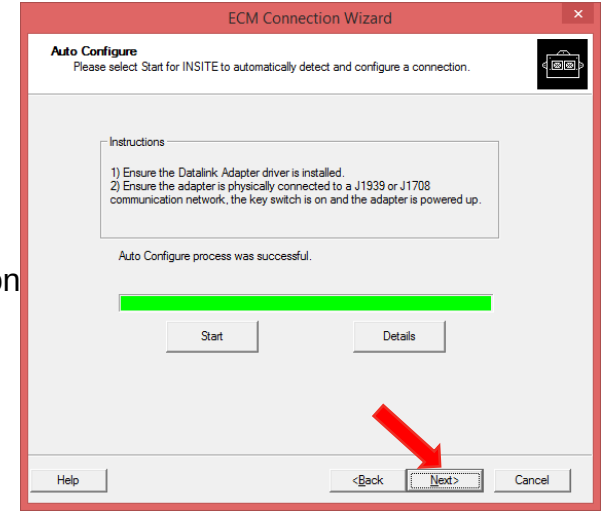
- Auto Configure will attempt to detect and connect to an RP1210A compliant adapter
- This can take several minutes to complete
- To cancel the process, click the Stop button, otherwise let it run until it completes

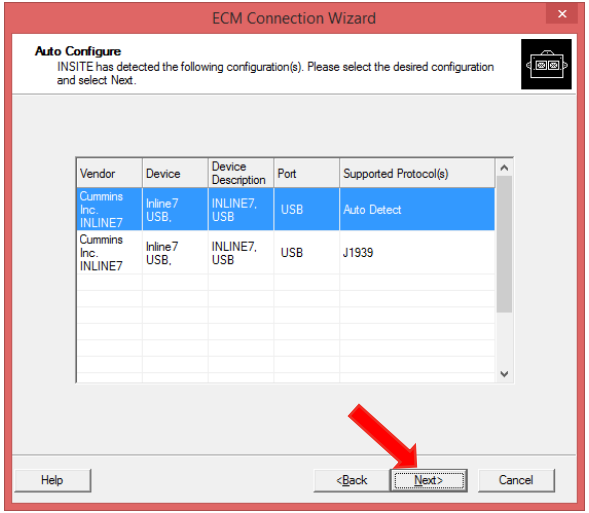




Auto Configure

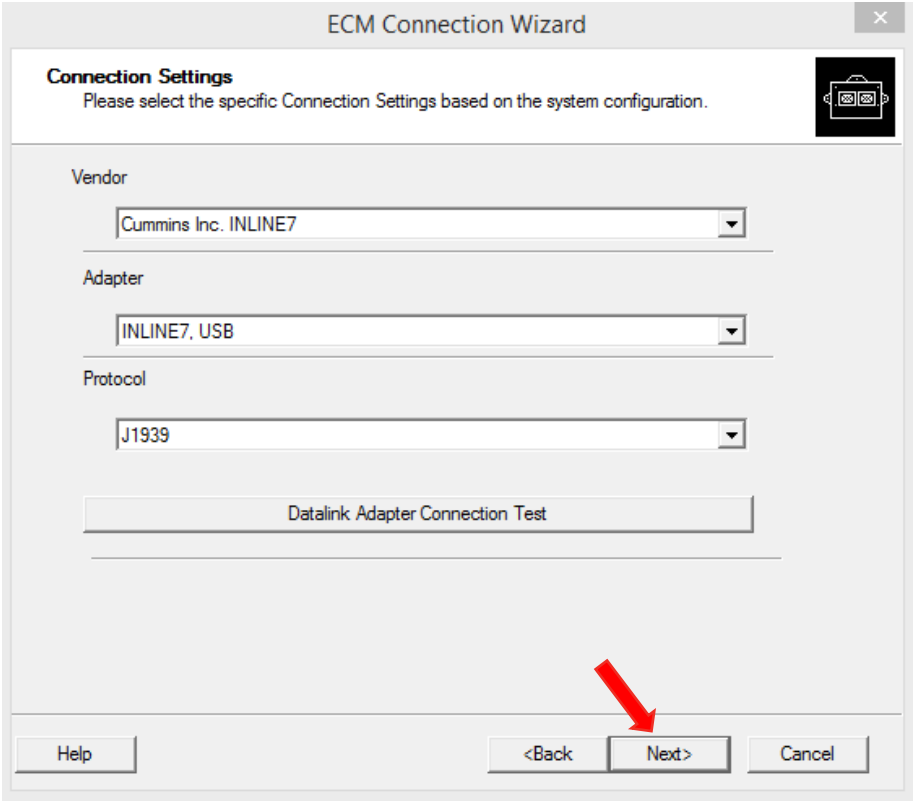
- Auto Configure process was successful
- Click on the Next button to continue
- Select the desired adapter configuration
- Click on the Next button to continue





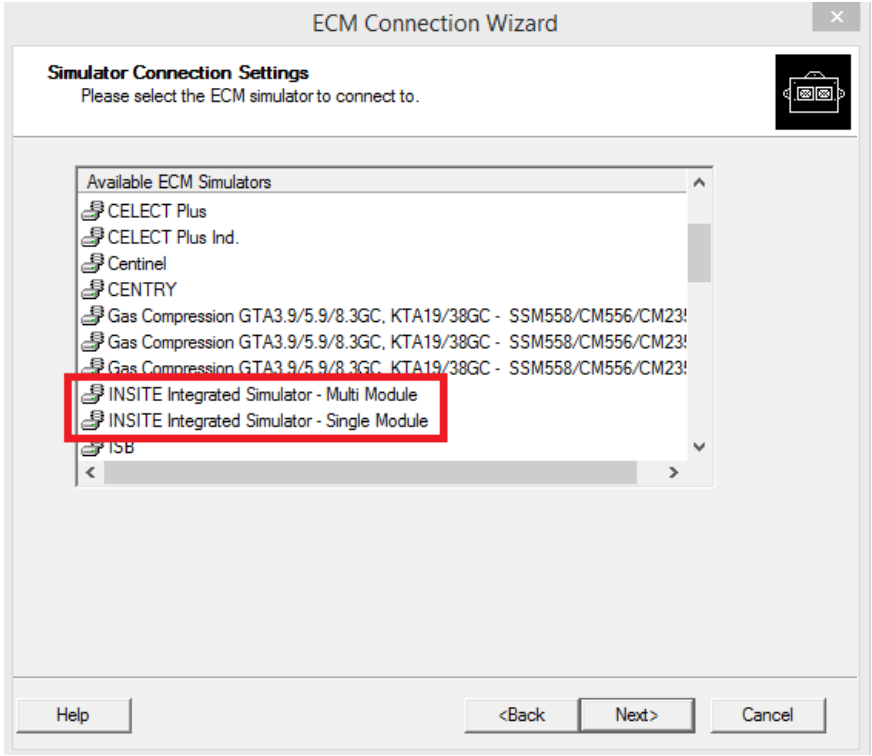
RP1210 Adapters

- Select desired vendor
- Select desired adapter
  - Ensure correct connection type is selected (such as USB, Bluetooth, Wireless, or COM port)
- Select protocol
  - Auto Detect, J1939 or J1708
- If desired, you may click “Datalink Adapter Connection Test” to validate driver installation
- Once successful, click on “Next” to continue



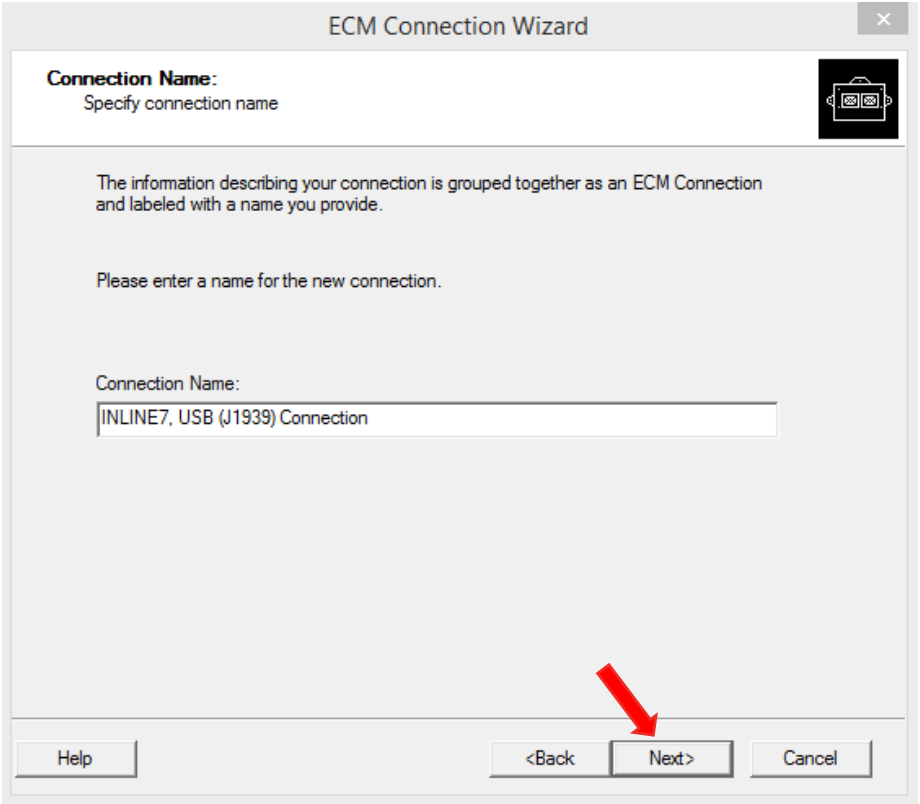
Simulator

- Simulates connections to all supported engines
  - Almost full simulated tool functionality
  - Can be used for training or exploring Engine Features without being connected to an Engine
  - Data is simulated and does not represent actual engine data
- Classic simulator options available for pre-EPA 2007 engines
- Integrated simulator options available for EPA 2007 and newer engines.
  - INSITE Integrated Simulator – Multi Module
    - Simulates multi-module set up
  - INSITE Integrated Simulator – Single Module
    - Simulates single module set up



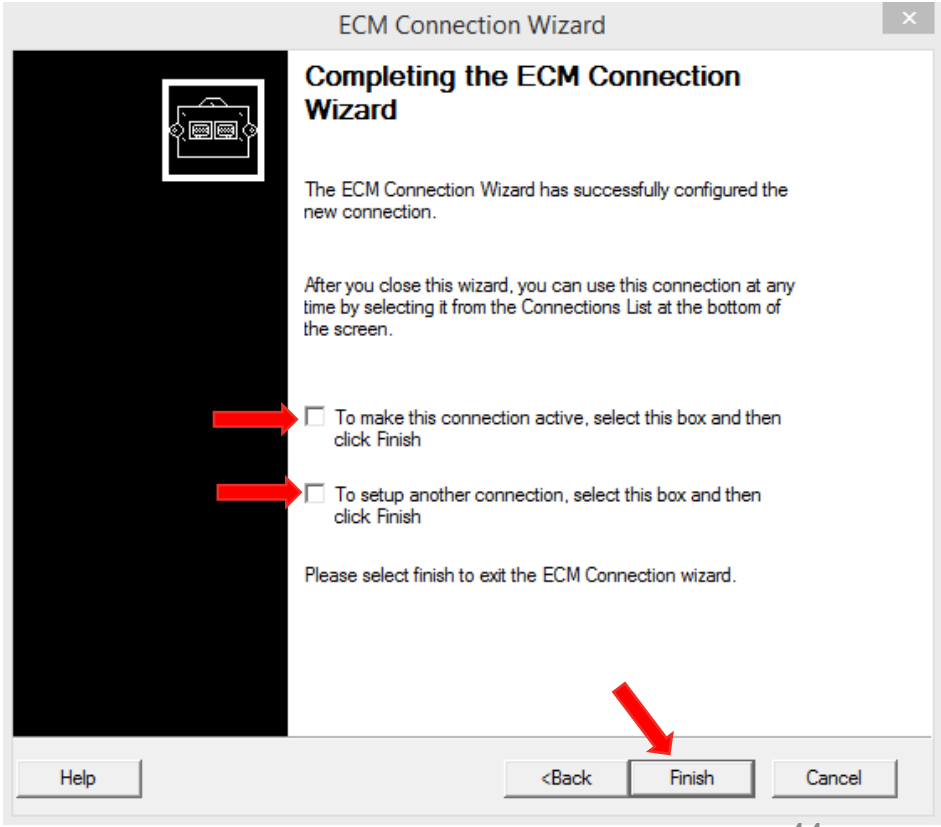
Adding New Connection

- Enter a desired name for the new connection.
- Click “Next” to continue.



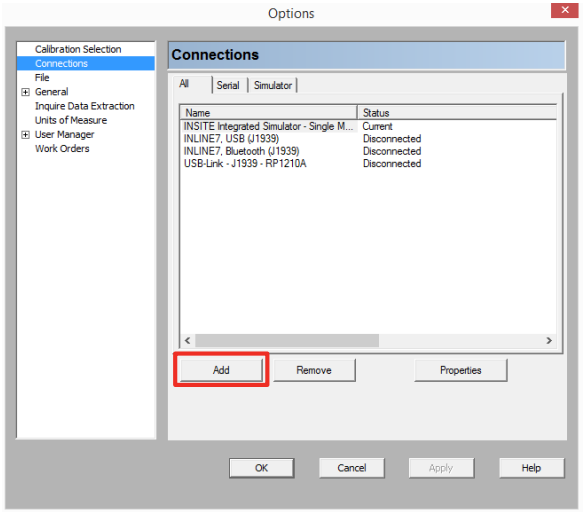
Adding New Connection

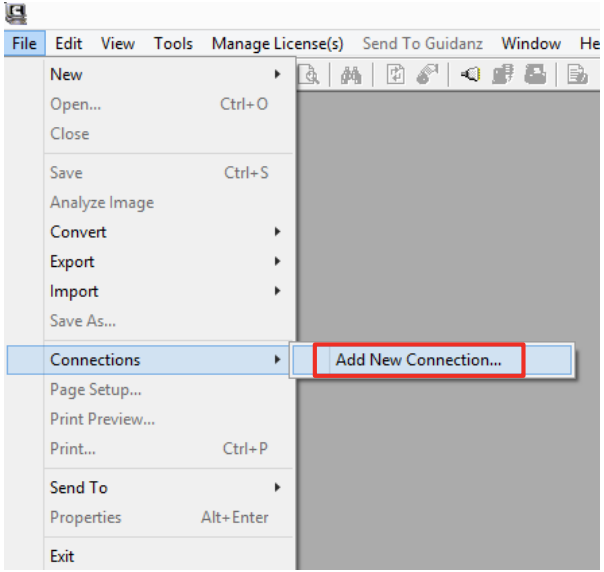
- If desired, select corresponding checkbox to make connection active.
- If desired, select corresponding checkbox to setup/add another connection.
- Click “Finish”
- NOTE: If another connection is not being created and connection is made active, the Connect to ECM dialog box will appear after finish.



Adding New Connections

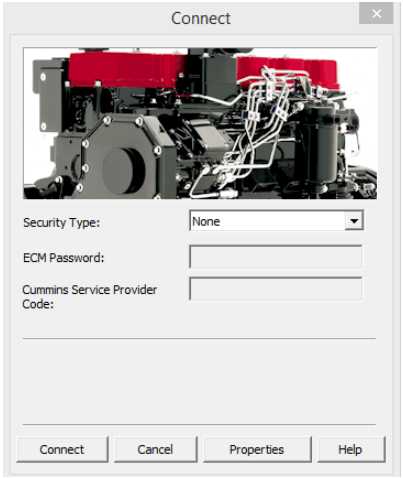
- Additional connections or simulators can be added by navigating the Menu Bar
  - Tools > Options > Connections
  - File > Connections > Add New Connection…

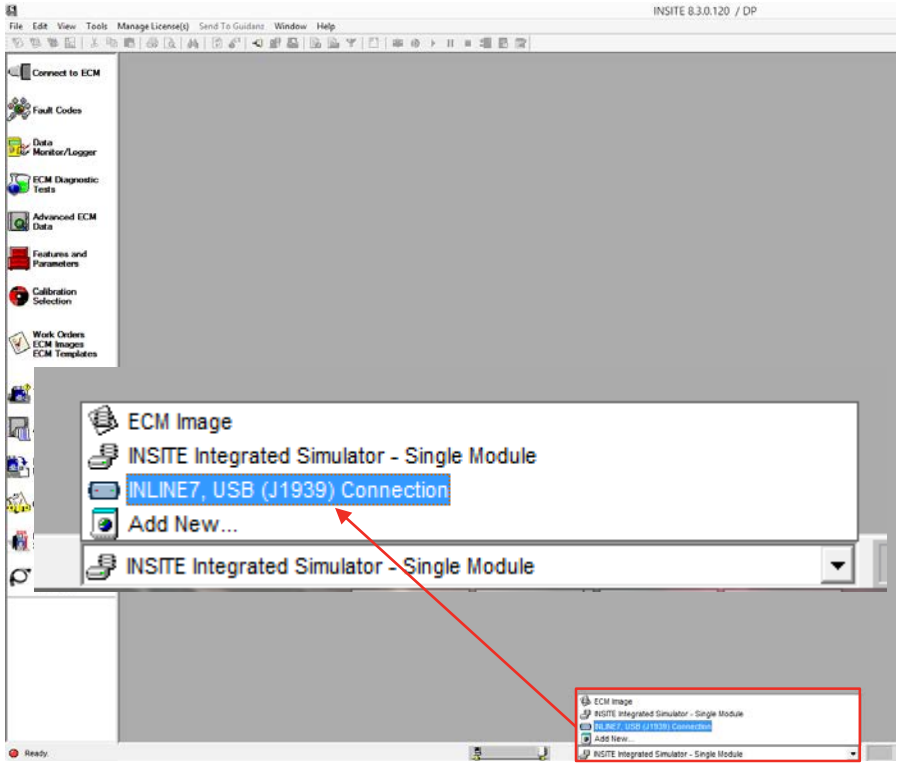




Selecting Connections

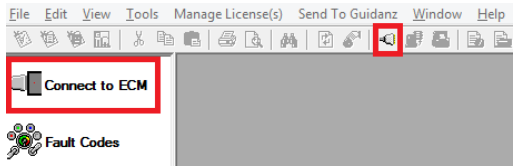
- Select connection from dropdown.
- Connect dialog box should appear after selecting desired connection.

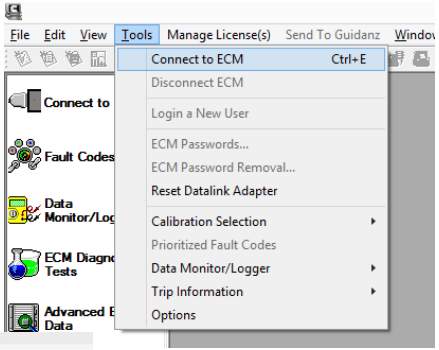


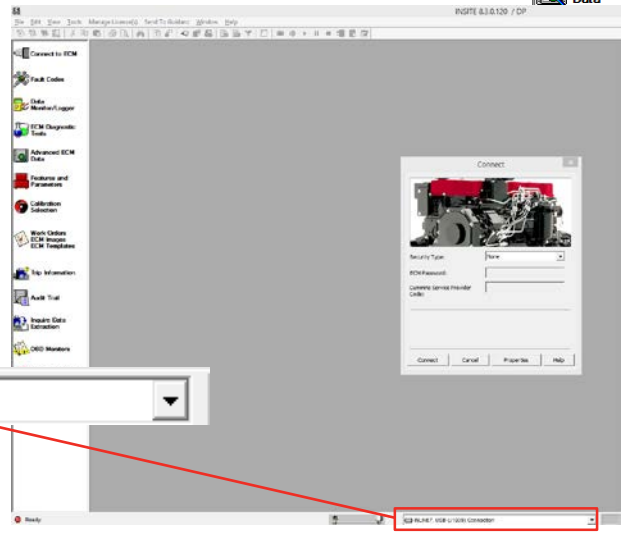


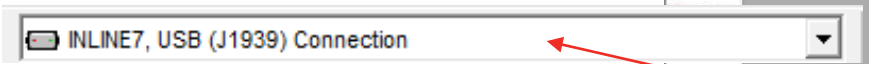
Connecting to ECM

- Use the left View Bar “Connect to ECM” icon
- Click on Tool Bar icon
- From Menu Bar, click on Tools → Connect to ECM
- Use keyboard key shortcut Ctrl+E
- IMPORTANT NOTE: Always ensure the desired adapter is selected before attempting to connect to the ECM

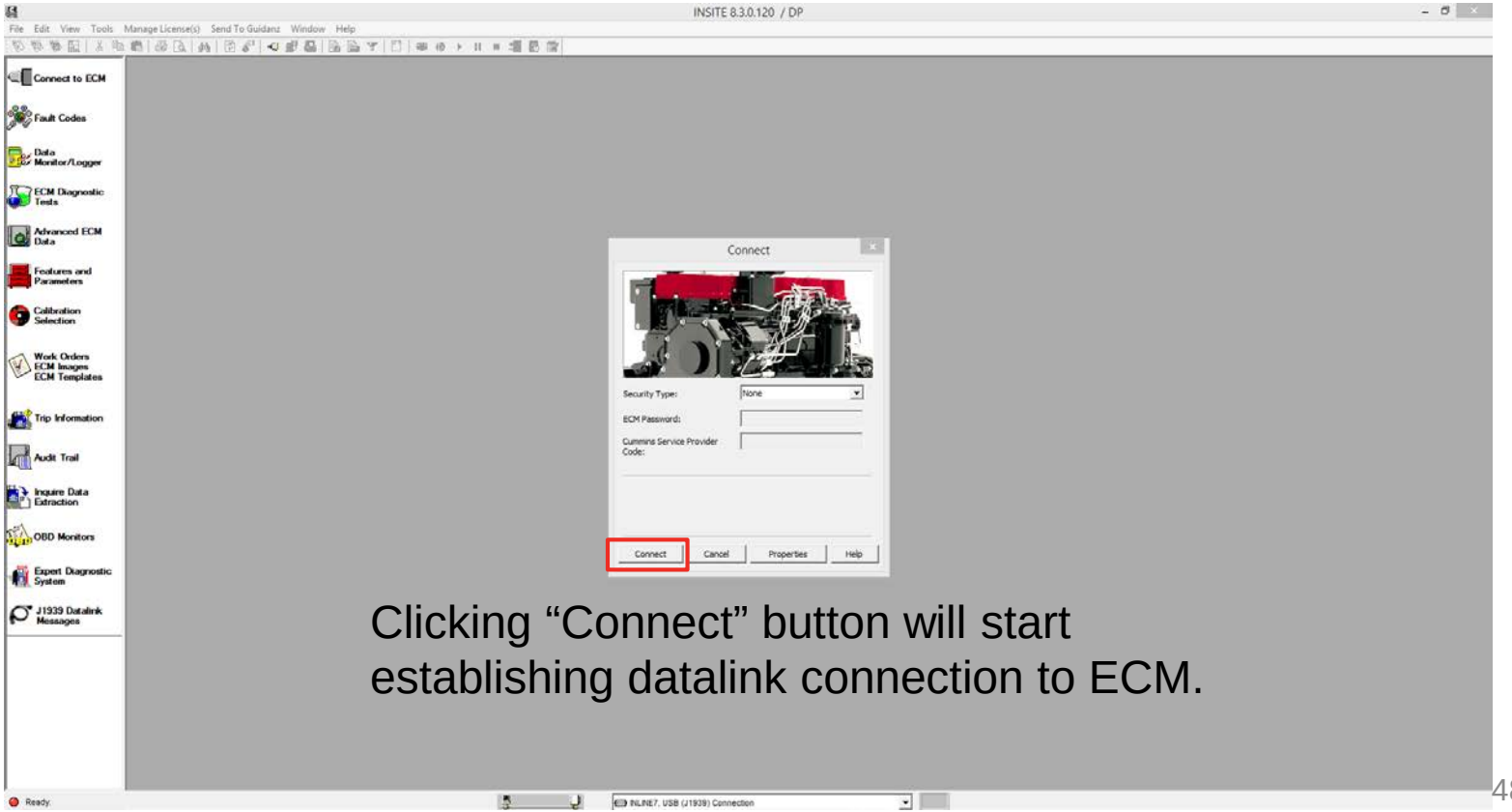








Connecting to ECM



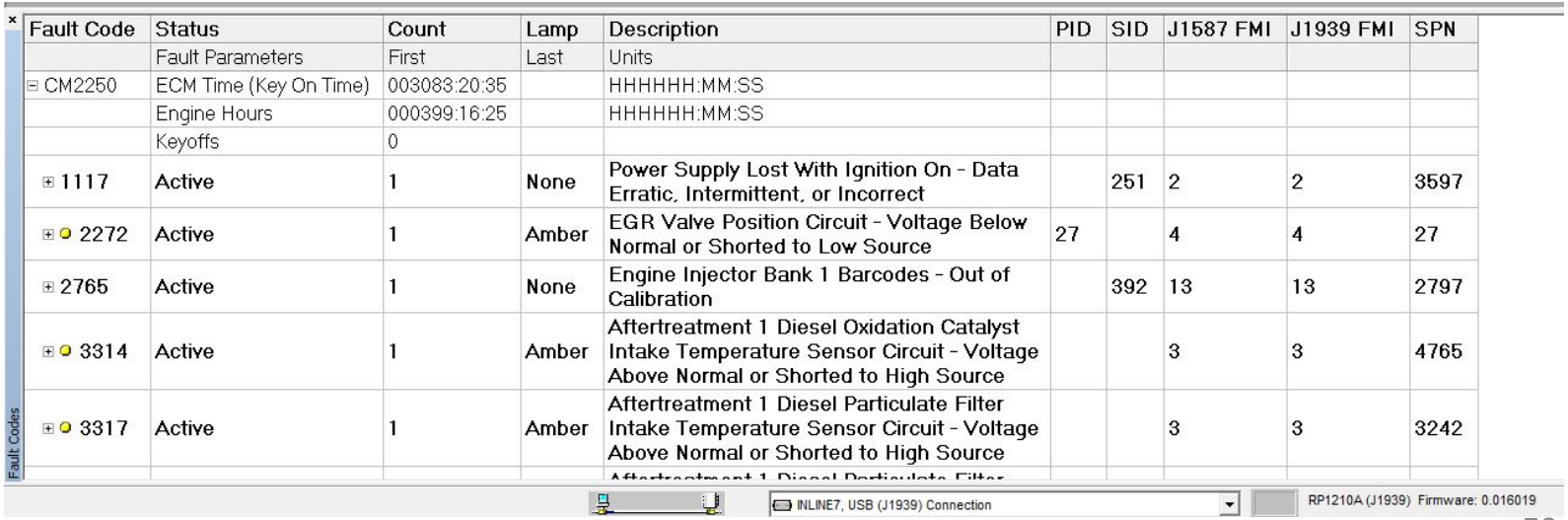
Clicking “Connect” button will start establishing datalink connection to ECM.

Fault Codes

Fault Information Systems

Fault Codes

- Fault Codes window displays an engine's fault data
- Each fault is represented by a Cummins fault code
  - Indicates a specific malfunction or abnormal condition within the controller, subsystem, or engine



Fault Codes

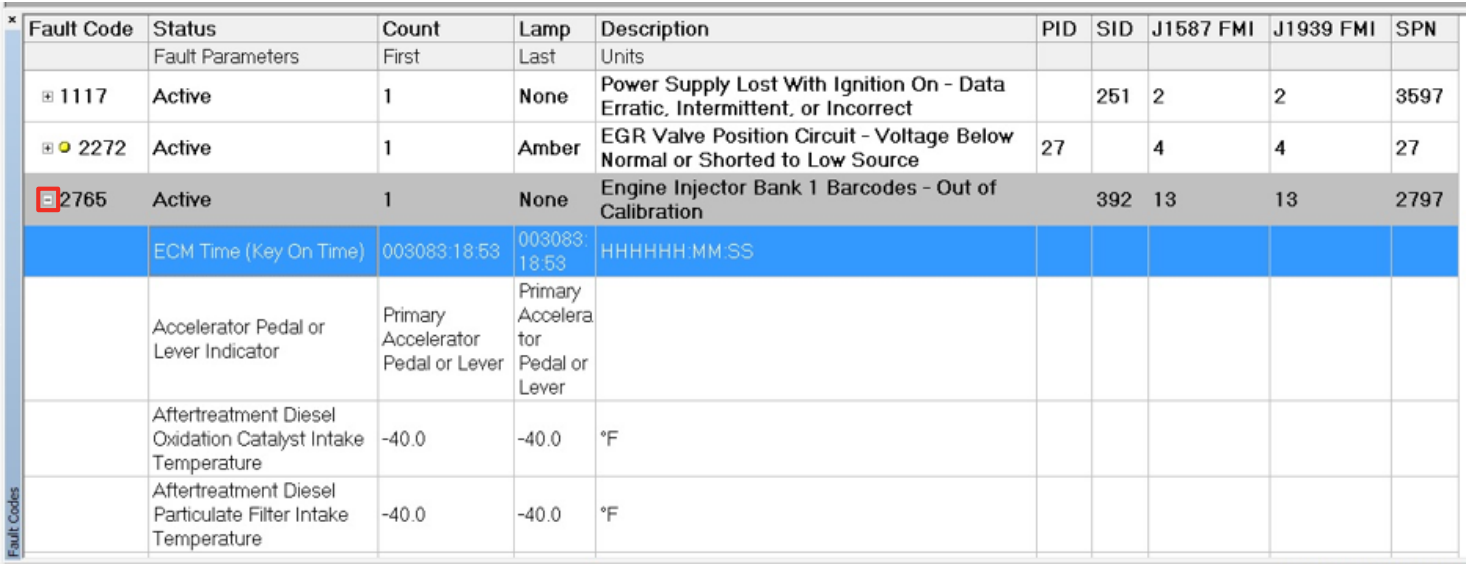
Fault Code	Status	Count	Lamp	Description	PID	SID	J1587 FMI	J1939 FMI	SPN
	Fault Parameters	First	Last	Units					
⊟ CM2250	ECM Time (Key On Time)	003083:20:35		HHHHHH:MM:SS					
	Engine Hours	000399:16:25		HHHHHH:MM:SS					
	Keyoffs	0							
⊞ 1117	Active	1	None	Power Supply Lost With Ignition On - Data Erratic, Intermittent, or Incorrect		251	2	2	3597
⊞ 2272	Active	1	Amber	EGR Valve Position Circuit - Voltage Below Normal or Shorted to Low Source	27		4	4	27
⊞ 2765	Active	1	None	Engine Injector Bank 1 Barcodes - Out of Calibration		392	13	13	2797
⊞ 3314	Active	1	Amber	Aftertreatment 1 Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source			3	3	4765
⊞ 3317	Active	1	Amber	Aftertreatment 1 Diesel Particulate Filter Intake Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source			3	3	3242

INLINE7, USB (J1939) Connection

RP1210A (J1939) Firmware: 0.016019

Fault Codes

- Additional data can be viewed for each fault code by clicking to expand the fault

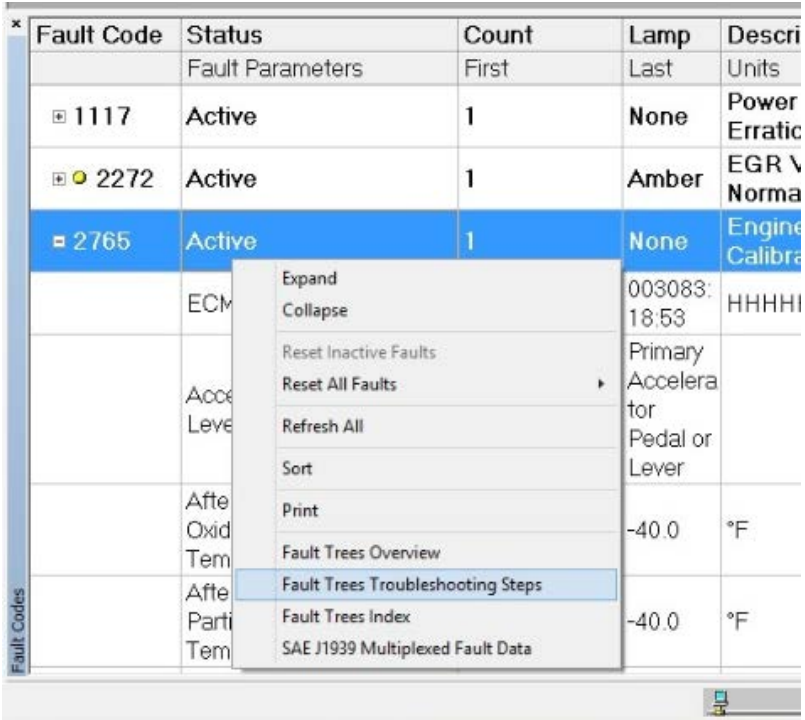


Fault Code	Status	Count	Lamp	Description	PID	SID	J1587 FMI	J1939 FMI	SPN
	Fault Parameters	First	Last	Units					
⊞ 1117	Active	1	None	Power Supply Lost With Ignition On - Data Erratic, Intermittent, or Incorrect		251	2	2	3597
⊞ 2272	Active	1	Amber	EGR Valve Position Circuit - Voltage Below Normal or Shorted to Low Source	27		4	4	27
⊟ 2765	Active	1	None	Engine Injector Bank 1 Barcodes - Out of Calibration		392	13	13	2797
	ECM Time (Key On Time)	003083:18:53	003083:18:53	HHHHHH:MM:SS					
	Accelerator Pedal or Lever Indicator	Primary Accelerator Pedal or Lever	Primary Accelerator Pedal or Lever						
	Aftertreatment Diesel Oxidation Catalyst Intake Temperature	-40.0	-40.0	°F					
	Aftertreatment Diesel Particulate Filter Intake Temperature	-40.0	-40.0	°F					

Fault Codes

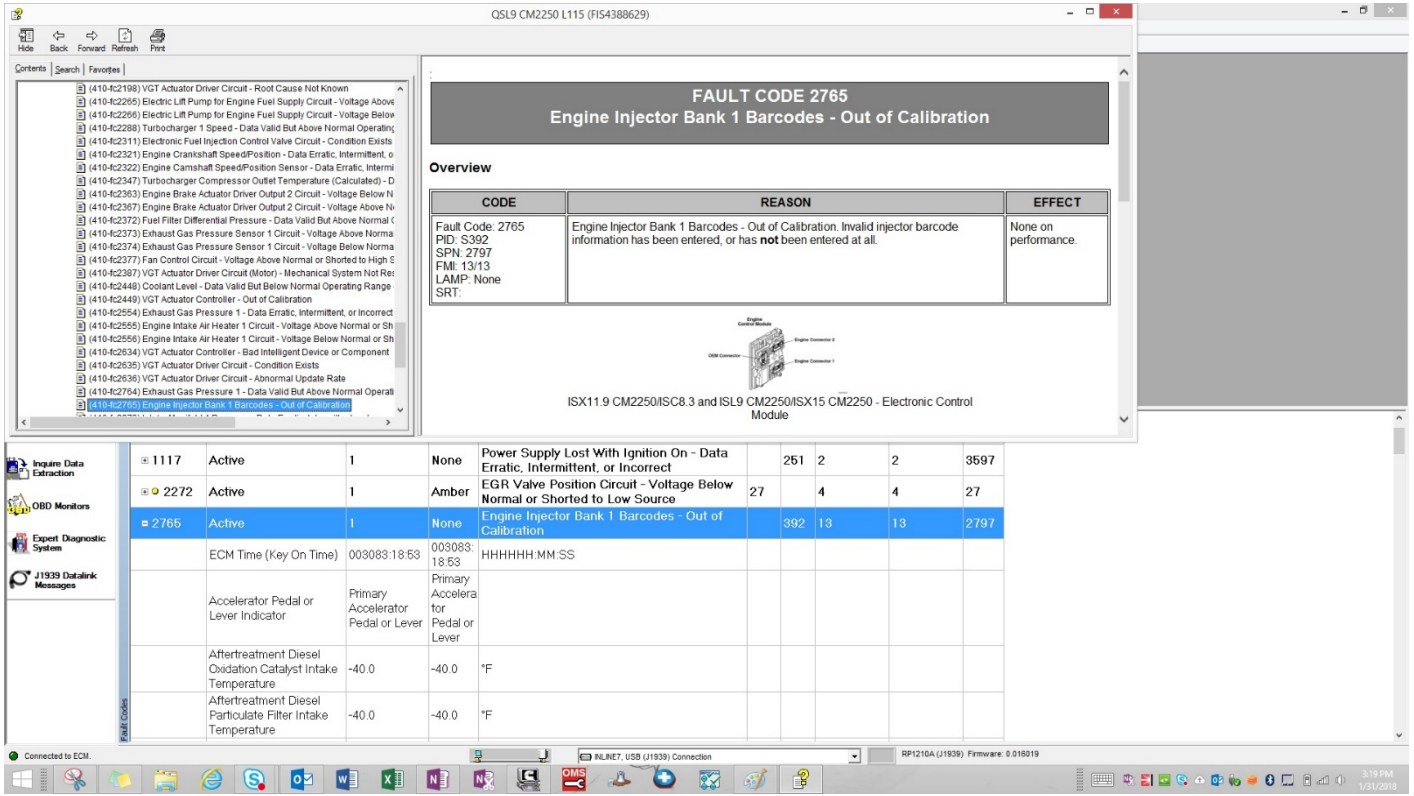
Fault Information System

- Fault Codes window provides link to troubleshooting information
- Accessed by right-clicking on a displayed fault and selecting “Fault Trees Troubleshooting Steps”
- Right-click menu also allows sorting and printing fault codes



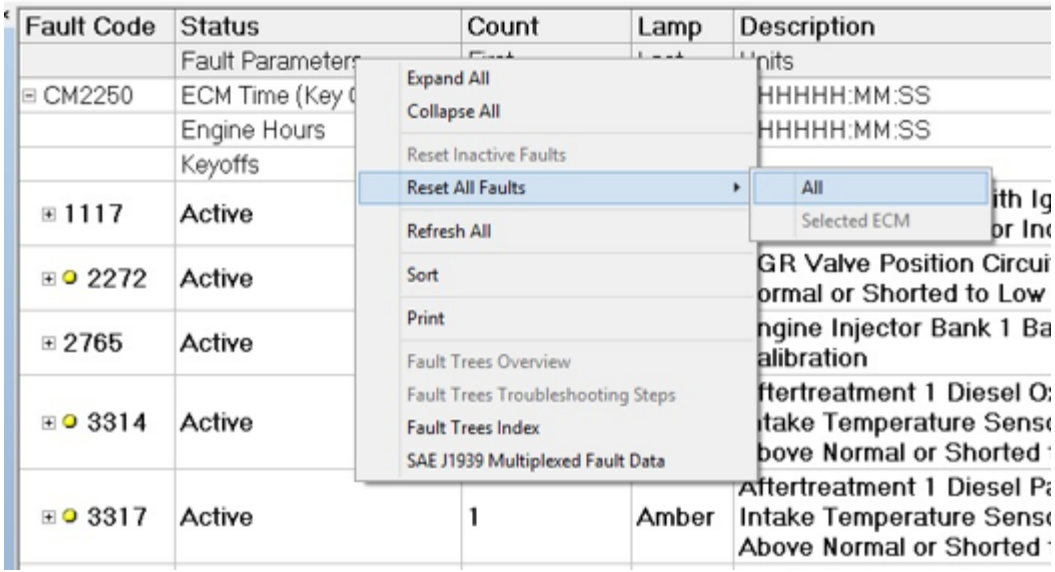
Fault Information System

- Follow steps accordingly in troubleshooting information.



Clearing Fault Codes

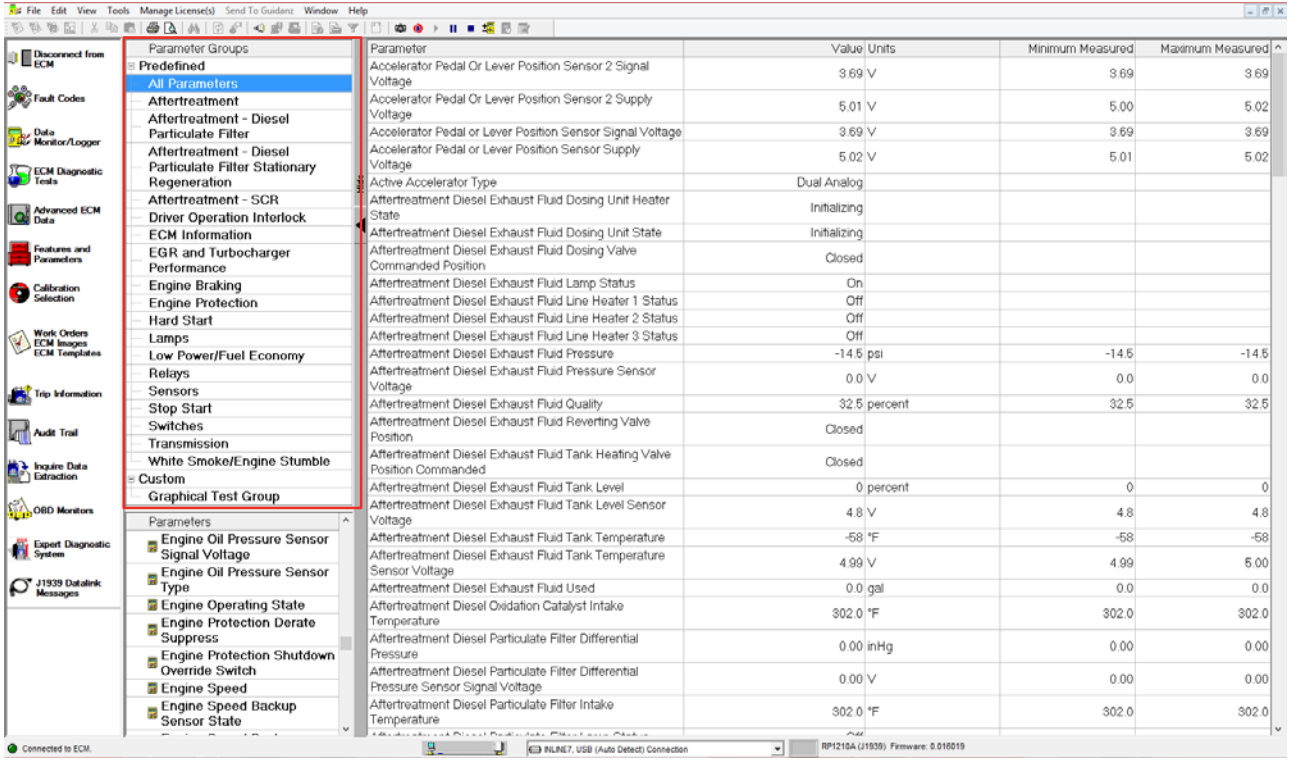
- Fault codes can be cleared by right-clicking in the fault code window, selecting Refresh All Faults, then clicking All as shown.
- A key cycle will be required after clearing fault codes
- Only fault codes marked “Inactive” will be cleared.
- Any fault codes marked “Active” will re-display in fault code window after key cycle. (If the fault is still present.)



Data Monitor / Logger

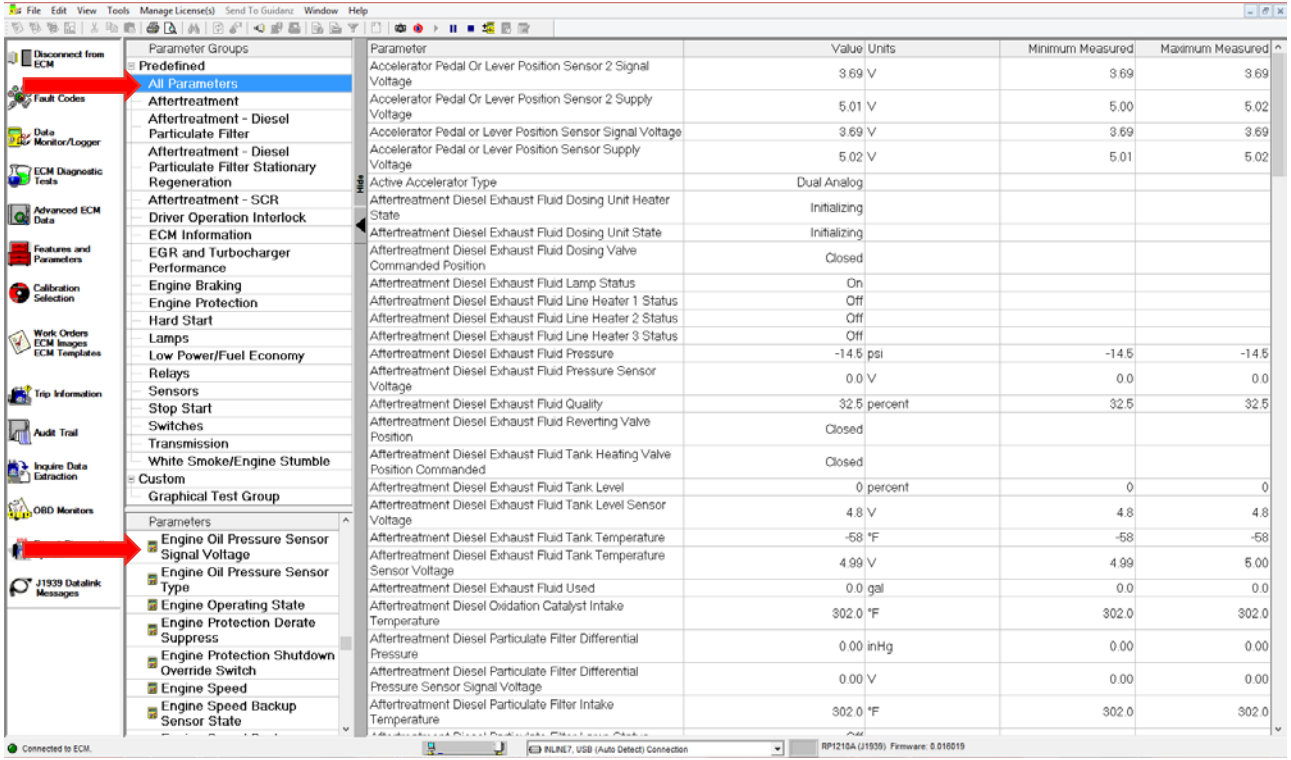
Data Monitor / Logger

- Predefined and Custom Parameter Groups available to allow common monitors to be selected quickly



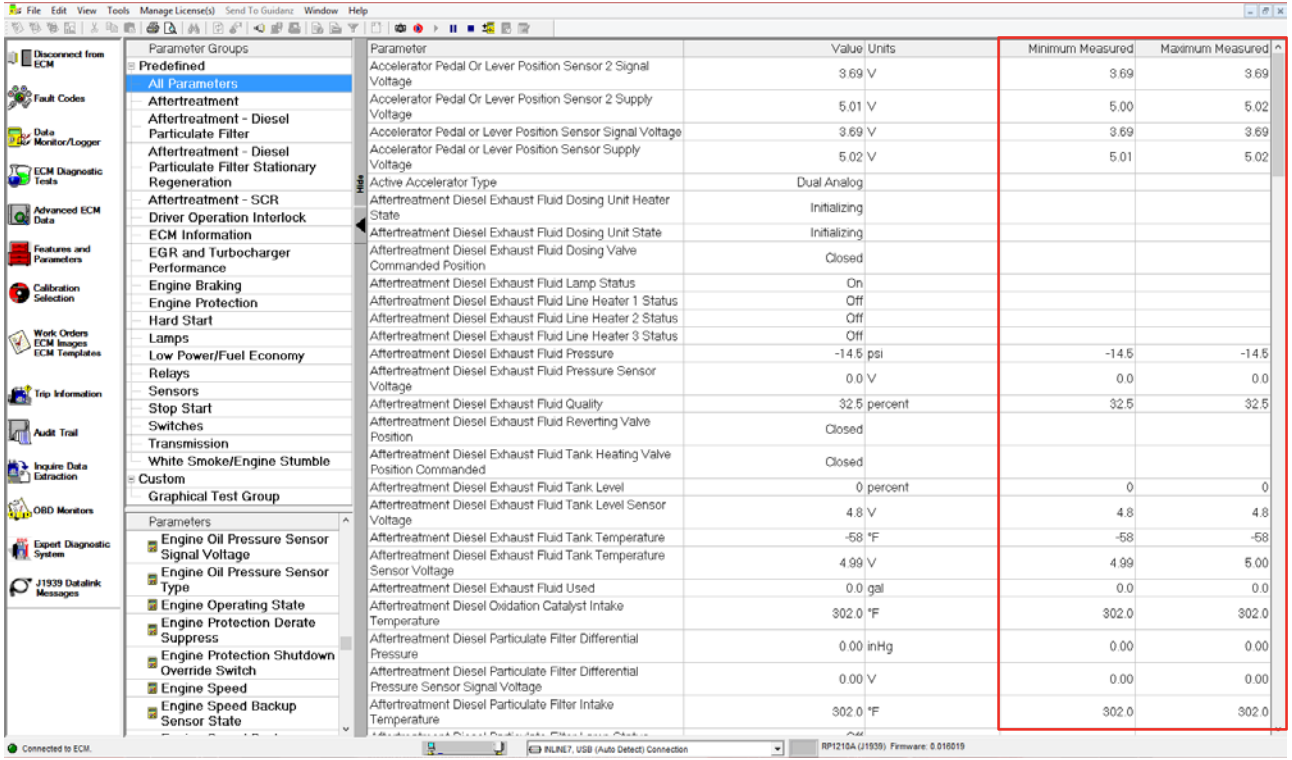
Data Monitor / Logger

- Ability to select all monitor parameters available or select monitor parameters individually



Data Monitor / Logger

- Ability to view minimum and maximum measured values of values read by INSITE while the parameters are being monitored



Data Monitor / Logger

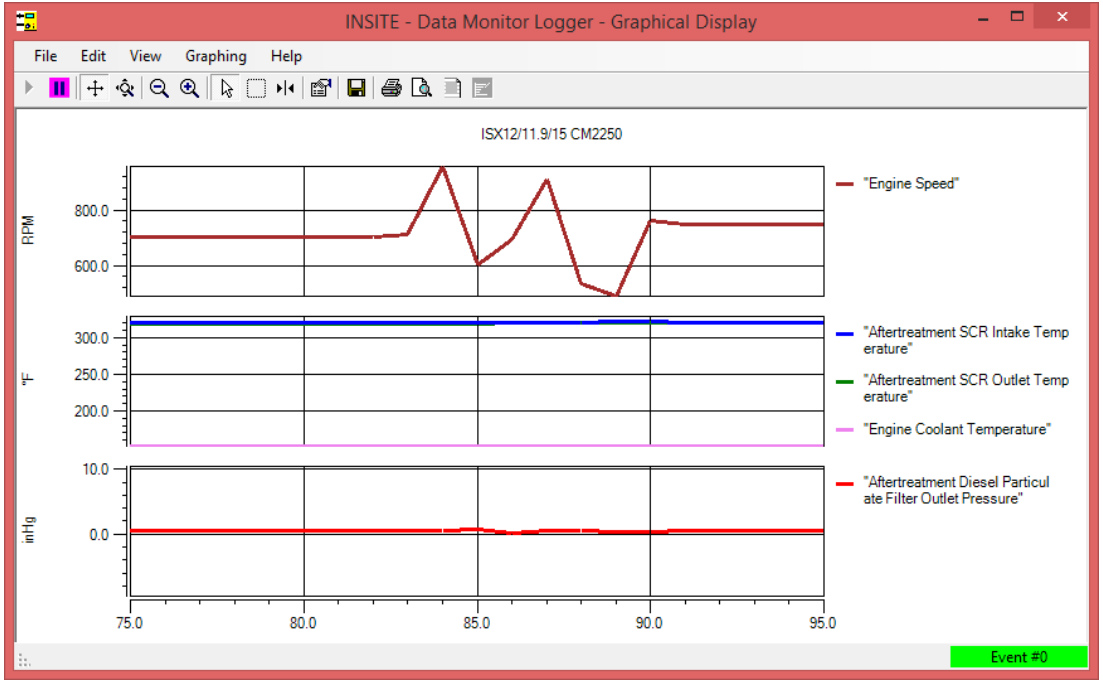
- Method to view or log live engine data at a user defined sample rate.
  - Monitor data:
    - View selected parameters to display
    - Start\Resume
    - Pause
    - Stop
  - Log data:
    - Continuous logged data for each parameter selected and saved to a file for analysis
  - Snapshot:
    - Single data point logged for each parameter selected and saved to a file for analysis
  - Start Graphical Monitoring
    - Graphical Monitoring for up to six (6) parameters
  - Set Sampling Rate
    - User settings for parameter sample rate
  - Setup Event Marker
    - Used to setup event markers to mark events in log files

Data Monitor / Logger

- An event can be marked while logging in the main Data Monitor / Logger screen, or when in Graphical Monitoring, by pressing the spacebar
- This provides the option to enable or disable the Event Marker as well as providing the option to create comments for event markers
- The Log file contains the Event Marker Description.
- Data Monitor/Logger provides a means to View, Log or Snapshot live engine data
- Log and Snapshot files can be saved as a CSV or Tab delimited (.txt) files for analysis in Excel
- The Data Monitor/Logger appearance can be modified through Tools → Options to display data in a larger font

Graphical Monitoring

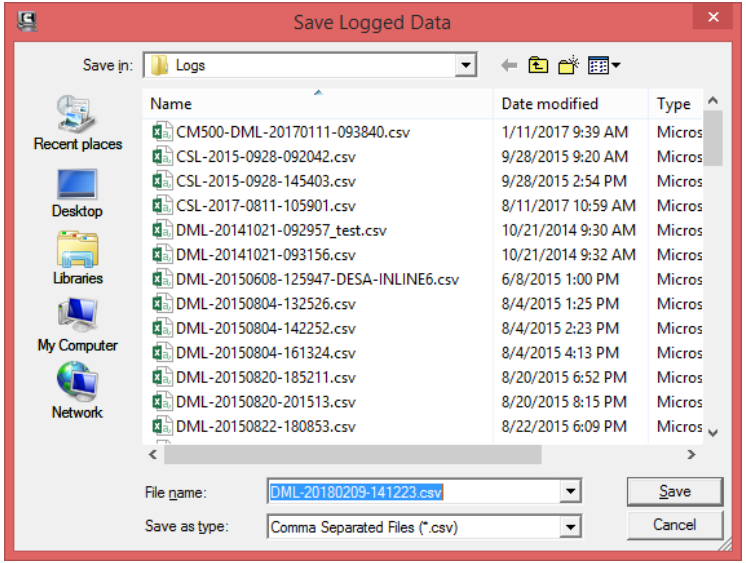
- Graphical Monitoring is a way to display, log, print, and save data for up to six parameters in a graph
- Graphical Monitoring visually monitors and plots multiple parameters into a graphical display
- Graphical Monitoring also supports importing graphical logs and playback of the log



Data Monitor / Logger

Converting a Log file for external use:

- Generate a Log File
- Save the Log File
  - INSITE prompts to save once **Stop** has been selected in Data Monitor/Logger
  - The log files or the snapshot files are saved as Comma Separated Value (CSV) files
  - This file is saved to the hard drive in the **C:\Intelect\Insite\Logs** Directory **or** to the drive INSITE is installed
  - User Comments can be added to the Log File

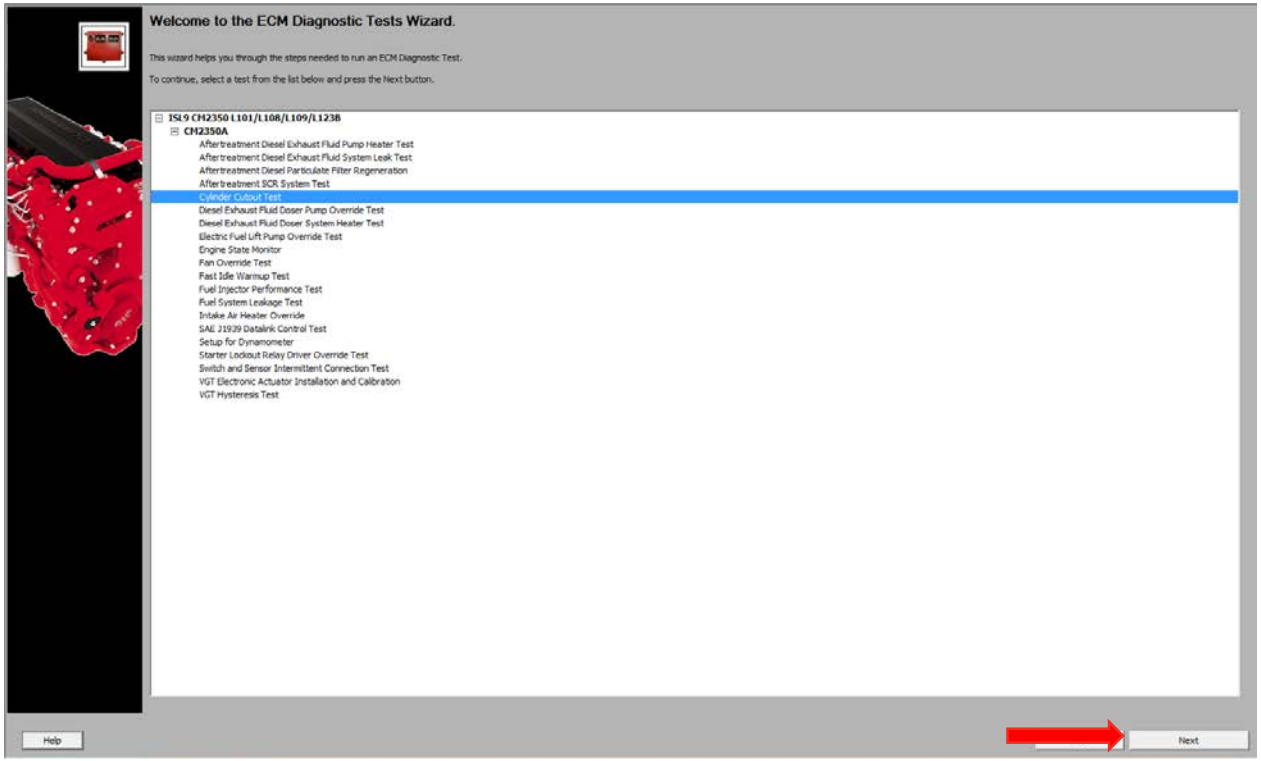


Diagnostic Tests

Advanced ECM Data

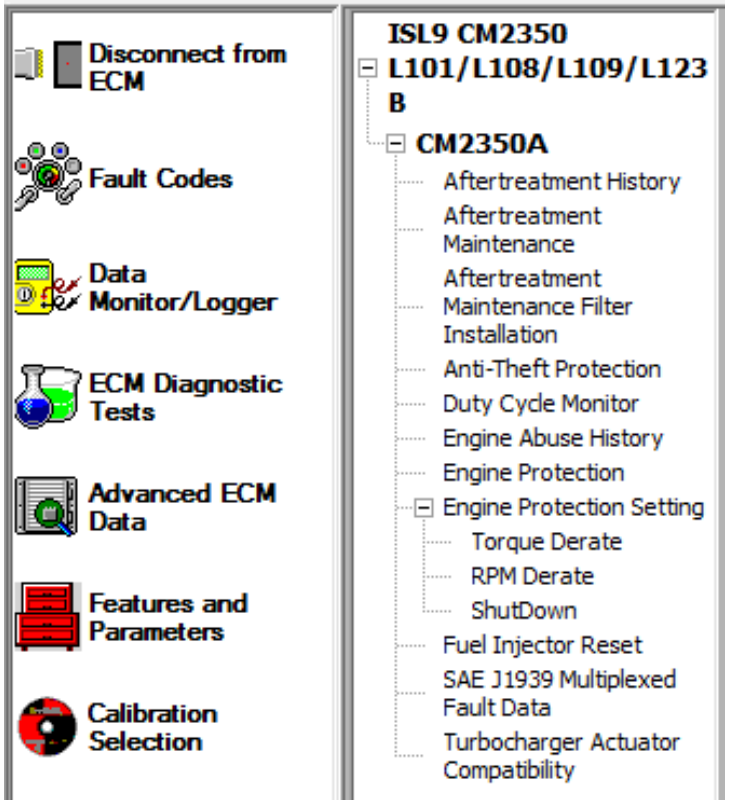
Diagnostic Tests

- Displays tests available for the connected engine
- Each engine supports different diagnostic tests
- Select the desired test and click the “Next” button
- Always follow the directions of each test carefully



Advanced ECM Data

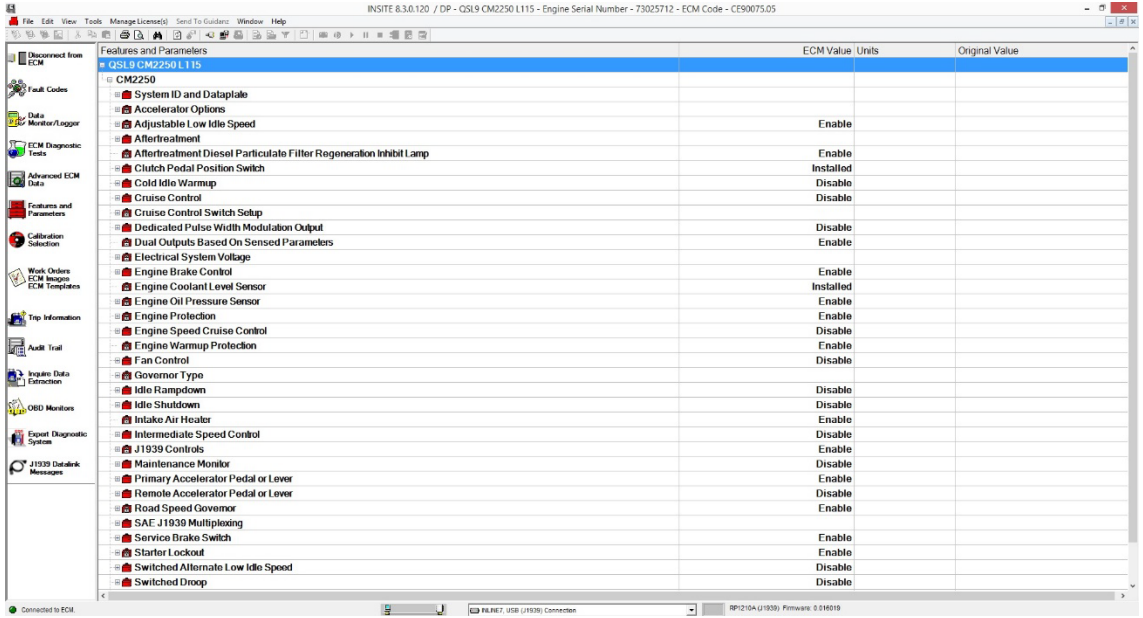
- Displays the special features available for the connected engine
- Each engine supports different special features
- Select the desired special feature
- Always follow the directions of each feature carefully



Features & Parameters

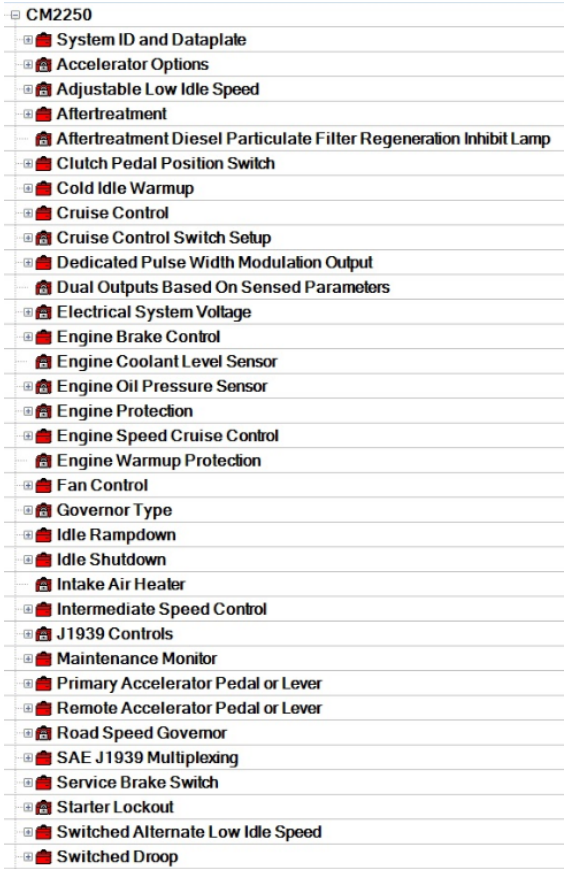
Features & Parameters

- Allows licensed user to make changes to ECM settings
- Multiple adjustments can be done at one time
- Tool Tips are available that help in adjusting parameters and viewing limits
- Feature group categories can be expanded or collapsed to adjust parameters



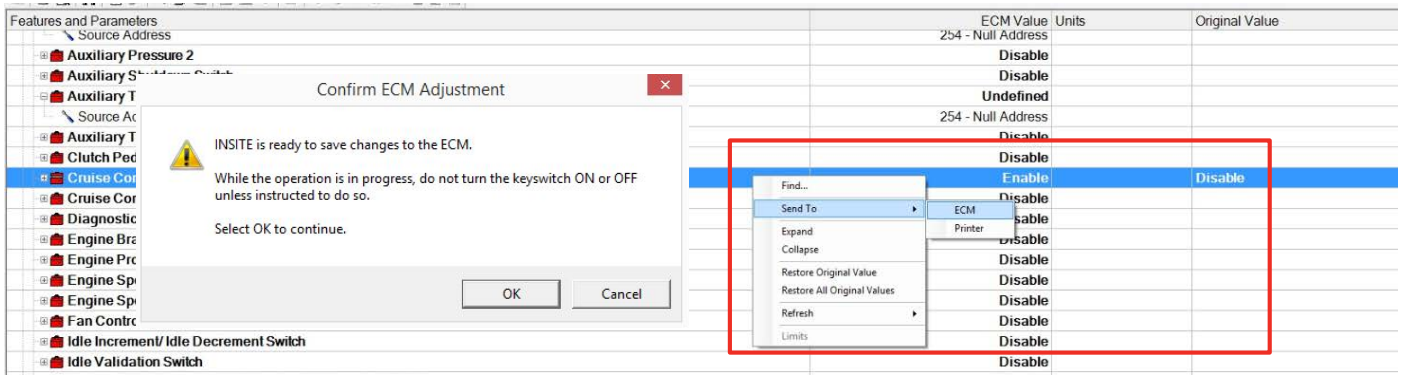
Features & Parameters

- Available features and parameters displayed are calibration based and will vary by engine family
  - Parameters are a subset of features
- Adjustable features and parameters will be displayed with  or  icons
- Selected features and parameters will be displayed with the  or  icons
- Some features and parameters may be locked and are indicated by  or  icons



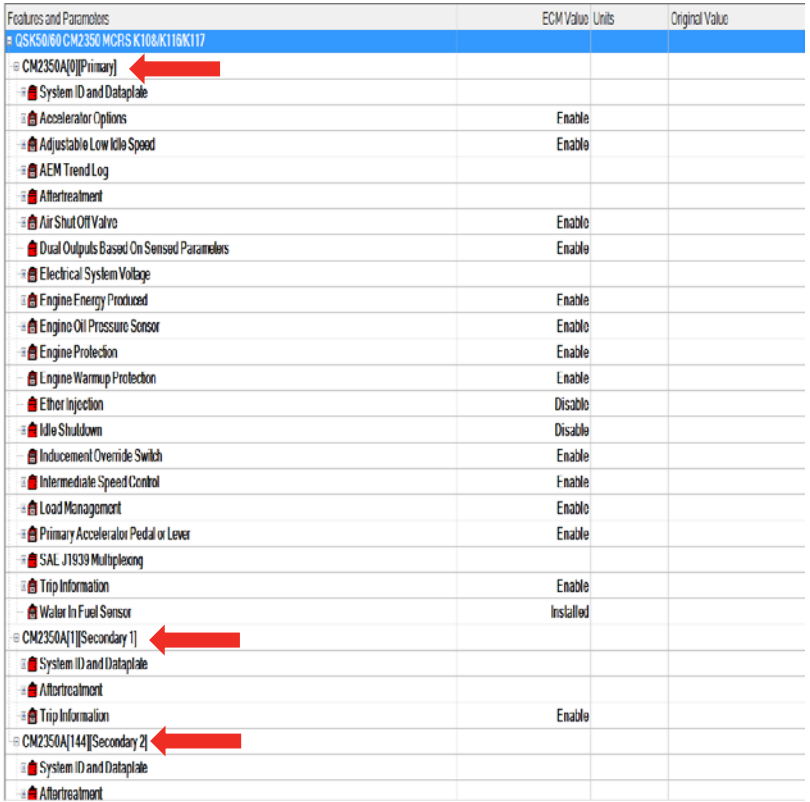
Features & Parameters

- To change a parameter, navigate to the desired feature
- In the ECM Value column, enter or select the desired value
  - The new value should be displayed in the ECM Value column and previous value will be displayed in the Original Value column.
- Once all changes are made, right click in the Features and Parameters window and select Send To > ECM or click the “Send to ECM” button in the menu bar
- Select OK in the Confirm ECM Adjustment window to confirm saving changes.
  - Key cycle will be required after changes are saved to ECM



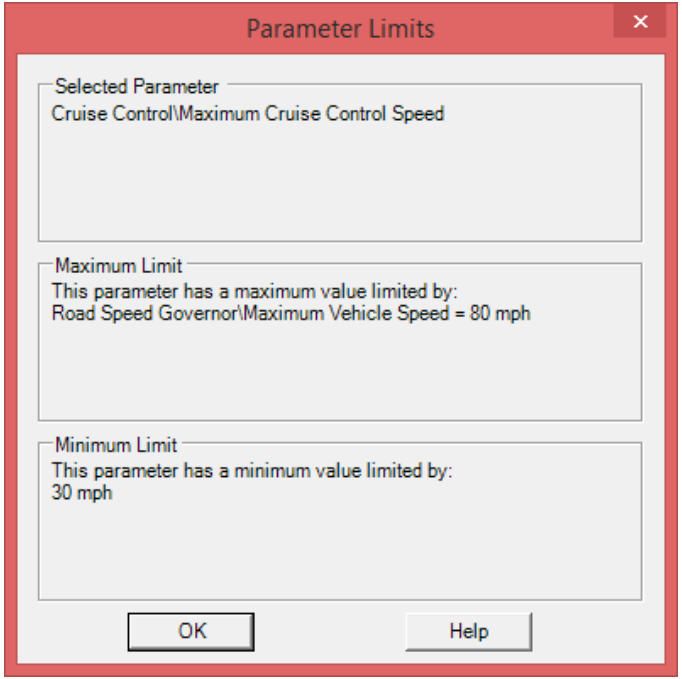
Features and Parameters for Multi-Module ECM(s)

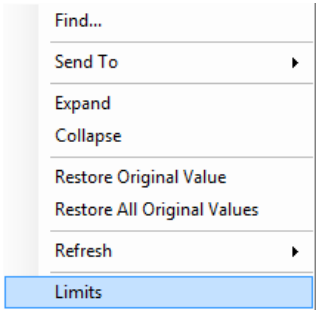
- When connecting to a multi-module ECM you will see the primary and secondary ECM(s) in Features and Parameters.



Features & Parameters

- Limits can be viewed by selecting “Limits” from the right-click menu within the Features and Parameters window.
- Limits will display the name as well as both minimum and maximum limits for the selected parameter.



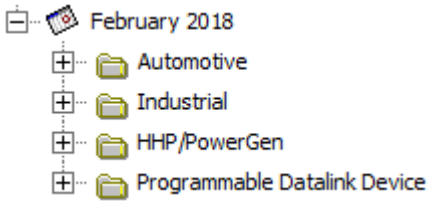


Calibration Selection

ECM/PDD Code Search

Calibration Selection

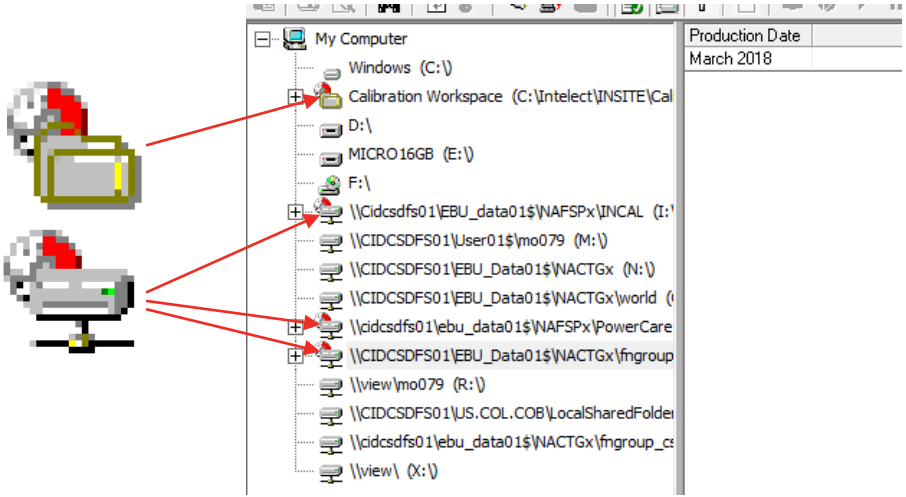
- Provides ability to update the configuration or change the rating of an engine
  - Requires Pro functionality license



- Products are sorted into groups
  - Automotive
  - Industrial
  - HHP/PowerGen
  - Programmable Datalink Device (PDD)

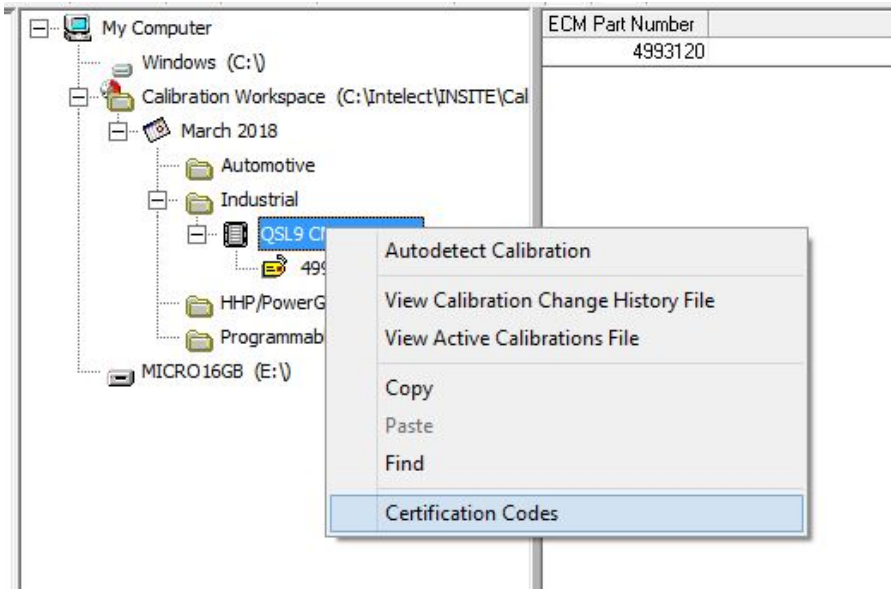
Calibration Selection

- Calibrations are detected in INSITE when INCAL DVD icon is displayed next to folder or drive



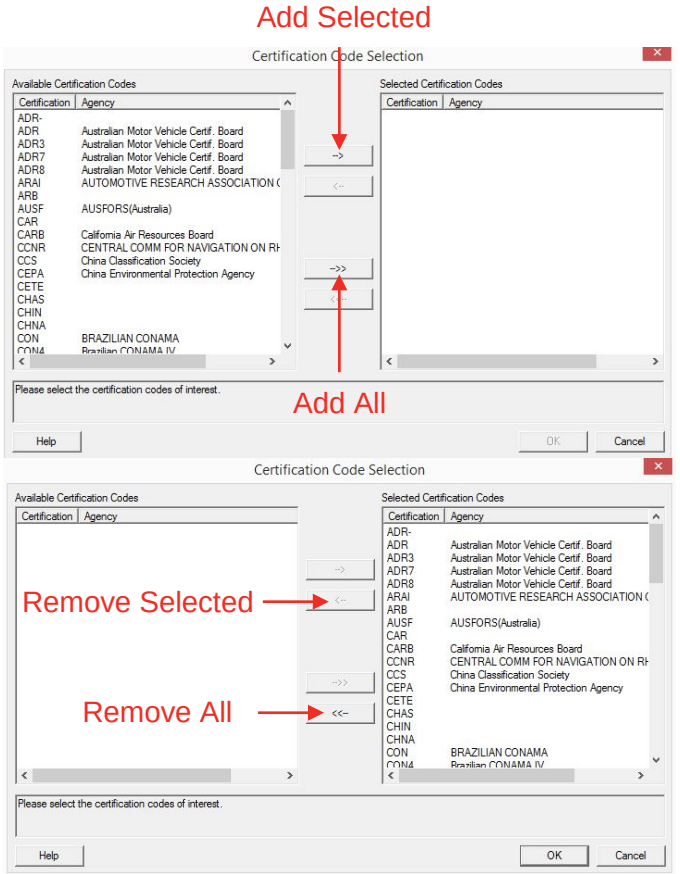
Adding Certification Codes

- Certification Codes will need to be selected prior to calibration download being performed initially.
  - Right-click the engine name
  - Select “Certification Codes”
- Certification Codes can also be selected from Tools>Calibration Selection>Certification Codes…



Add/Remove Certification Codes

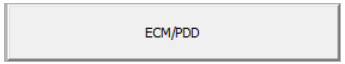
- Adding/Removing Certification Codes can be done in several ways
  - Select desired certification codes from the list, then click the “Add/Remove Selected” button
  - Click the “Add/Remove All” button



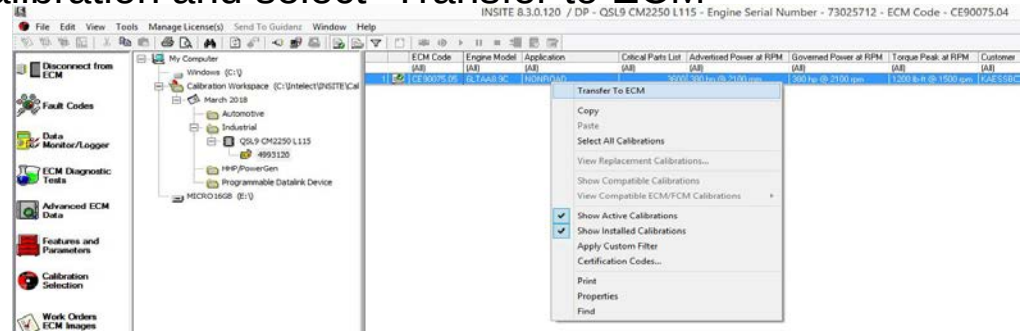
Fleet Counts

- A Fleet Count is not required when:
  - Calibrating an ECM to a new ECM Code revision
  - Superseding ECM Codes
- A Fleet Count is required when:
  - Calibrating a ROM booted ECM
  - Calibrating a New or RECON ECM
  - Changing to a different ECM Code
- Fleet Count passwords are entered using the Cummins License Configuration Tool (LCT)
- Fleet Counts can be obtained from local Distributors

Performing A Calibration Download

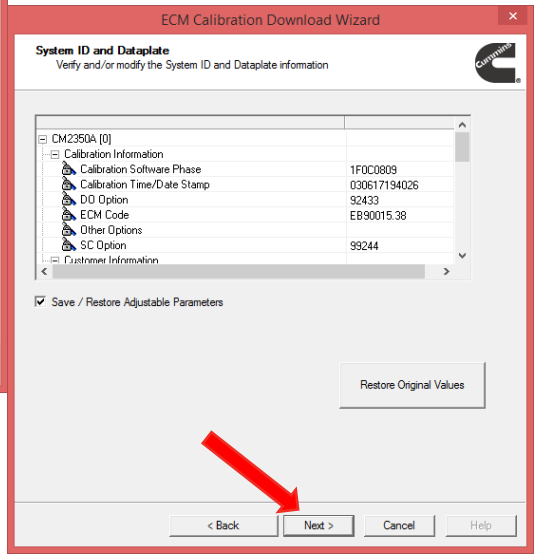
- Connect to ECM
- Open Calibration Selection and select ECM\PDD button 

- If Auto-Detect is enabled, INSITE will automatically detect the calibration code currently in the ECM.
- If Auto-Detect is not enabled, locate desired calibration in Calibration Workspace or other location (such as INCAL DVD or network drive)
  - Requires downloading calibration from ECM Code Search in INSITE or through Quickserve
- Select calibration
- Right-click on calibration and select “Transfer to ECM”



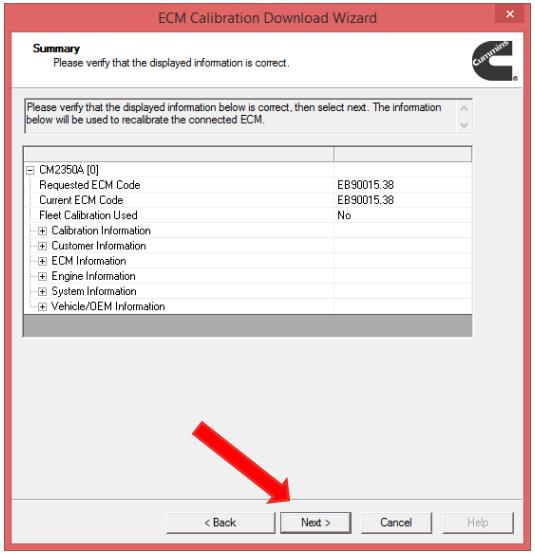
Performing A Calibration Download

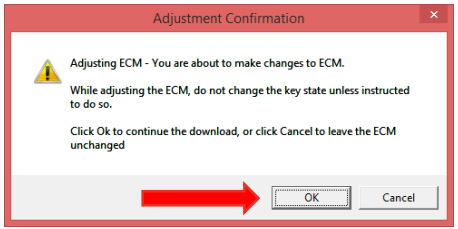
- Click the Next button on the Calibration Download Wizard window
- Review the System ID and Dataplate information
  - Dataplate information can be edited in this window
  - The Restore Original Values button will undo all edits made
  - The Save/Restore Adjustable Parameters box is checked by default. (Recommended)
- Click the Next button



Performing A Calibration Download

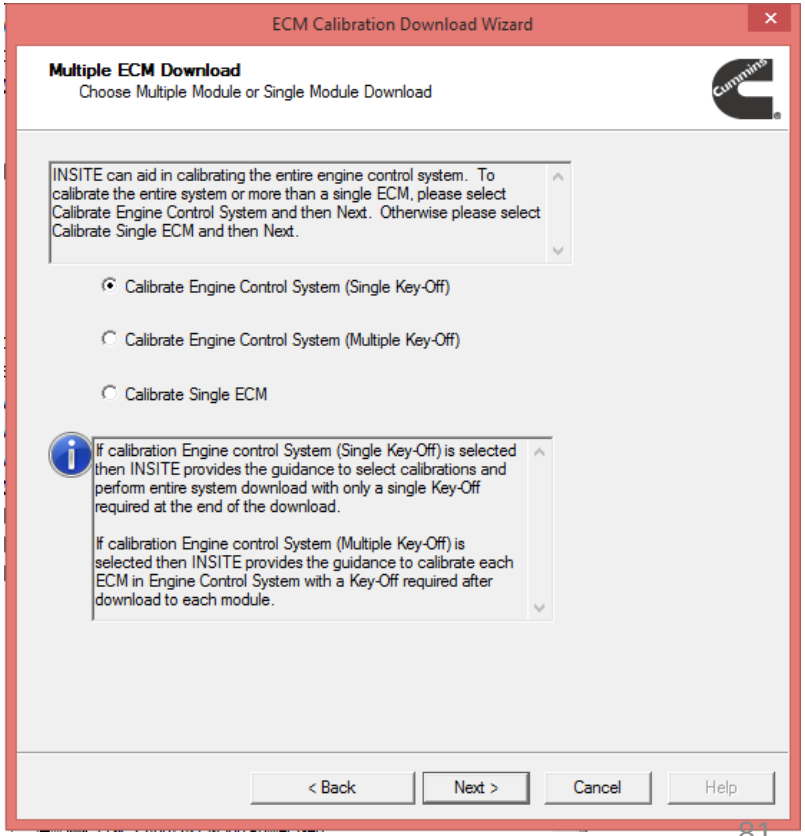
- Verify the information in the Summary window
- Click the Next button to continue
- Review the Adjustment Confirmation window
  - Anytime, up to this point, you can cancel the download and go back
- Click on the OK button to continue





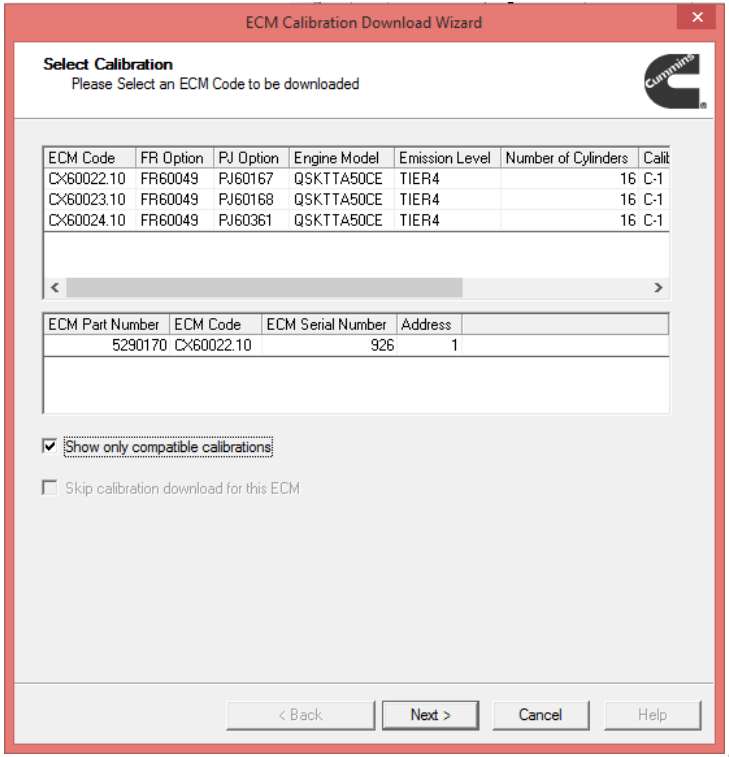
Performing a Multi-Module Calibration Download

- When connected to a primary and one or more secondary ECM(s), you will be prompted to select one of the following options:
  - Calibrate Engine Control System (Single Key-Off)
  - Calibrate Engine Control System (Multiple Key-Off)
  - Calibrate Single ECM



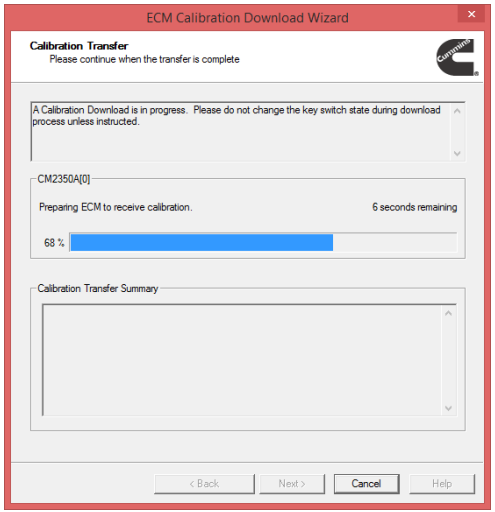
Performing a Multi-Module Calibration Download

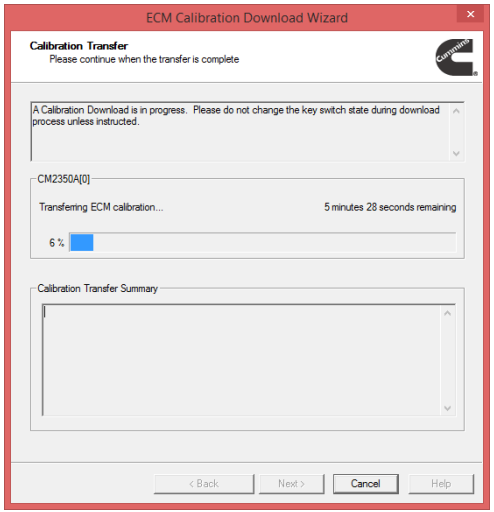
- When using either the Calibrate Engine Control System (Single Key-Off) or the Calibrate Engine Control System (Multiple Key-Off) options, INSITE will display compatible secondary calibrations to select during the Select Calibration process.



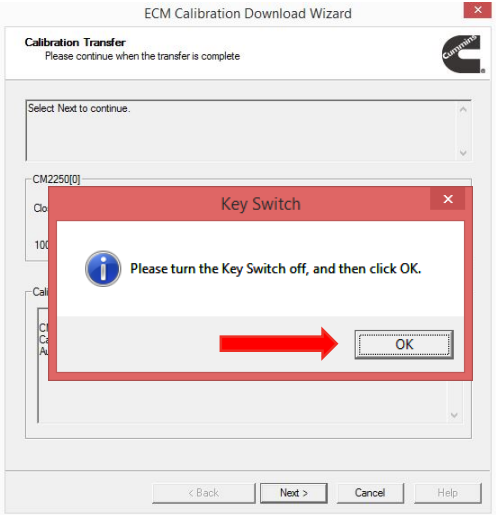
Performing A Calibration Download

- Calibration Transfer progress windows



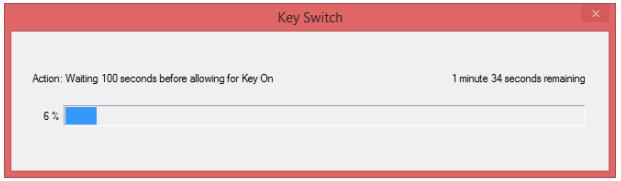


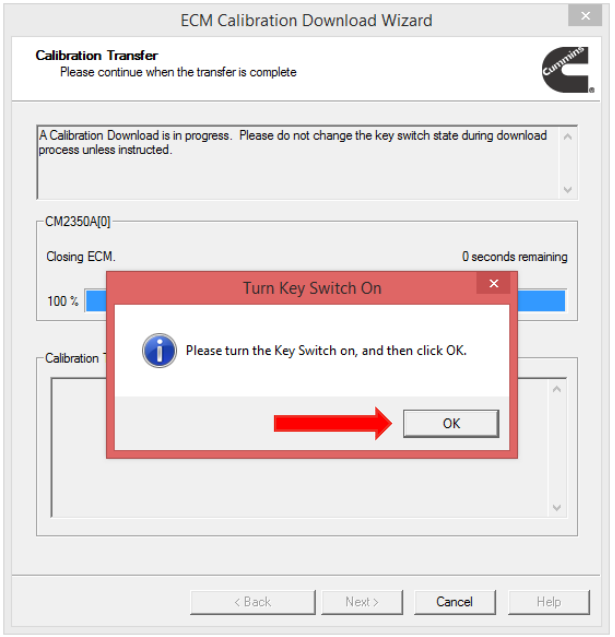
- Turn off the key switch and click on the OK button to continue



Performing A Calibration Download

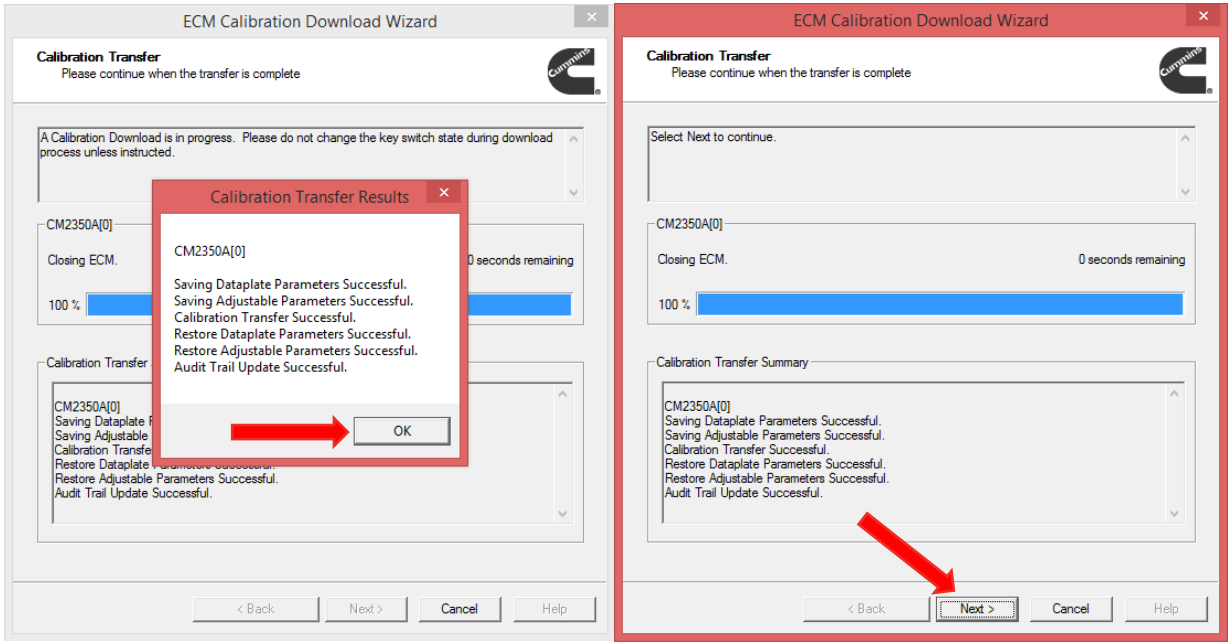
- Calibration Transfer Key Switch progress message
- Turn on the key switch and click on the OK button to continue





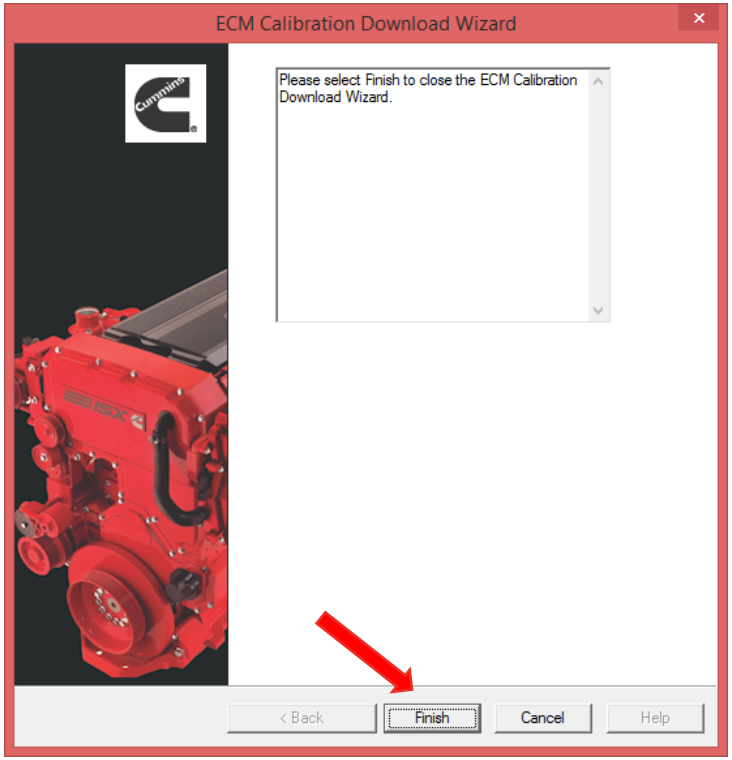
Performing A Calibration Download

- Calibration Transfer Results window
- Click the OK button to continue
- Calibration Transfer Complete window
- Click on the Next button to continue

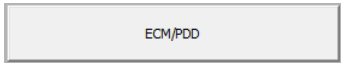


Performing A Calibration Download

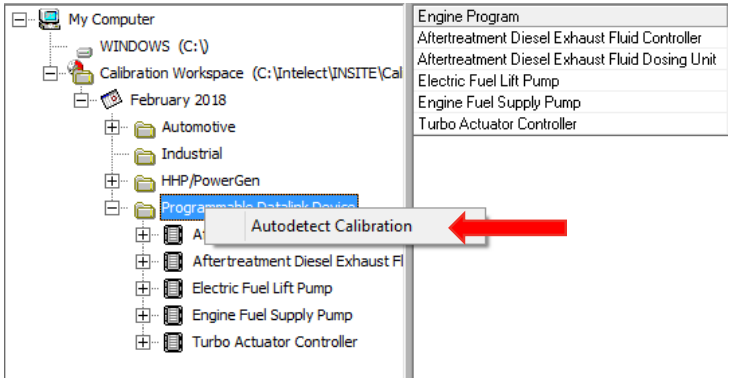
- Click on the Finish button to close the ECM Calibration Download Wizard



Performing A PDD Calibration Download

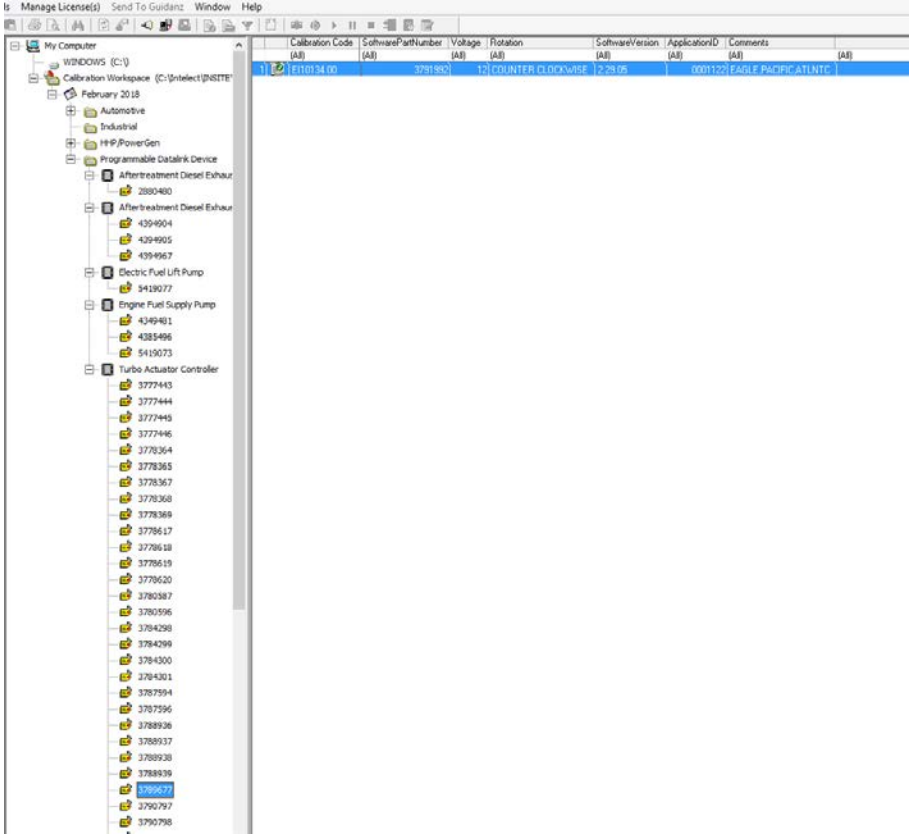
- Connect to ECM
- Open Calibration Selection and select ECM\PDD button 

- Right click on Programmable Datalink Device (PDD) and select Autodetect Calibration
- Or locate desired calibration
  - In Calibration Workspace
    - Requires downloading calibration from ECM Code Search in INSITE or through Quickserve
  - INCAL DVD
  - Network Drive



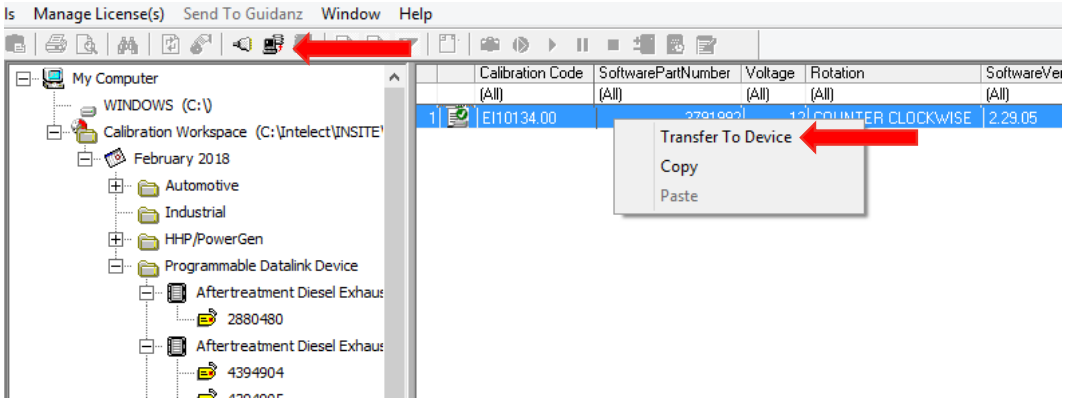
Performing A PDD Calibration Download

- Autodetect will find and select the appropriate calibration code for the connected PDD



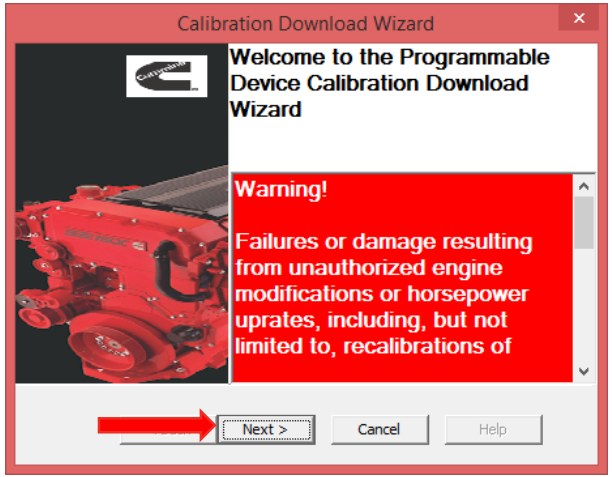
Performing A PDD Calibration Download

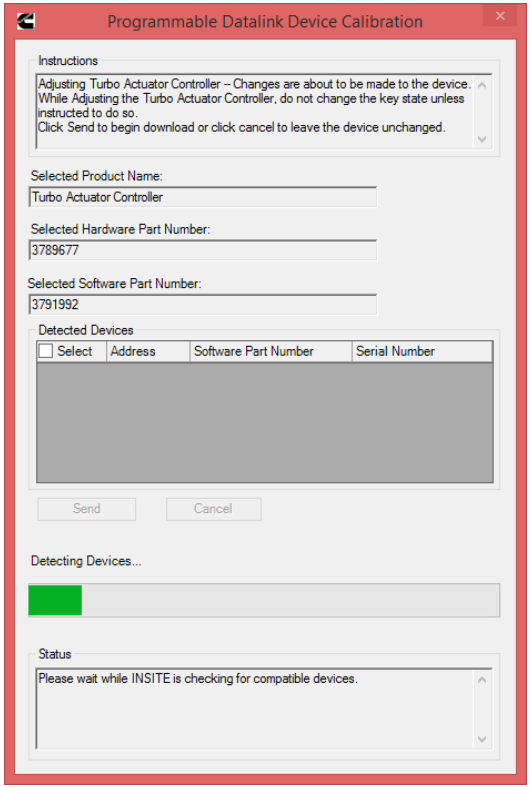
- Right click the desired calibration code and select “Transfer To Device” or select the “Transfer to ECM” button from the toolbar 



Performing A PDD Calibration Download

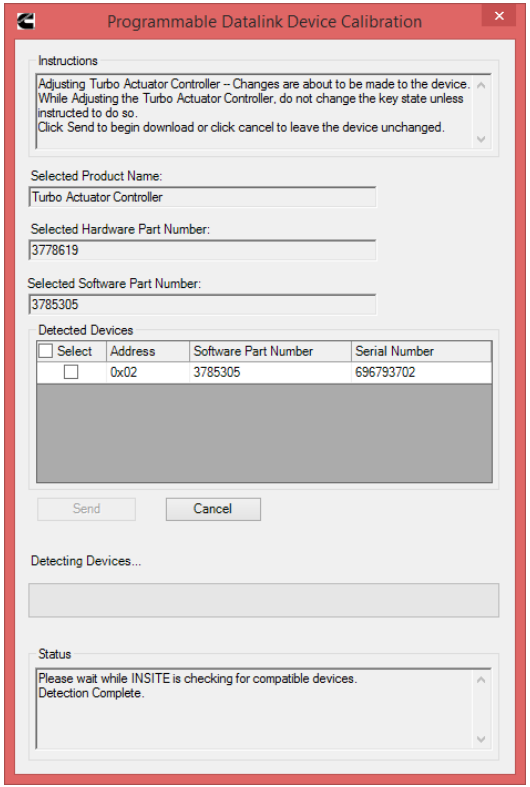
- On the Calibration Download Wizard click on the Next button

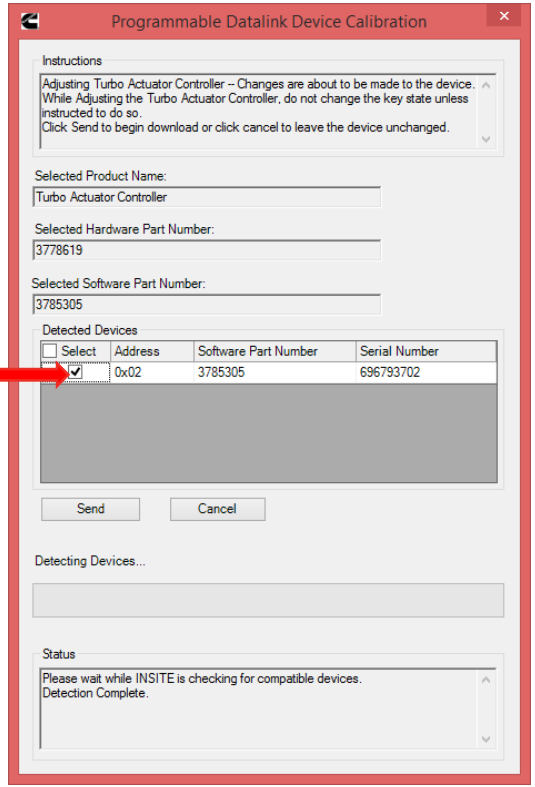




Performing A PDD Calibration Download

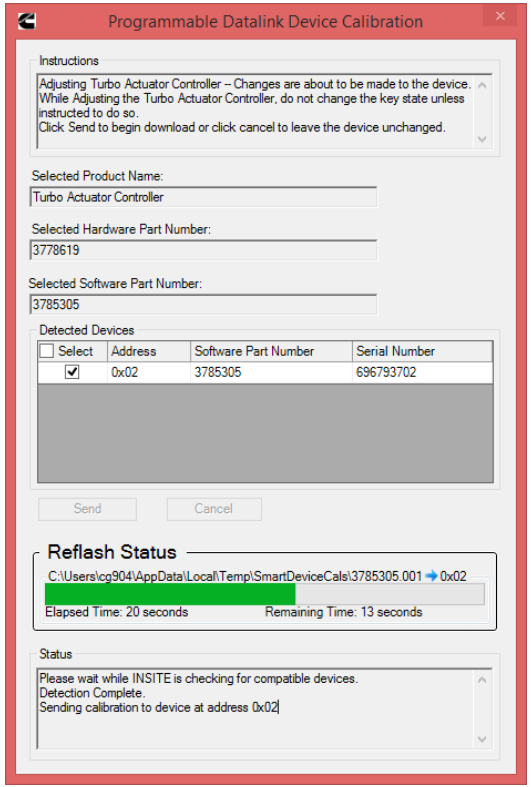
- On the PDD Calibration window select the device to be calibrated by checking the box

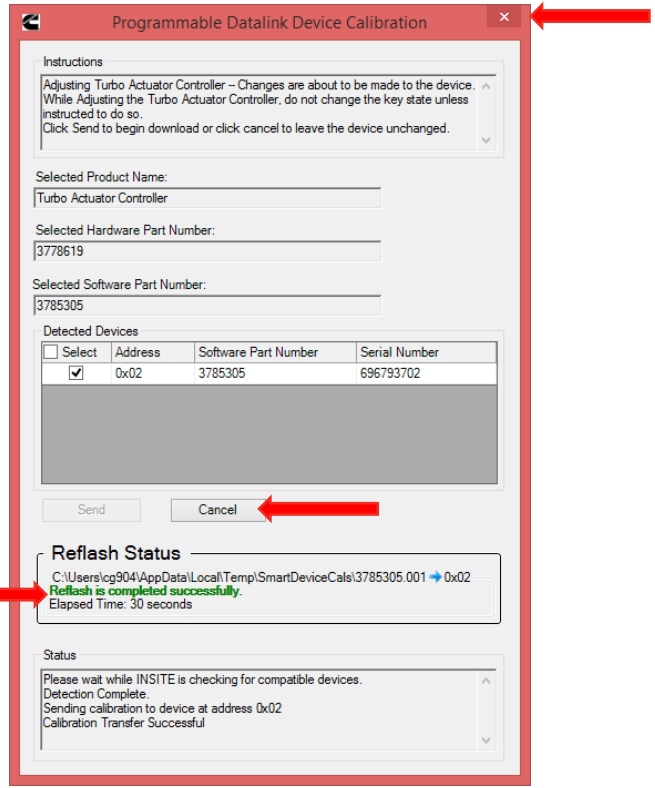




Performing A PDD Calibration Download

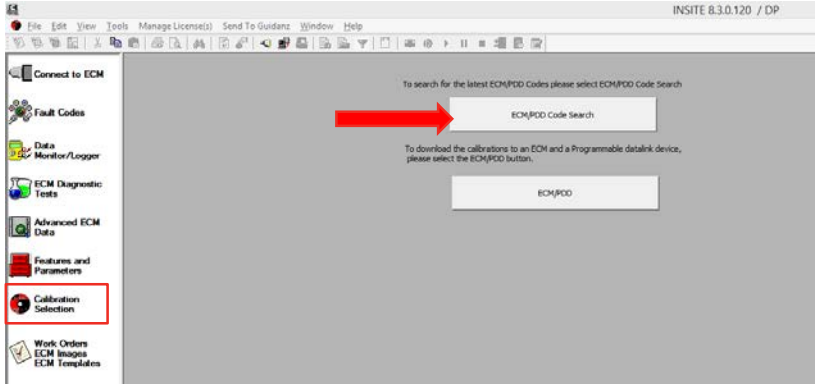
- On the PDD Calibration window, when the “Reflash is completed successfully” message appears, click on the Cancel button or Red X button  to close the window and continue
- The ECM will reconnect automatically

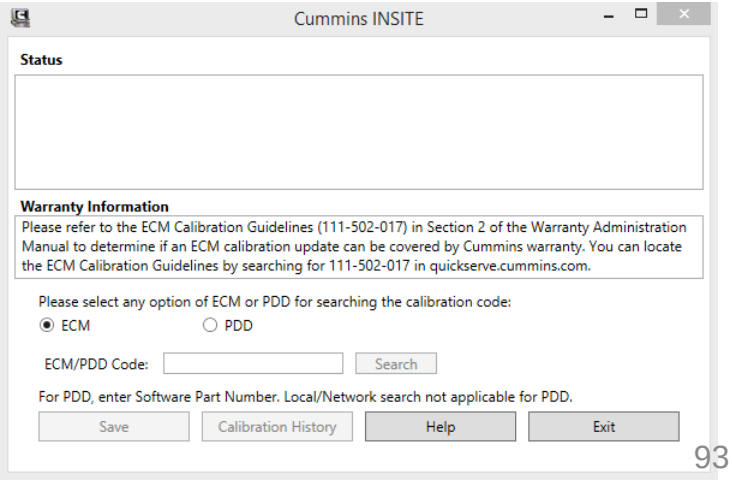




ECM/PDD Code Search

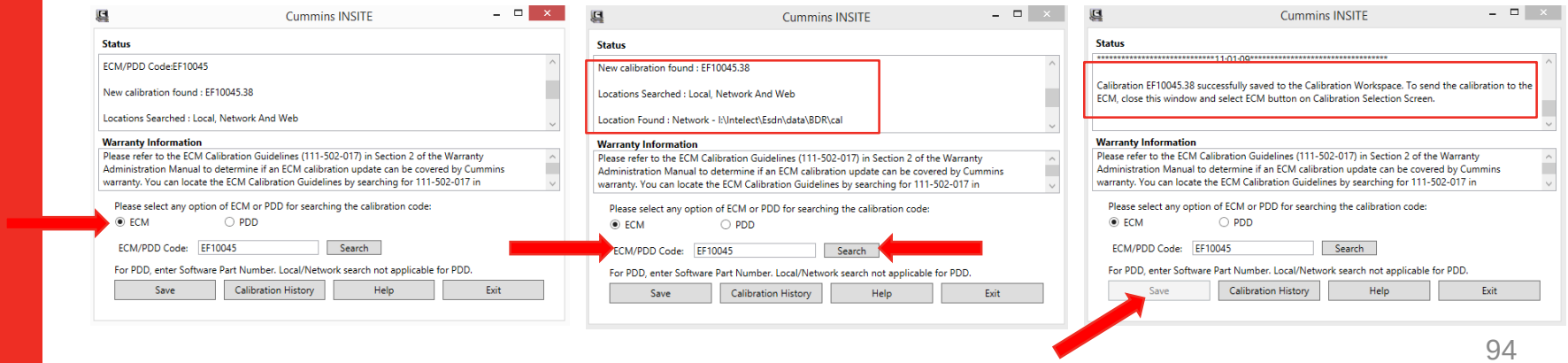
- ECM Code Search allows checking for calibration updates and reviewing calibration history regardless of ECM connectivity
  - When not connected to ECM, the search box will appear to search for calibration updates by manually entering ECM or PDD Code
  - When connected to ECM, you can only check for calibration updates or review calibration history of the connected ECM





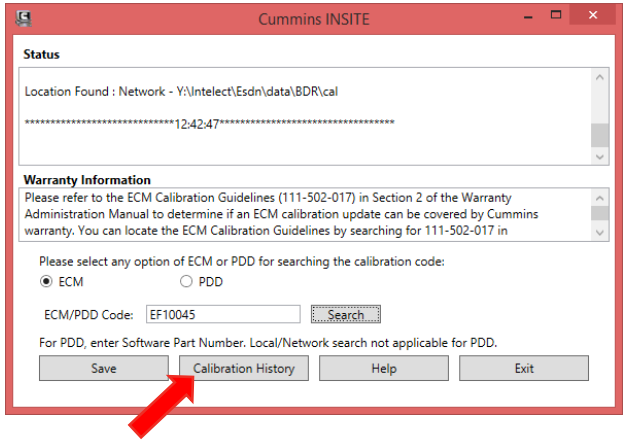
Using ECM/PDD Code Search

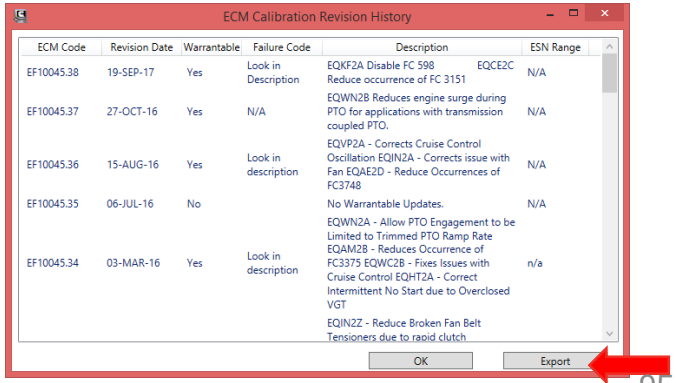
- Select desired option of ECM or PDD for searching for the calibration code
  - ECM (Engine Control Module) or PDD (DEF Controller, Turbocharger Actuator, etc.)
- Enter desired ECM/PDD code without revision number
  - (For example EF10045)
- Click on the Search button.
- Save button will appear as selectable when a calibration is found
  - Search status window displays locations searched, location found and save status (if applicable).



ECM/PDD Code Calibration History

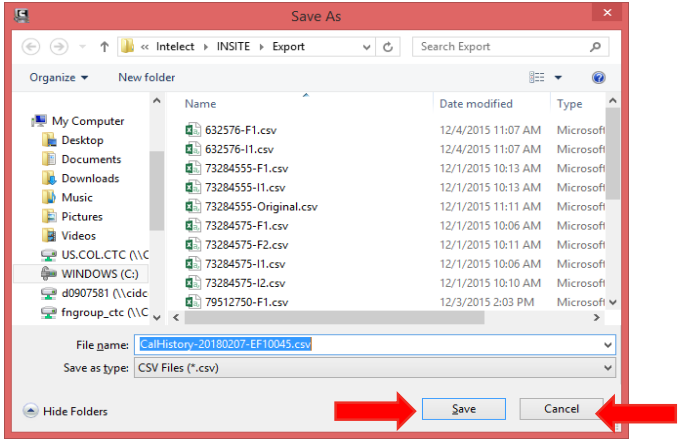
- On the ECM/PDD Code Search window click on the Calibration History button
- Review the ECM Calibration Revision History
- Click on the Export button to export the information to a .csv file format

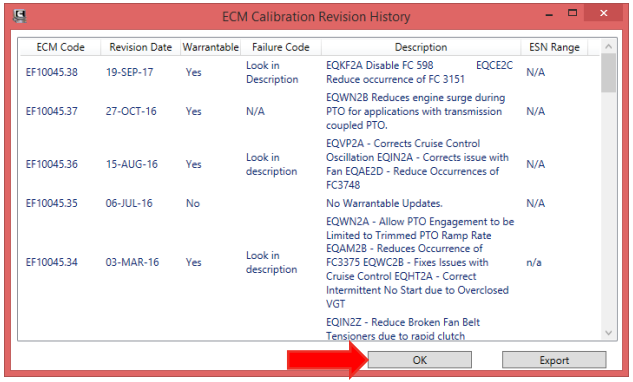




ECM/PDD Code Calibration History

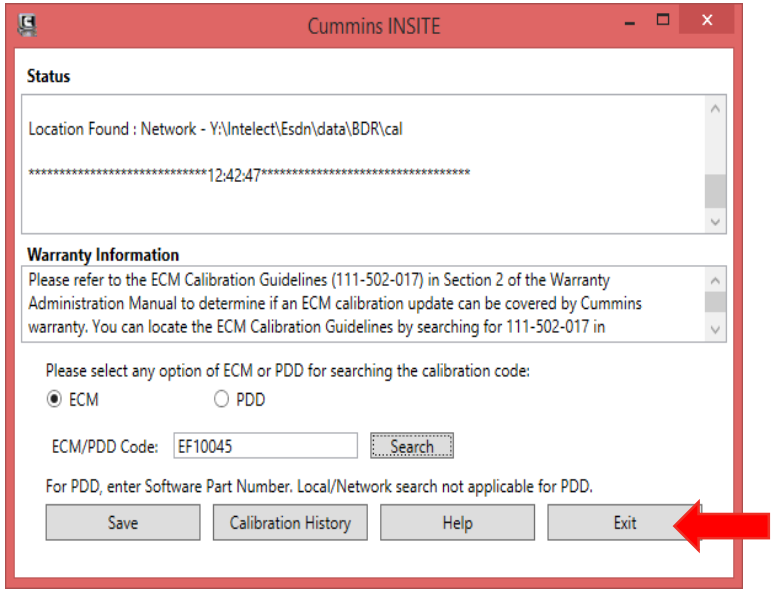
- On the Export window, click the Save button to export the Calibration History
- On the Export window, click the Cancel button to cancel and close the window
- Click on the OK button to return to the ECM Calibration History window





ECM/PDD Code Search

- On ECM/PDD Code Search window, click on the Exit button to close the window



Work Orders

ECM Images

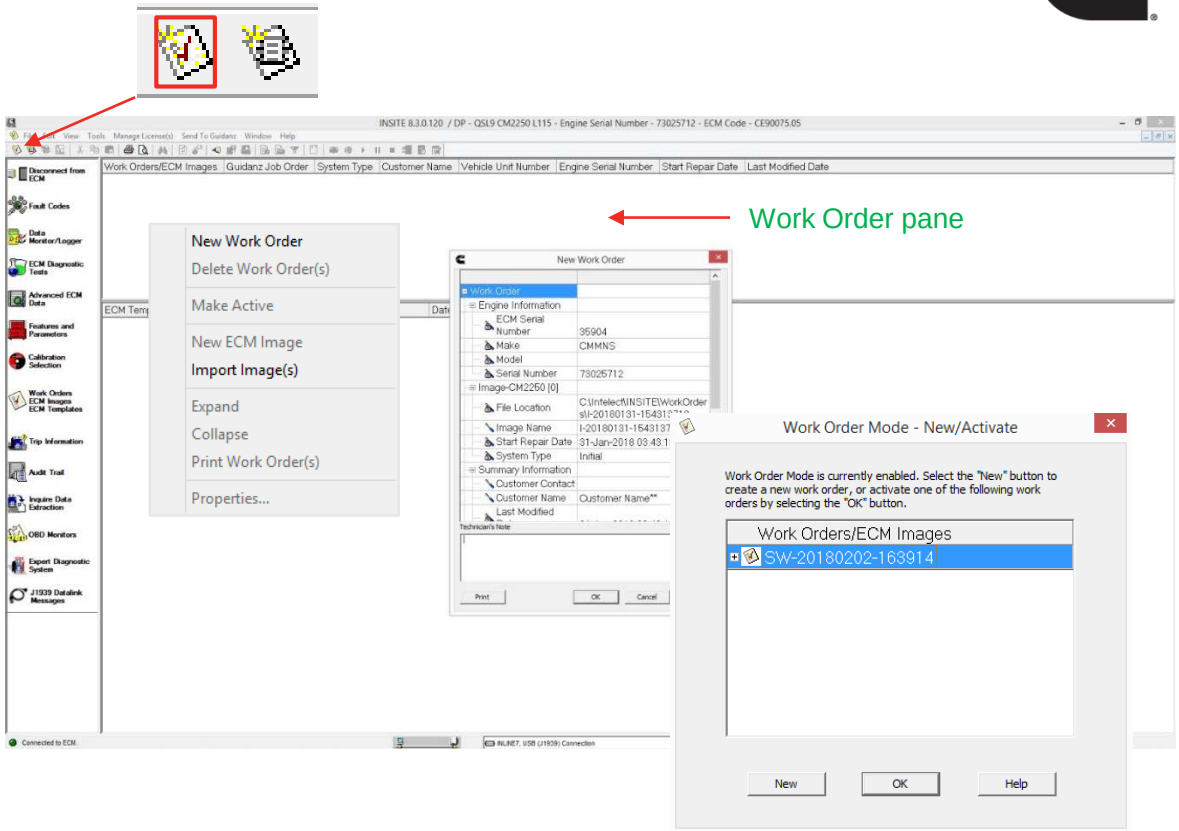
Templates

Work Orders

- A Work Order is the top level identifier that contains the ECM image(s).
  - An image is a copy of the ECM data
  - May contain multiple images
- Work Orders can be used to…
  - Identify a specific customer, vehicle or equipment
  - Help track vehicle and equipment repair history
- If Work Order Mode is enabled…
  - Prompted to create “Initial” image when connecting to an ECM
  - Prompted to create “Final” image when disconnecting from an ECM
- “User” images can be manually created under the Work Order while connected to an ECM

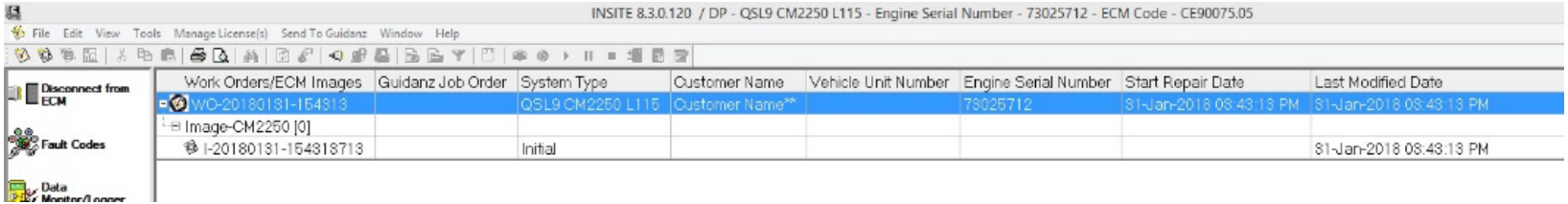
Work Orders

- Work Orders can be created manually by right-clicking in the Work Order pane and selecting “New Work Order” or clicking “New Work Order” in tool bar
- If Work Order Mode is enabled and an existing compatible Work Order is detected, INSITE will prompt to select an existing Work Order to use or create a new Work Order
  - If a Work Order is not detected, INSITE will only prompt to create new Work Order



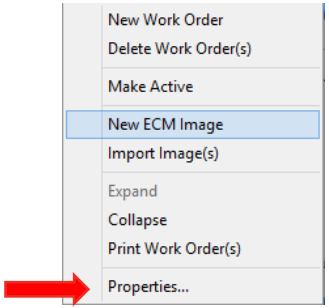
Work Orders

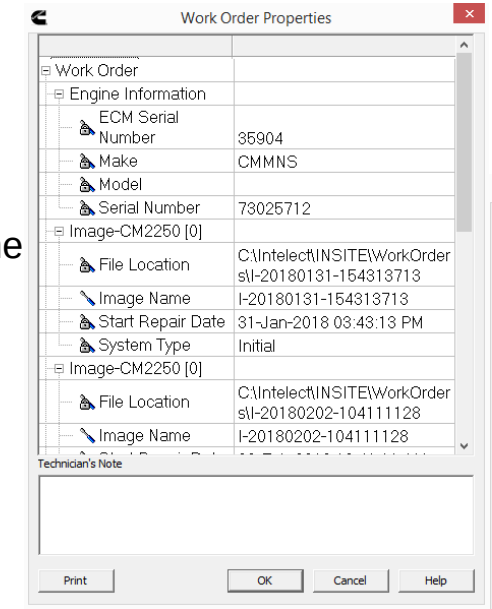
- Can be created manually by the user or automatically when Work Order Mode is enabled
- When a Work Order is created, an “Initial” ECM image is also created by default
- When connected to an ECM, only Work Orders compatible with that Engine Serial Number will be displayed
- All Work Orders can be viewed when not connected to an ECM
- Recommended to always create a Work Order, preferably with Work Order Mode enabled

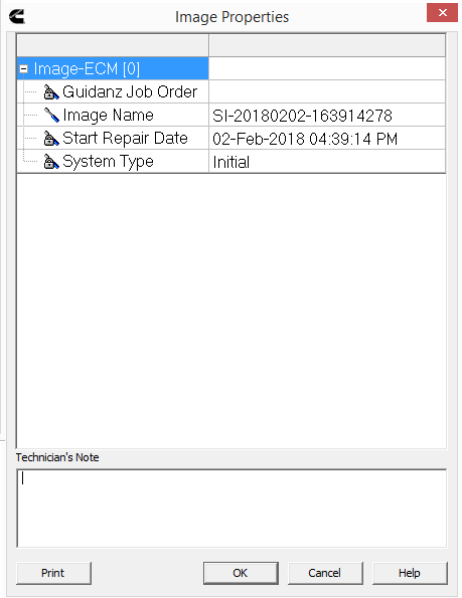


Work Orders

- Work Order and ECM Image names are defaulted to a Date – Time format
  - WO-20180131-145950 = 01/31/2018-2:59:50pm
- Image Name and Notes can be edited at the time of creation
- Image Name and Notes can be also edited in the right click Properties menu

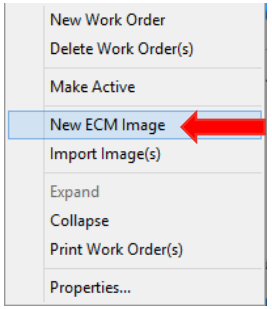






ECM Images

Tool bar icon

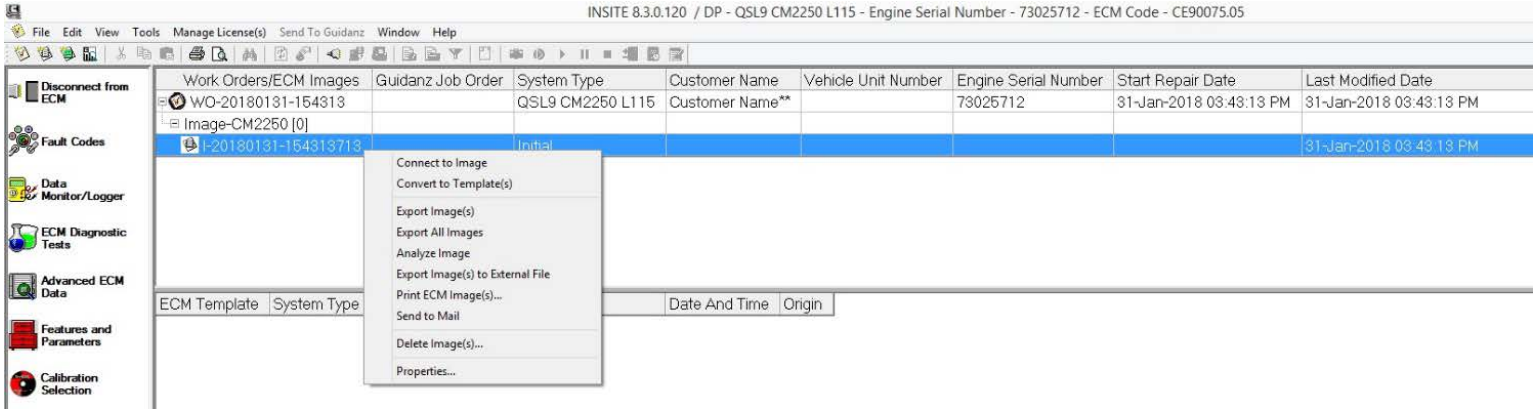


- Captures ECM data at creation
- “Initial” images are created with new Work Order
- “User” images can be created at any time when connected to an ECM
- “Final” images are created when disconnecting from ECM and Work Order Mode is enabled
- New Images can be created by clicking the “New ECM Image” button in the tool bar or by selecting “New ECM Image” in right-click menu of selected Work Order

Work Orders/ECM Images	System Type	Customer Name	Vehicle Unit Number	Engine Serial Number	Start Repair Date	Last Modified Date
WO-20180131-154313	QSL9 CM2250 L115	Customer Name**		73025712	31-Jan-2018 03:43:13 PM	02-Feb-2018 10:41:11 AM
Image-CM2250 [0]						
I-20180202-104111128	User					02-Feb-2018 10:41:11 AM
I-20180131-154313713	Initial					31-Jan-2018 03:43:13 PM

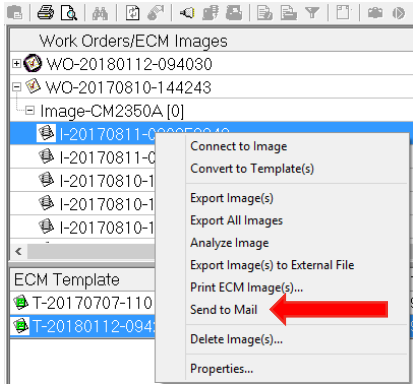
ECM Images

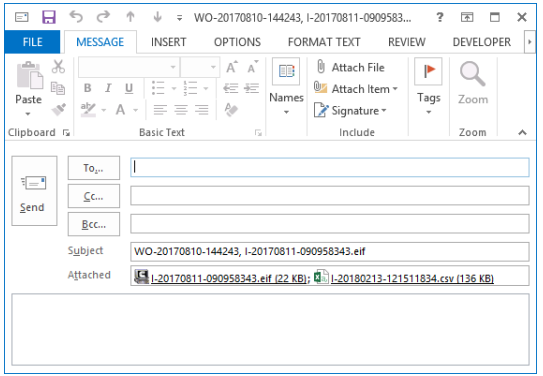
- Right-clicking on an existing image also allows you to…
  - Export
  - Analyze
  - Print
  - Delete
  - Send to Mail



Emailing ECM Images

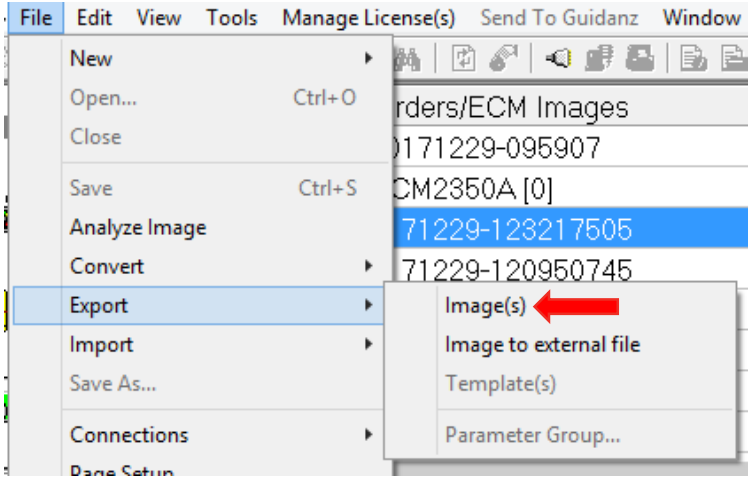
- Right click on the desired ECM Image
- Select Send to Mail option
- INSITE will open the default email program and attach the files

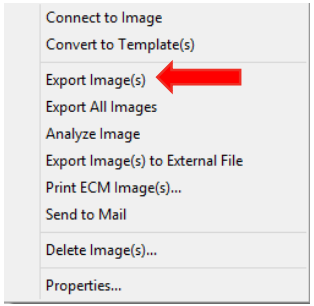


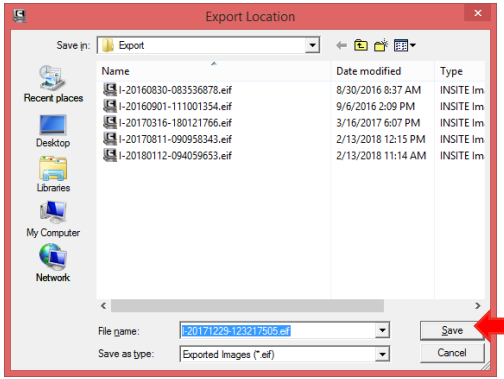


Exporting Images & Templates

- Select desired Image or Template file
- File > Export > Image(s) or Template(s) or Select Export Image(s) or Export Template(s) from right-click menu of image or template
- Click Save button to export
- INSITE images can be exported as the following file formats
  - .EIF
    - If exported image or template is intended for use on another INSITE
  - .CSV
    - If wanting to view ECM image in Excel
  - .TXT
    - If wanting to view in plain text
- INSITE templates can only be exported as .ETF file format

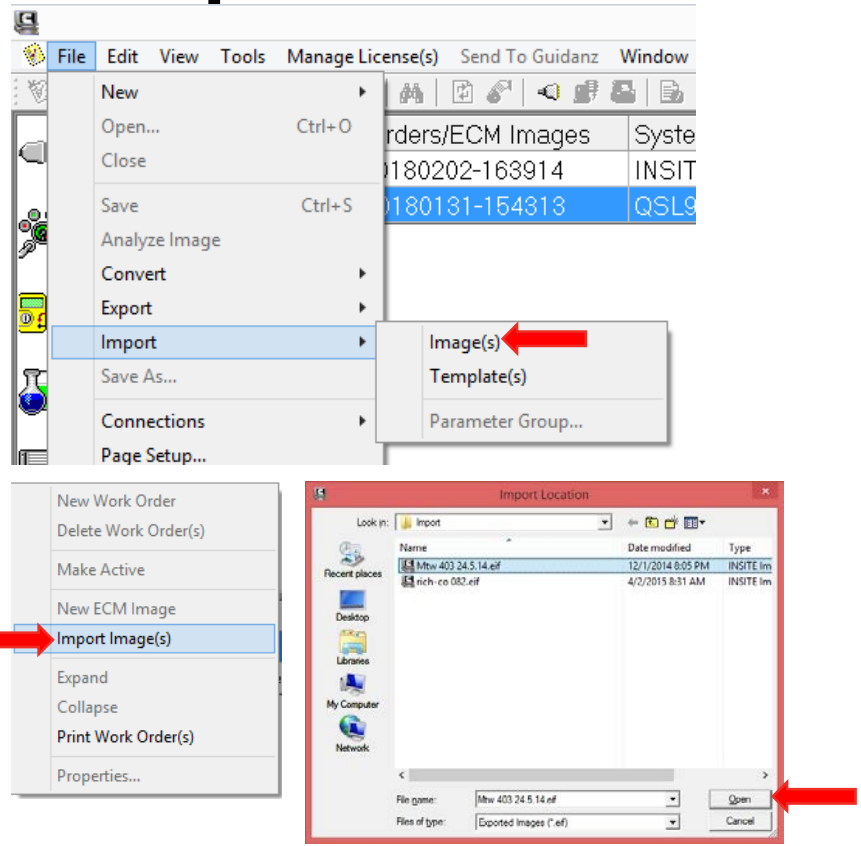






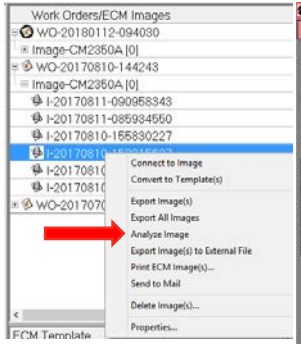
Importing Images & Templates

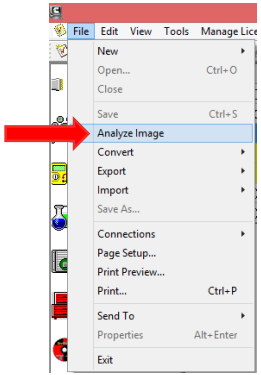
- File > Import > Image(s) or Template(s)
- Right click on a Work Order and select Import Image(s) or Import Template(s)
- Browse to and select desired image or template file
  - Images must be in .EIF file format
  - Templates must be in .ETF file format
- Click the Open button to import

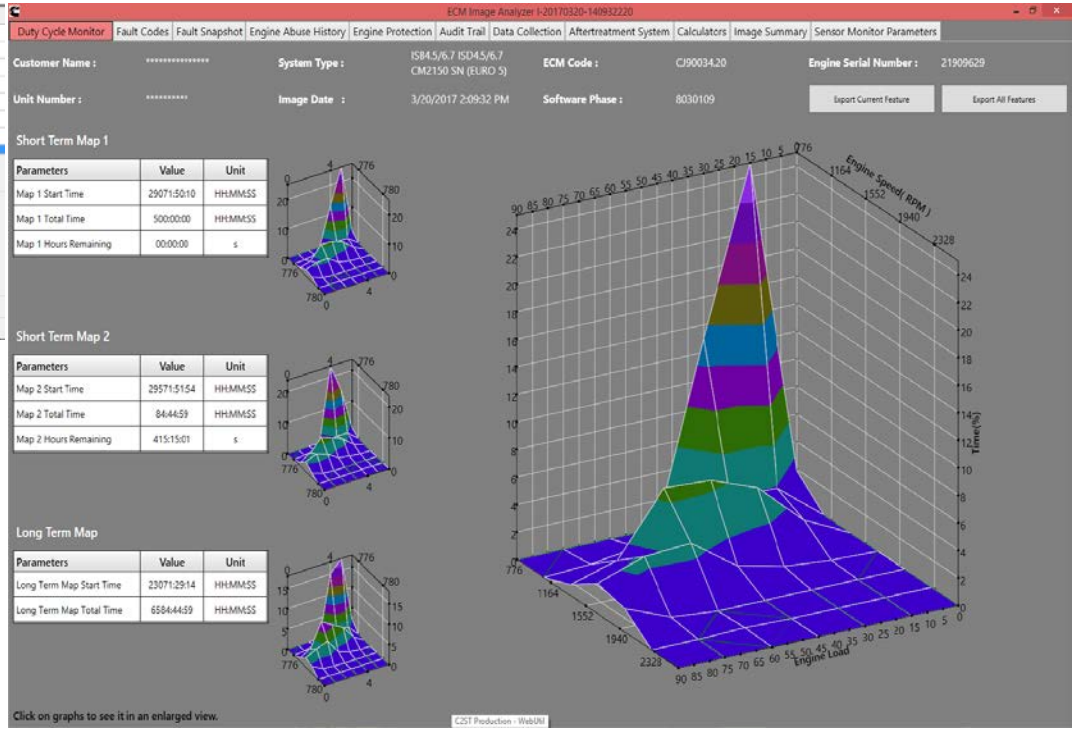


ECM Image Analyzer

- ECM Imager Analyzer is a tool to view all information in an ECM Image in one convenient location
- Open Work Orders then right click on an ECM Image and select Analyze Image or select an ECM Image then select File>Analyze Image
- The information is displayed in separate tabs



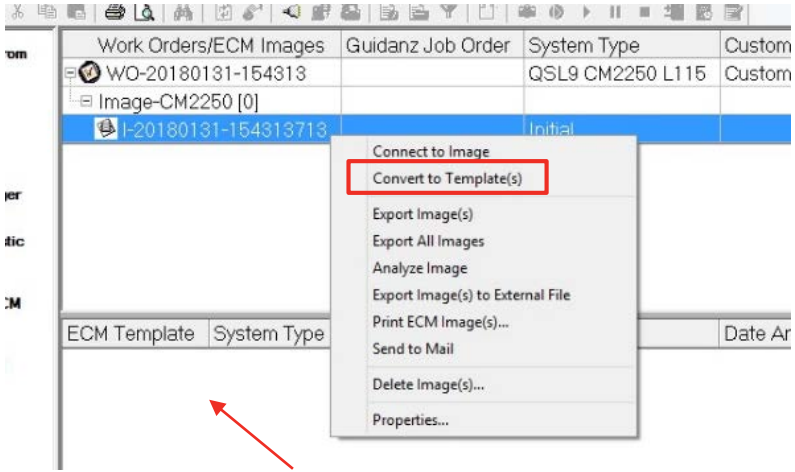




Templates

- ECM Images also can be converted into a template
  - Either select the “Convert to Template(s)” button in menu bar or in right-click menu when desired ECM image is selected
- Allows transferring of the same Feature and Parameter setup from a given ECM image to multiple ECMs

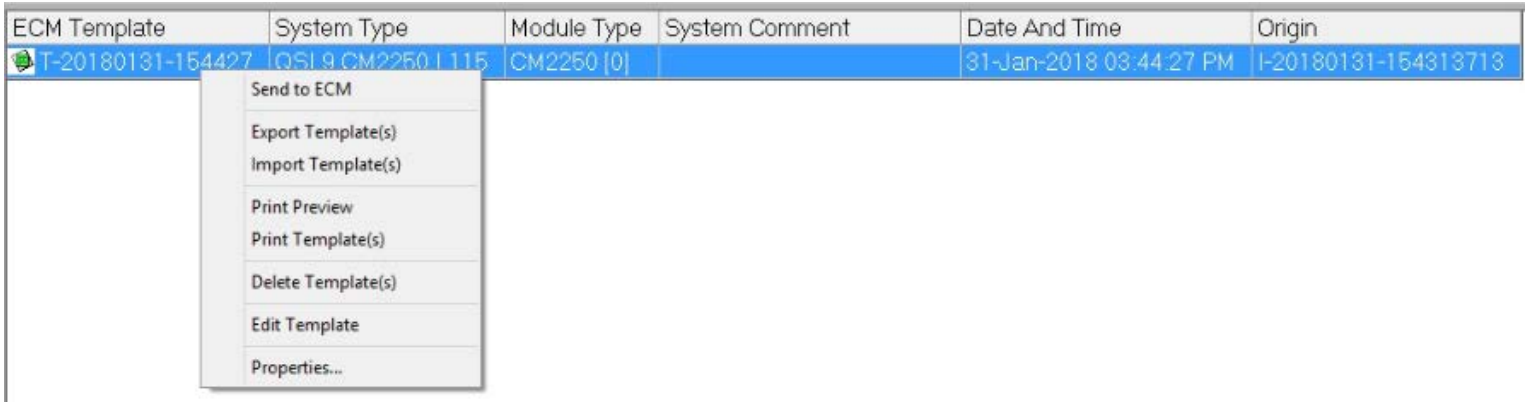
Tool bar icon



Template pane

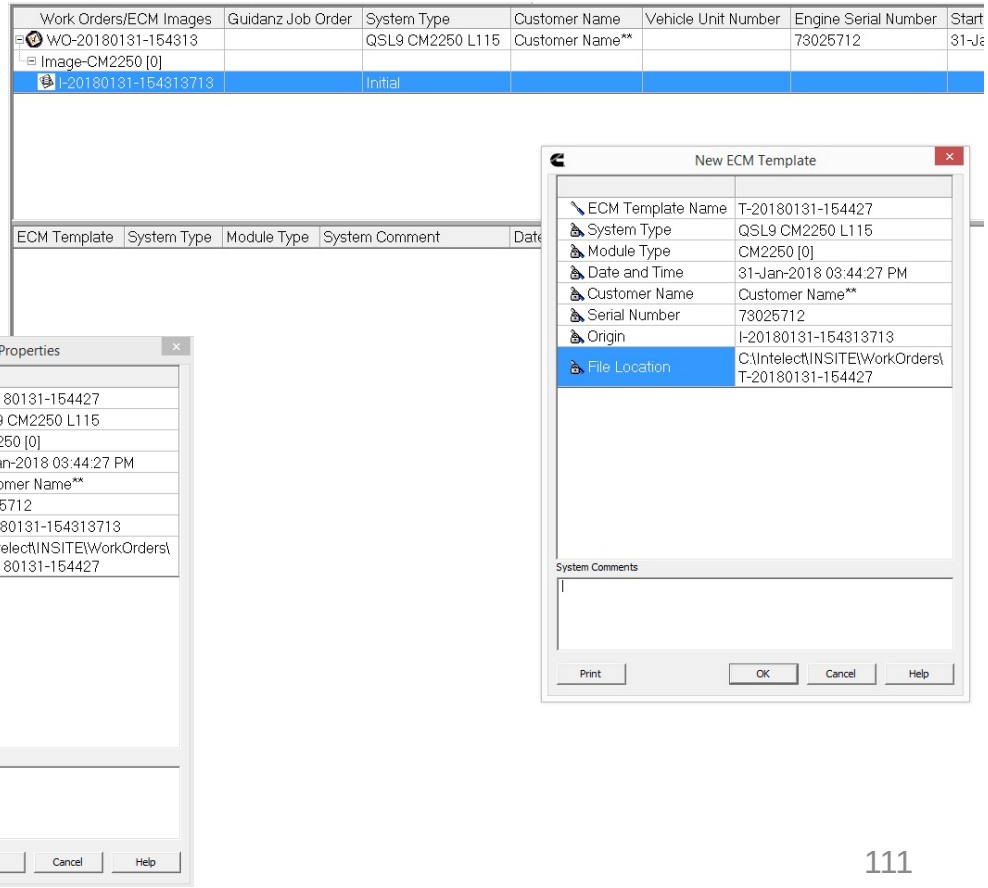
Templates

- After a template has been created, right-click on the selected template to…
  - Send to ECM
  - Export
  - Print and Print Preview
  - Delete
  - Edit



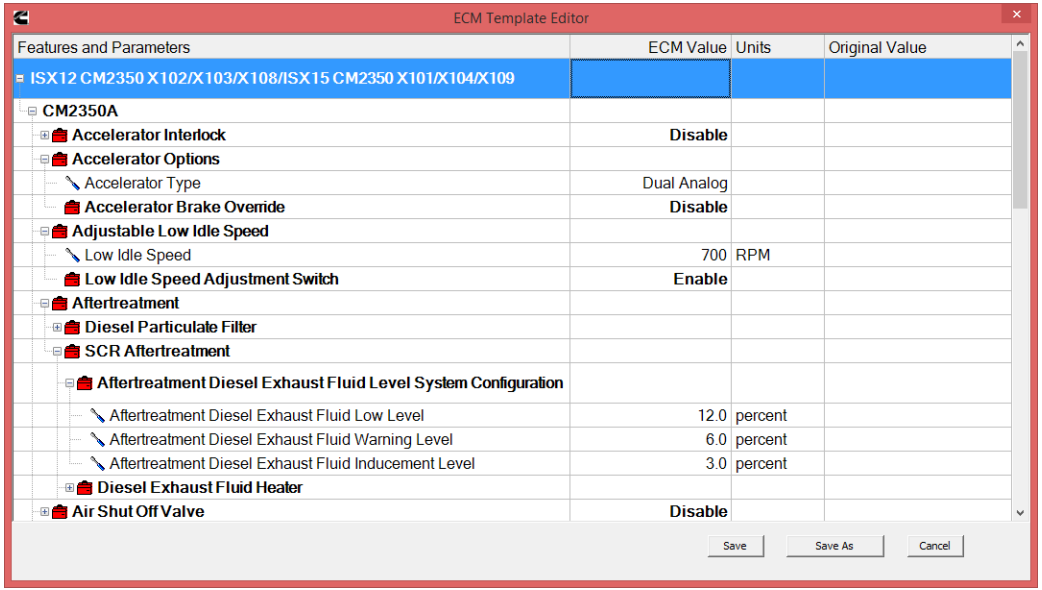
Templates

- Template name and comments can be customized at time of creation or by going to Properties in right-click menu of selected template



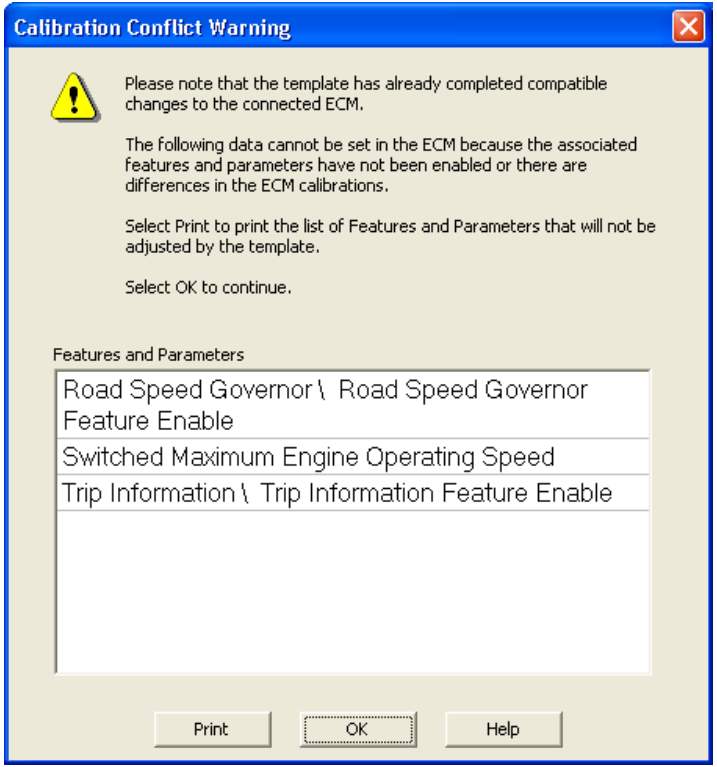
Templates

- ECM Template Editor
  - Allows users to edit Features and Parameters that can be modified in an ECM Template



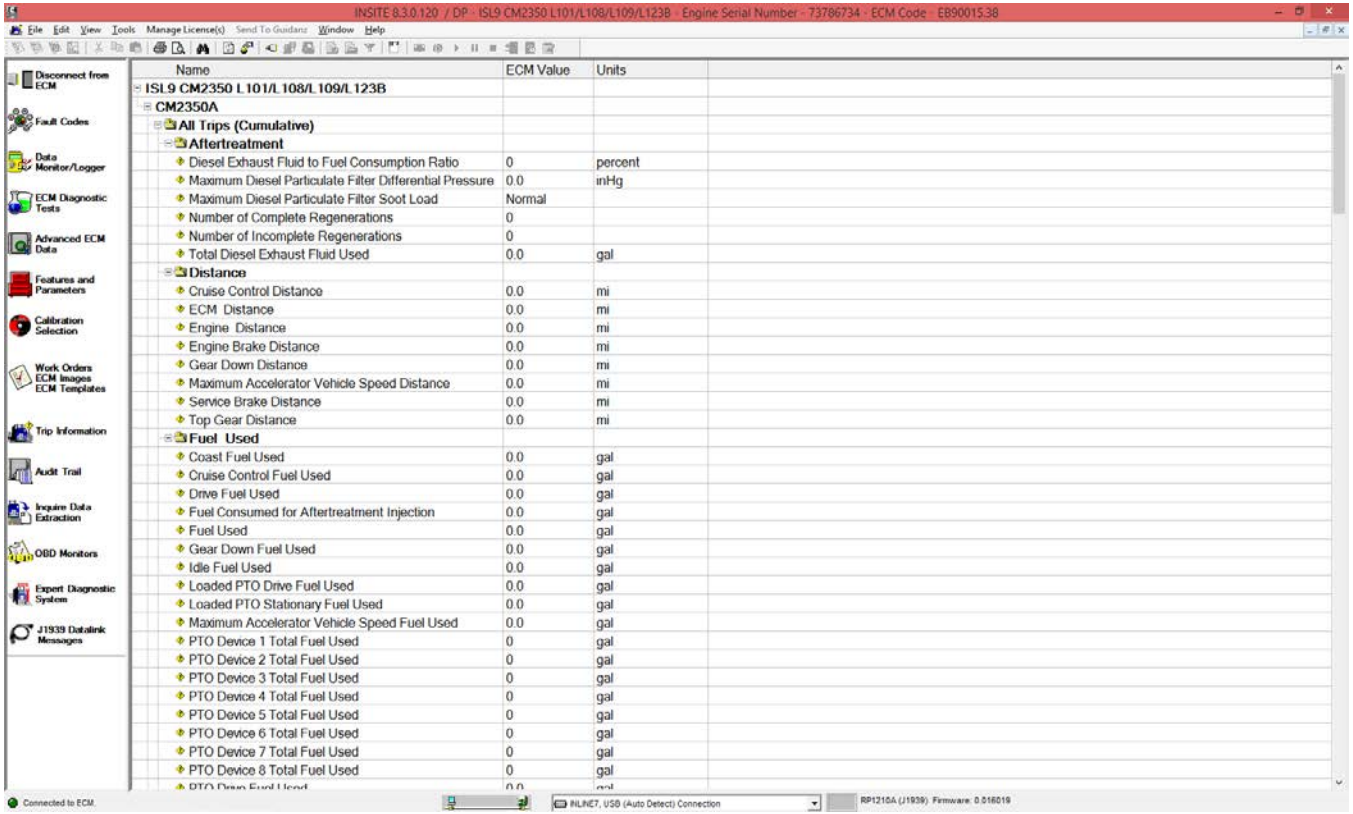
Templates

- Report provided after sending to ECM
  - Advises which parameters were not able to be written to ECM
  - User can use this to setup the vehicle accordingly



Trip Information

Trip Information



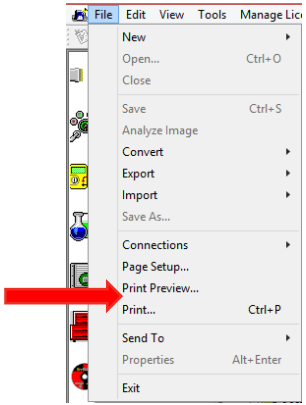
Name	ECM Value	Units
ISL9 CM2350 L101/L108/L109/L123B		
CM2350A		
All Trips (Cumulative)		
Aftertreatment		
Diesel Exhaust Fluid to Fuel Consumption Ratio	0	percent
Maximum Diesel Particulate Filter Differential Pressure	0.0	inHg
Maximum Diesel Particulate Filter Soot Load	Normal	
Number of Complete Regenerations	0	
Number of Incomplete Regenerations	0	
Total Diesel Exhaust Fluid Used	0.0	gal
Distance		
Cruise Control Distance	0.0	mi
ECM Distance	0.0	mi
Engine Distance	0.0	mi
Engine Brake Distance	0.0	mi
Gear Down Distance	0.0	mi
Maximum Accelerator Vehicle Speed Distance	0.0	mi
Service Brake Distance	0.0	mi
Top Gear Distance	0.0	mi
Fuel Used		
Coast Fuel Used	0.0	gal
Cruise Control Fuel Used	0.0	gal
Drive Fuel Used	0.0	gal
Fuel Consumed for Aftertreatment Injection	0.0	gal
Fuel Used	0.0	gal
Gear Down Fuel Used	0.0	gal
Idle Fuel Used	0.0	gal
Loaded PTO Drive Fuel Used	0.0	gal
Loaded PTO Stationary Fuel Used	0.0	gal
Maximum Accelerator Vehicle Speed Fuel Used	0.0	gal
PTO Device 1 Total Fuel Used	0	gal
PTO Device 2 Total Fuel Used	0	gal
PTO Device 3 Total Fuel Used	0	gal
PTO Device 4 Total Fuel Used	0	gal
PTO Device 5 Total Fuel Used	0	gal
PTO Device 6 Total Fuel Used	0	gal
PTO Device 7 Total Fuel Used	0	gal
PTO Device 8 Total Fuel Used	0	gal

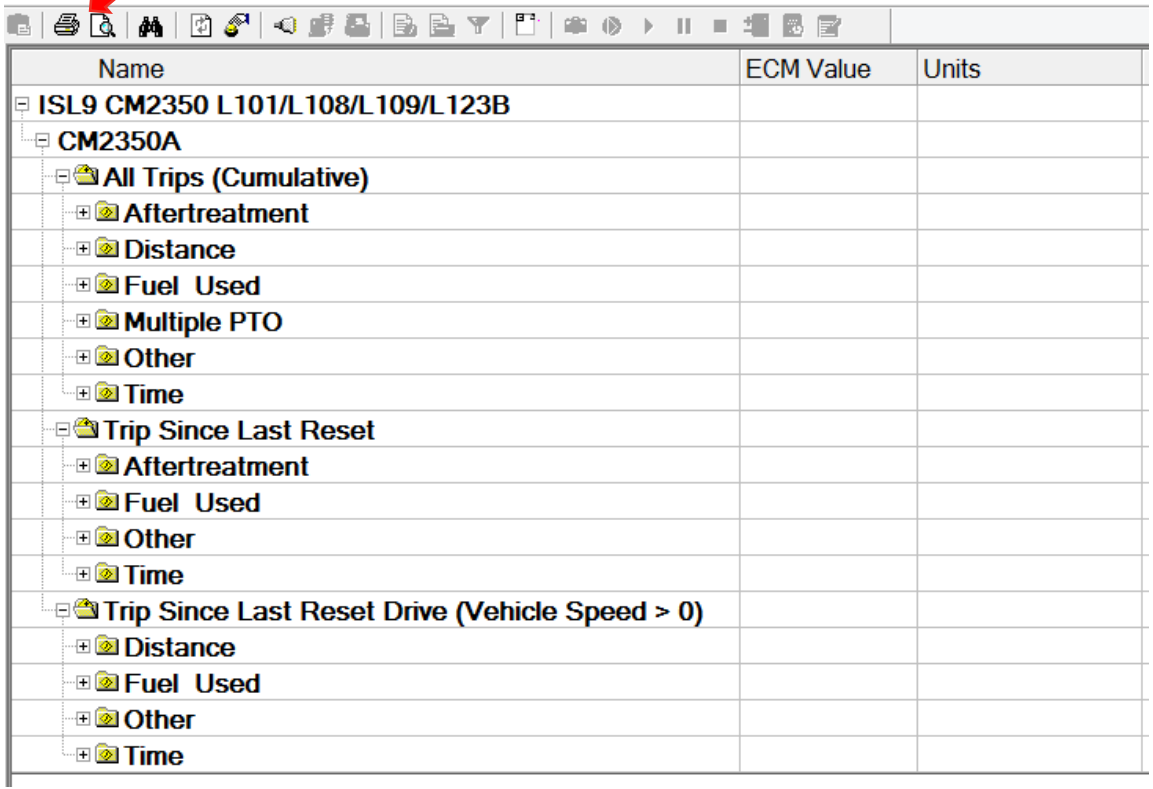
Trip Information

- Trip Information continuously monitors and records engine operating data that tracks engine and driver performance
- Stored data can be viewed using INSITE™
  - Live module
  - Exported ECM Image
- Parameters are grouped differently, according to the ECM
- Not all ECMs list the same parameters
- Allows the user to view ECM Values for multiple time periods
  - Lifetime of the ECM
  - Since the Trip Information was last reset
- Trip Fuel Report will display all fuel related parameters for the above time periods
- INSITE™ allows the user to print these screens

Trip Information

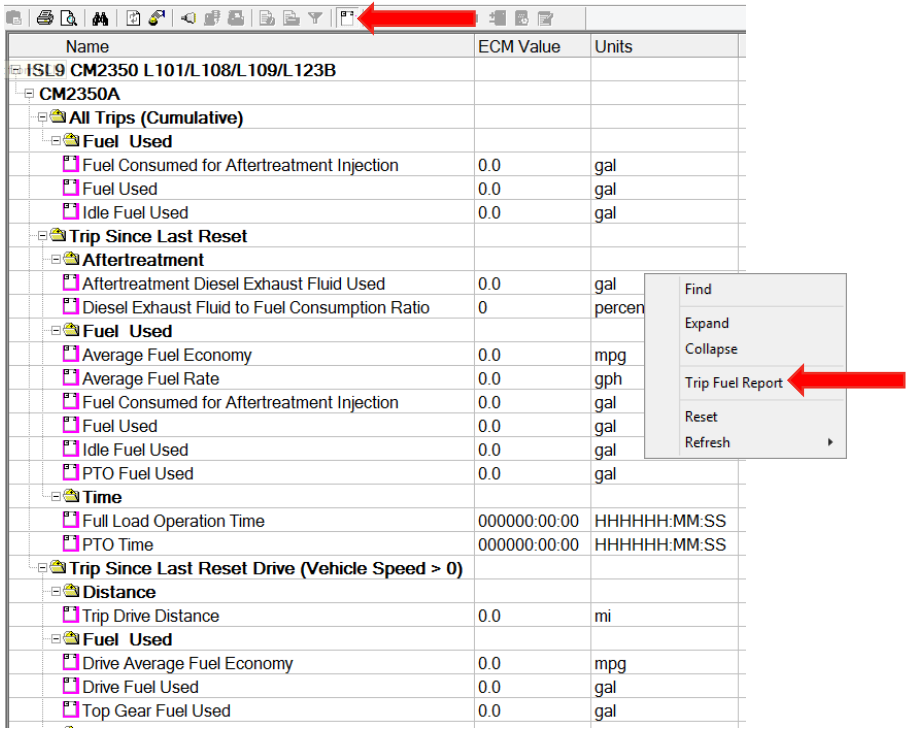
- Trip Information may be printed or print previewed when connected to the ECM or Image
  - Tool Bar Printer Icon
  - File → Print





Trip Information > Trip Fuel Report

- A Trip Fuel Report is a condensed list of fueling parameters
- Available on any engine that supports Trip Information
- Select Apply Custom Filter from the Tool Bar or right click in the Trip Information window and select Trip Fuel Report
- Trip Fuel Report can only be Printed or Print Previewed from this view



Audit Trail

Audit Trail

- Tracks and records changes made to ECM
  - Tool ID (INSITE version)
  - User ID (tool instance)
  - Identifies type of ECM changes
- Audit Trail displays the last four or eight times, if supported by the calibration, that the ECM was modified
- A single record can contain multiple changes

Record Number	Tool Name	Tool ID / Code	User Type / Description	User ID	ECM Time (Key on Time)	ECM Real Time
QSL9 CM2250 L115						
CM2250						
1	INSITE	803100892901	Software	0000B672344D	003083:27:27	Not Applicable
2	INSITE	803001182901	Software	0000C92538F4	003058:01:04	Not Applicable
		027	Reset Fault Codes			
		030	Calibration Download			
		037	Customer/Vehicle Information			
3	INSITE	803001112901	Software	0000C92538F4	002913:33:54	Not Applicable
4	INSITE	803001112901	Software	0000C92538F4	002912:37:03	Not Applicable

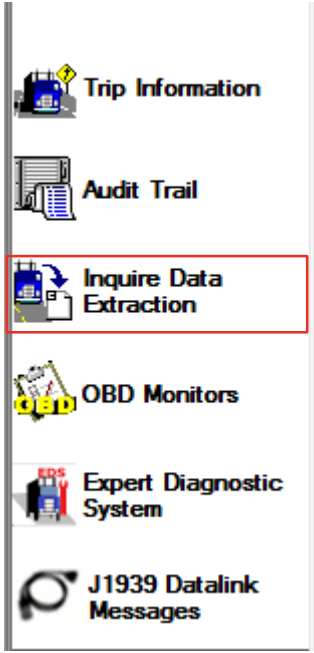
Inquire Data Extraction

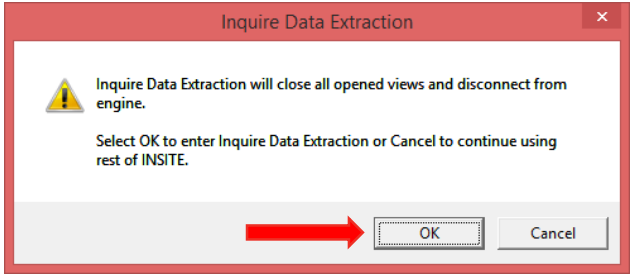
Inquire Data Extraction

- Application for fleets that need to quickly gather vehicle data
- Simple connection to vehicles
- Provides resets as needed
- Data is automatically formatted for importing to a spread sheet or data base

Inquire Data Extraction

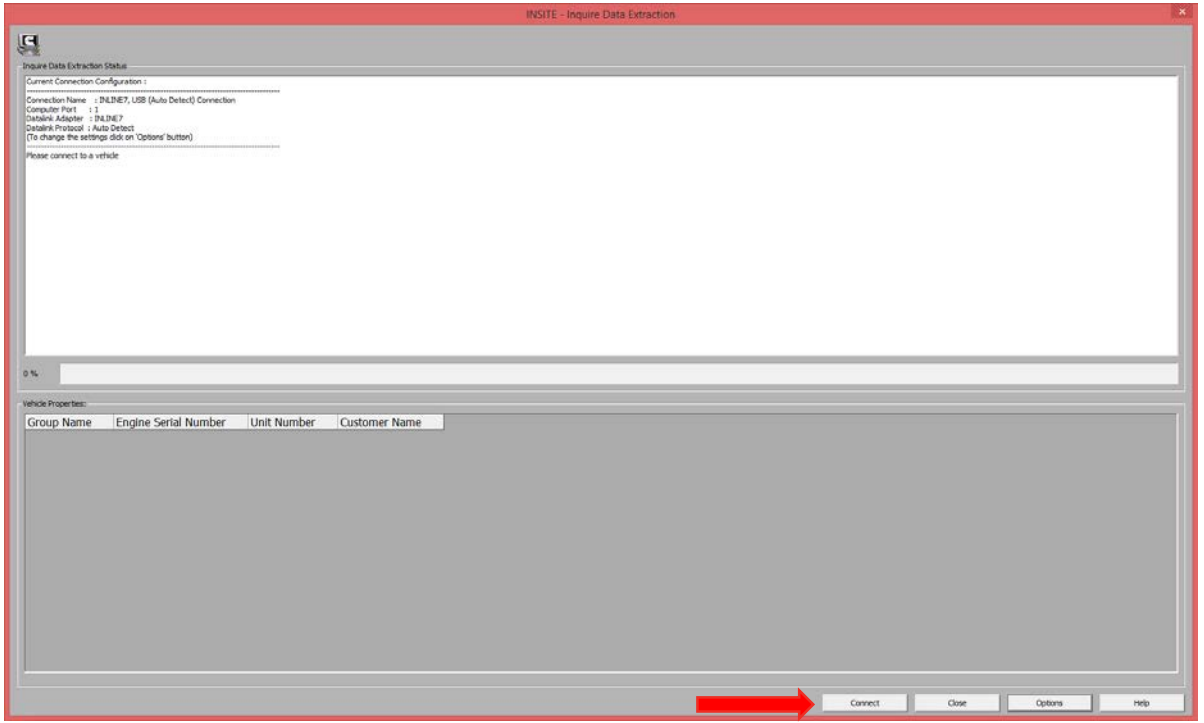
- To open Inquire Data Extraction click on Inquire Data Extraction on the view bar
- On the pop up message click the OK button
- Inquire Data Extraction will close all open views and disconnect from the engine.





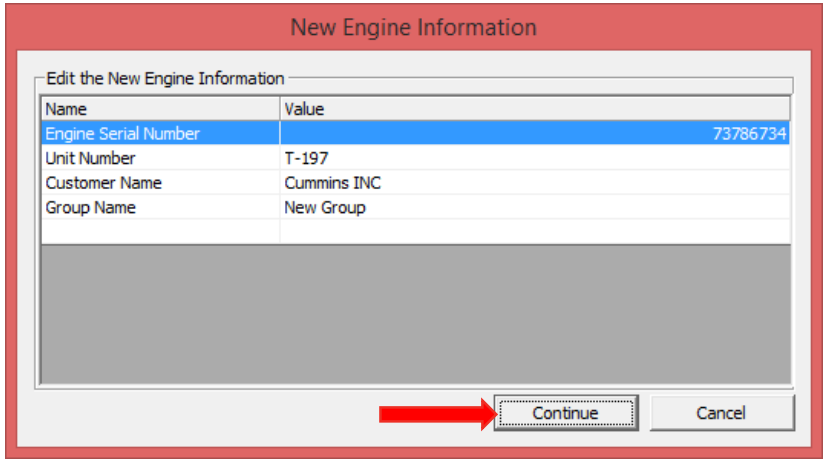
Inquire Data Extraction

- Used to quickly extract and store ECM data
- Reset selected parameters in a connected engine when no active faults or other issues are present
- Inquire Data Extraction is typically performed while fueling the vehicle
- Extracted data is saved to a ‘CSV’ (Comma Separated Value) file for future use
- Click on the Connect button to continue



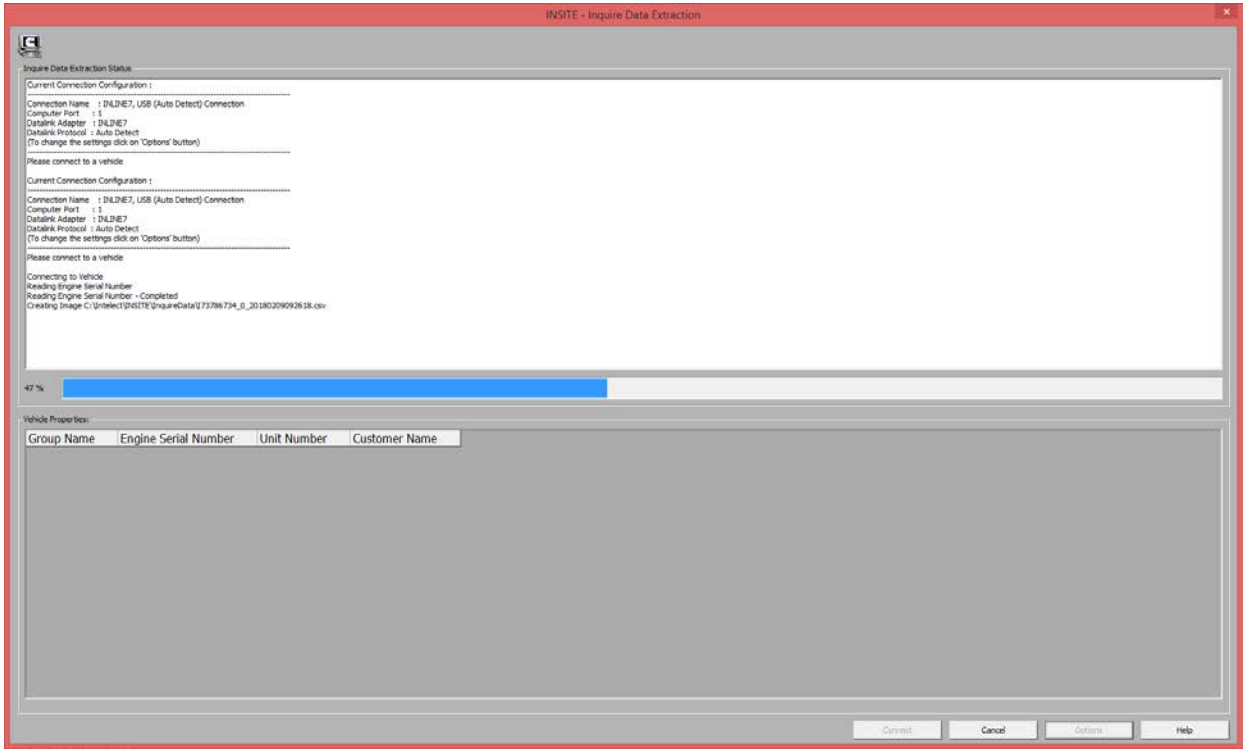
Inquire Data Extraction

- **1st Time Engine Data Extraction**
- Vehicle information Listed
- Can be customized for easier identification
- Click on the Continue button



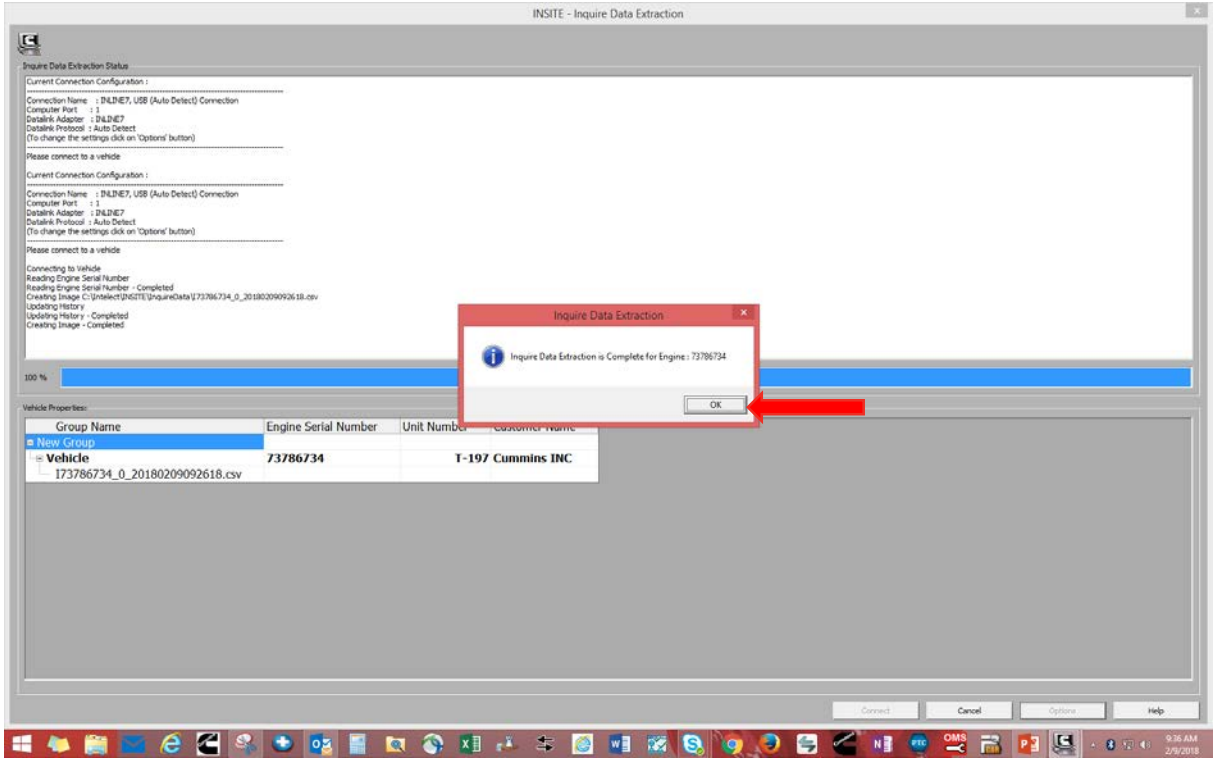
Inquire Data Extraction

- Data extraction in progress



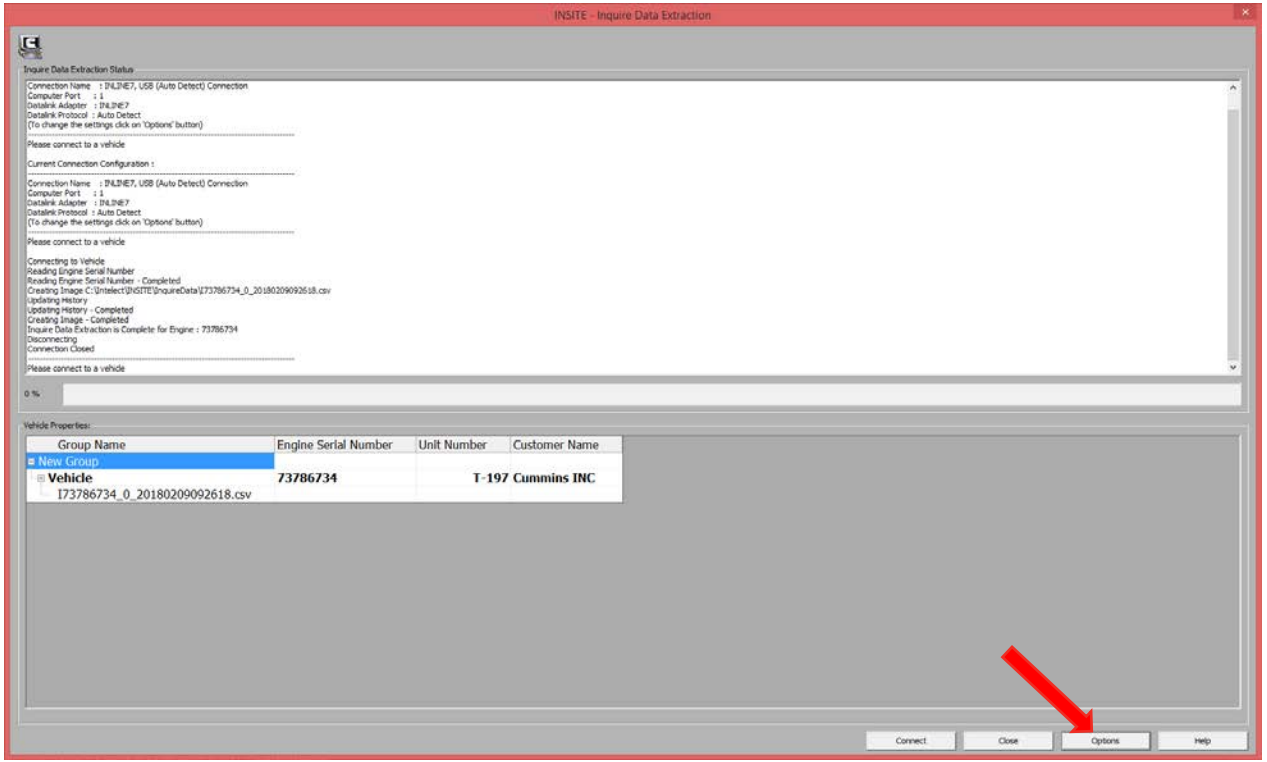
Inquire Data Extraction

- Data extraction process complete
- Click on the OK button to continue



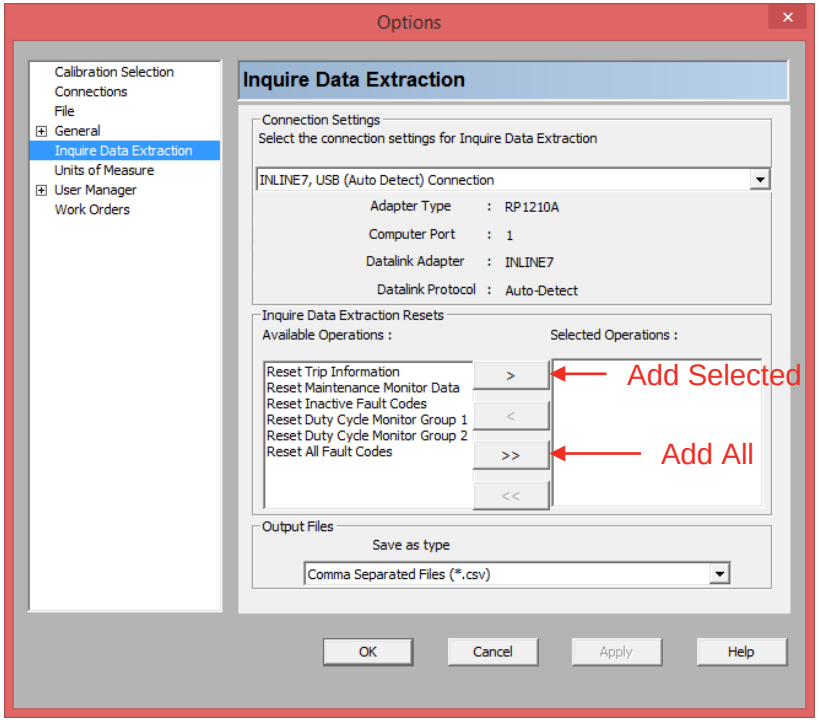
Inquire Data Extraction

- Click on the Options button to view and set options to customize any further data extractions



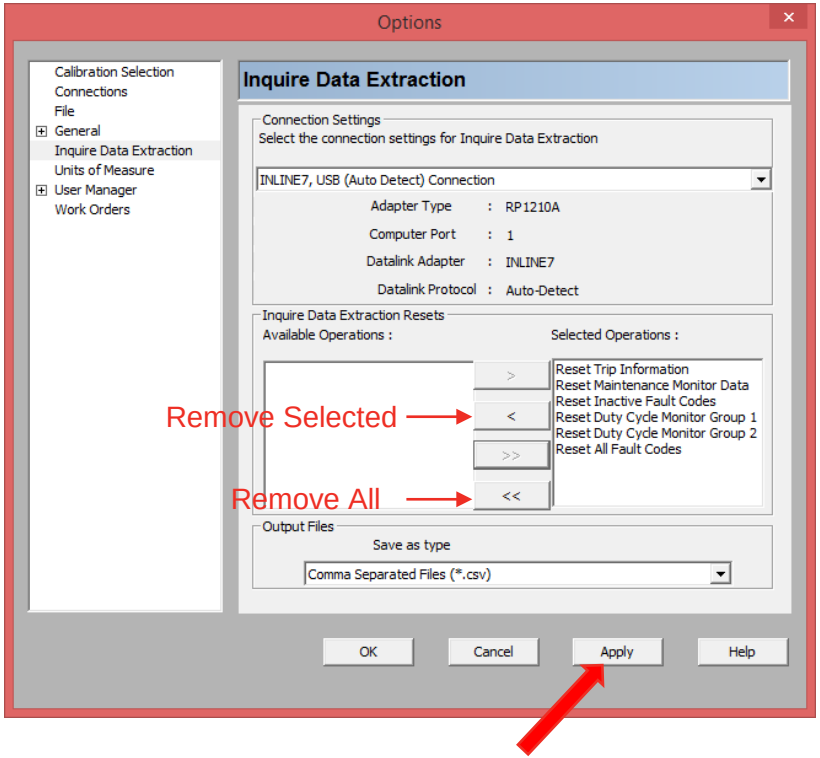
Inquire Data Extraction

- From here connection settings can be changed
- Reset operations can be selected
- The output file type can be selected



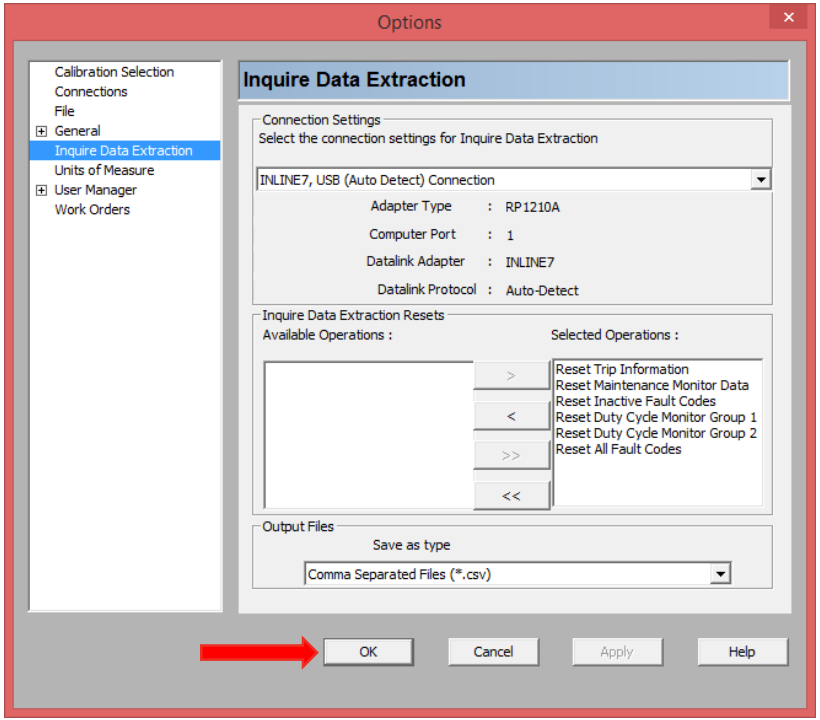
Inquire Data Extraction

- Select the desired options and click on the Apply button



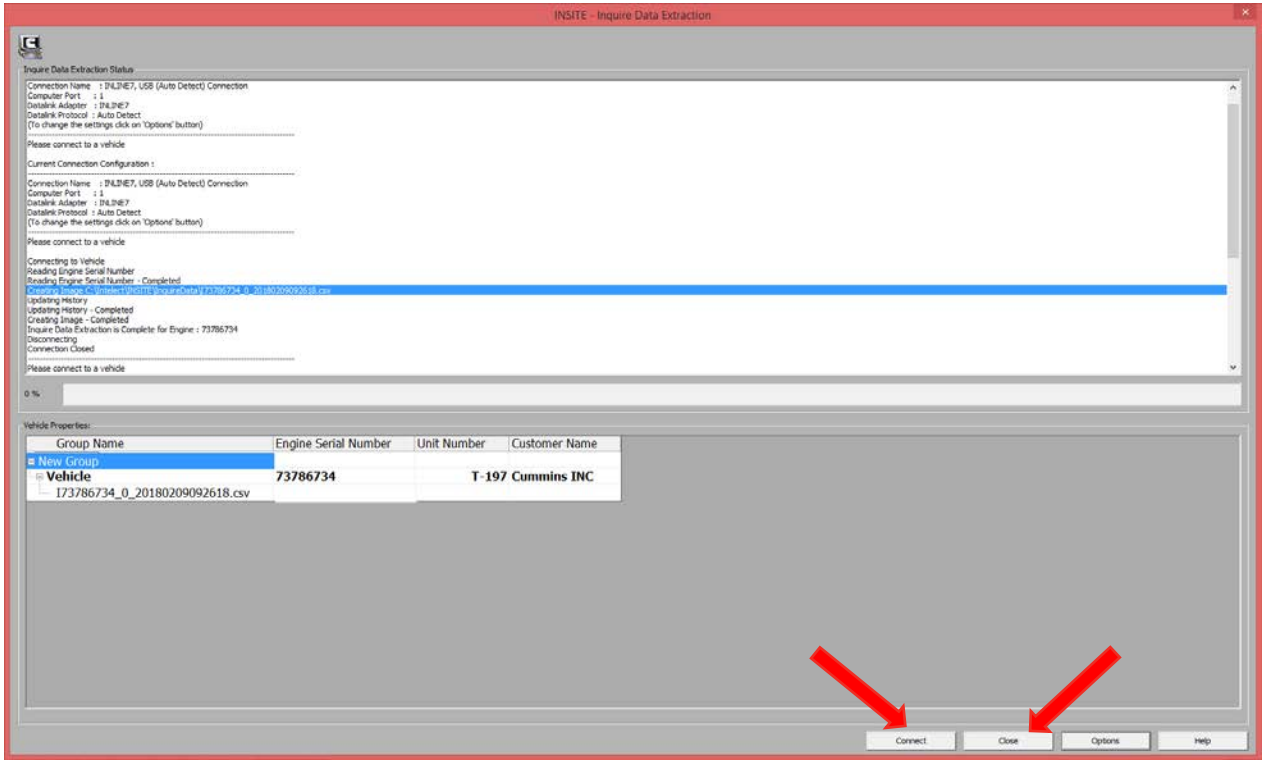
Inquire Data Extraction

- Click on the OK button to continue



Inquire Data Extraction

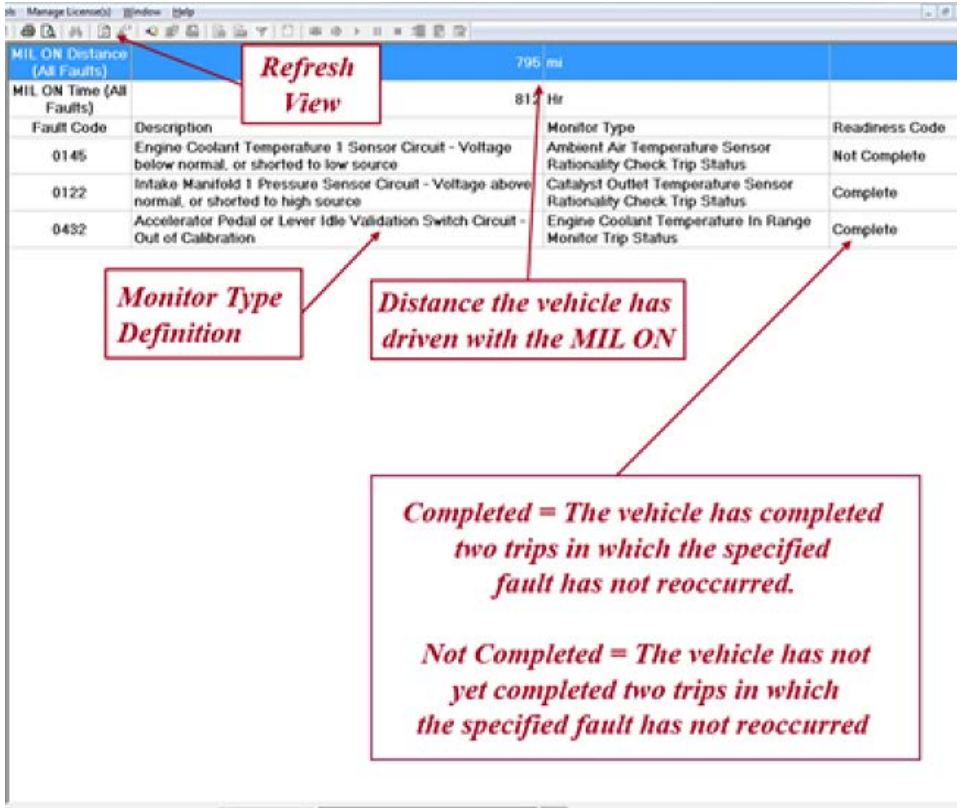
- Click on the Connect button to perform another data extraction or click on the Close button to exit and return to INSITE
- The user will need to reconnect to the engine to use INSITE



OBD Monitors

OBD Monitors

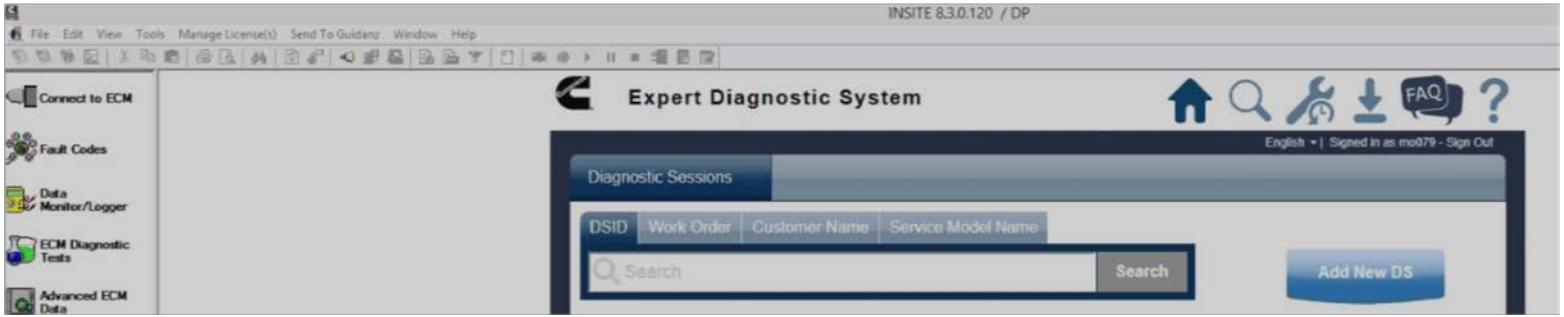
- The OBD system monitors components that can affect the emission performance of the vehicle
  - If supported in the engine calibration
- Displays a map of all available fault codes with associated monitor type and its readiness status.
- OBD Monitors are never cleared from this view
- User can refresh the view



Expert Diagnostic System (EDS)

Expert Diagnostic System (EDS)

- Web-based diagnostic/troubleshooting tool
- Designed to get to the most likely solution quickly
  - Based on technician feedback and historical service events
- Integrated into INSITE to offer single session with connected ECM
- Cannot be used in conjunction with Guidanz Web



J1939 Datalink Messages

J1939 Datalink Messages

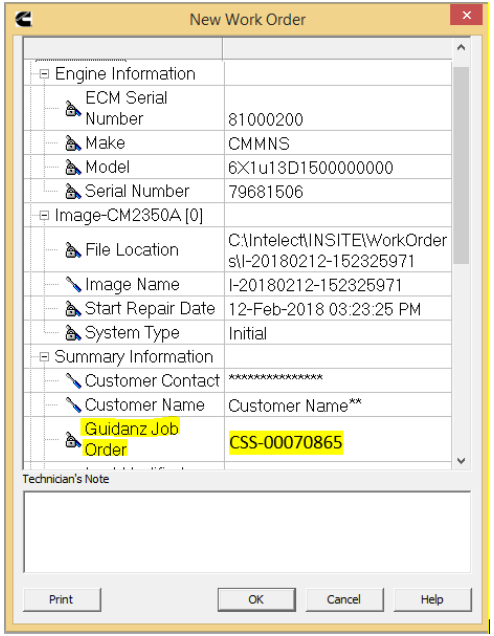
- J1939 Datalink Messages displays specific parameter group numbers, and the information associated with those parameter group numbers.
- This feature allows the user to view information about specific J1939 messages.

PGN Name	PGN	SPN Name	SPN	Source Address	Value	Units
OEM 1	65413	Commanded Dual Fuel Mode	Not Available	00	Active Dual Fuel Mode	
OEM 1	65413	Dual Fuel Fault Reset requested	Not Available	01	Fault Reset Request	
OEM 1	65413	Methane Number	Not Available	02	65	
Generator Total AC Power	65029	Generator Total Real Power	2452	03	2	W
Transmission Control 1	256	Transmission Requested Gear	525	05	1	
Electronic Transmission Controller	61442	Transmission Output shaft Speed	191	08	1251	RPM

Guidanz Web (formerly CSS)

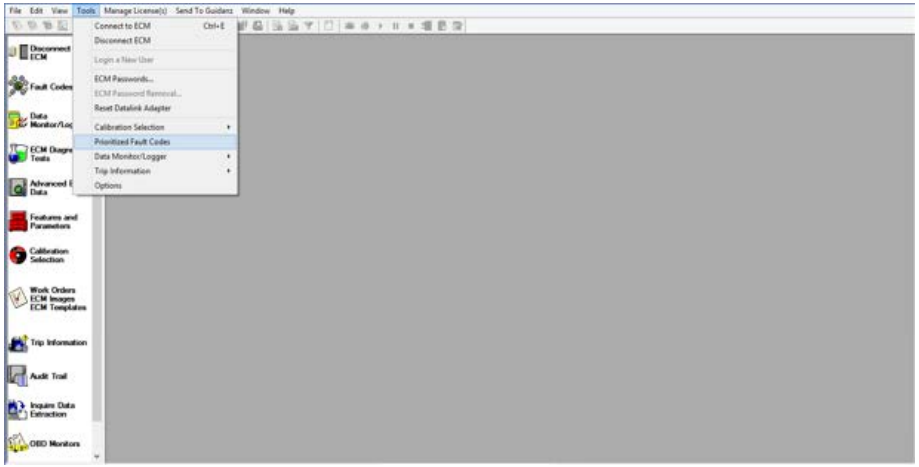
Guidanz Web Integration

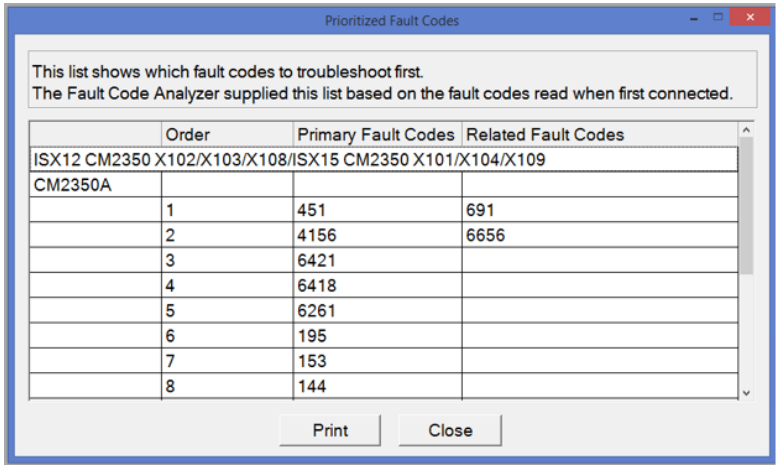
- Integrates service information, diagnostic solutions and associated administrative, diagnostic, accessibility and repair information based on prioritized fault codes
- If you are using Guidanz Web, you will be able to launch or return to INSITE from Guidanz Web
- If you create a new Work Order image the Guidanz Job order from Guidanz Web will be populated in the Work Order image
- Cannot be used in conjunction with Expert Diagnostic System (EDS)



Guidanz Web Integration

- Selecting Tools → Prioritized Fault Codes allows you to see a list of prioritized fault codes

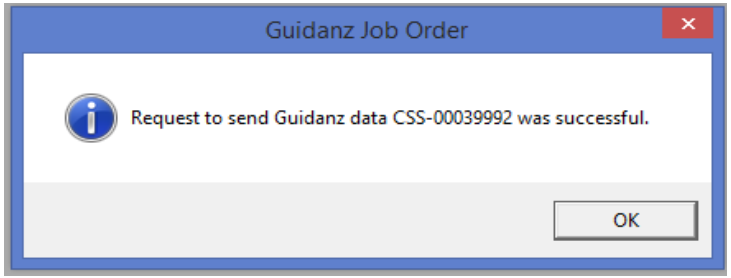




Guidanz Web Integration

- Once the Send To Guidanz option is active, the user can click on this option to send ESN (PSN), engine make and model, Work Order image file name, and fault codes in prioritized order to Guidanz Web

- INSITE will prompt you if the data was sent to Guidanz Web successfully.



Support

How to Contact Cummins Care Electronic Tools

- Phone: 1-800-CUMMINS (1-800-286-6467), select option 2, then 3
- Email: servicetoolsupport@cummins.com
- Web Chat: https://insite.cummins.com/chat/ChatLogmeinv2.html
- Website: http://insite.cummins.com