



2025

Guidanz[®] Diagnostic Toolkit – PC Application Training Material.

VERSION 3.3



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WHAT'S NEW

VERSION 3.3

New Engine Features:

- German Language support
- Secure Calibration Management
- Smart Analytics
- Field Actions
- New Diagnostic Tests
- New Special Features

New Powergen Features:

- PCC 2300
- Commissioning - Paralleling

SECURE CALIBRATION MANAGEMENT – ENGINE CALIBRATION & UPRATE PROCESS GUIDE

- Engine Calibration Installation Requirements
 - ESN stored in the ECM must match the ESN on the engine's physical data plate.
- Engine Uprate Requirements
 - An approved engine data plate request is required before performing an engine uprate.
- Pre-Authorization (when the device will not be connected to the internet at the time of installation).
 - Obtain installation approval for each ESN.
 - Reason for Download
 - Revision Update
 - Campaign
 - TRP (Theft Recovery Program)
 - ATC (Aftertreatment Calibration)
 - Uprate
 - TSB (Technical Service Bulletin)
 - New ECM
 - If the reason is Campaign, TRP, ATC, or TSB, also provide:
 - Campaign/TRP/ATC/TSB ID

GENERAL USAGE

REGISTRATION AND LOG IN

Guidanz Diagnostic Toolkit PC Application requires users to register before connecting to any Engine or Power Gen controller.

Cummins employee or distributor: You need a valid username and password. If you do not have a valid username and password, you can "[register here](#)".



Cummins certified dealer: Please contact your local Cummins distributor to obtain the appropriate access to Guidanz Diagnostic Toolkit

If a user registered in China wants to log into the GuidanzPC Application, the user needs to change the region by clicking on the “Change region” link before login for authentication.

After registration

Please select the correct login for your scenario:

- External users: Dealers and Individuals
- Internal (Cummins users): Distributors
- Legacy Email: Users with a non-email username

After successful Login users will need to set a PIN code and accept the EULA Terms and Conditions to land on home page.

PIN codes must match the following:

- PIN must be at least six numbers and can be up to sixteen numbers long.
- The PIN cannot be an entire sequence of numbers such as 123456 or 654321
- The entire PIN cannot be a sequence that simply repeats two digits like 121212
- You cannot repeat any single number 4 or more times, such as 000012

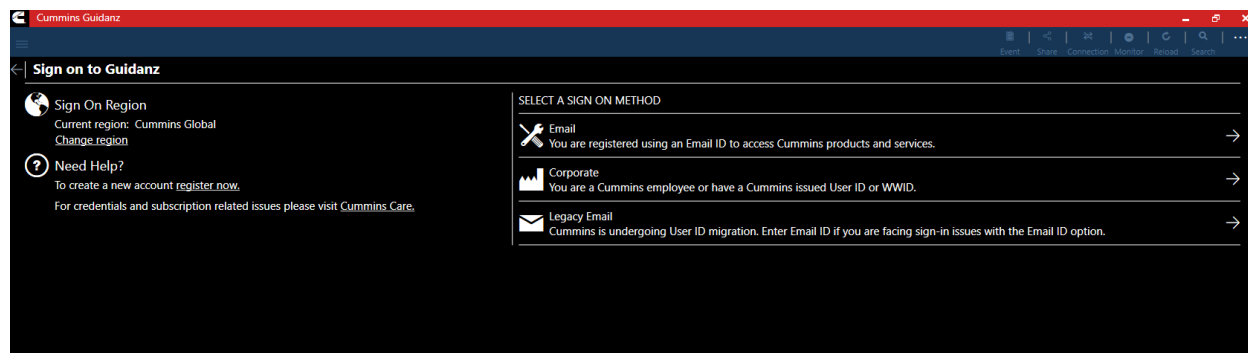


Figure 0-1 Sign on Page.

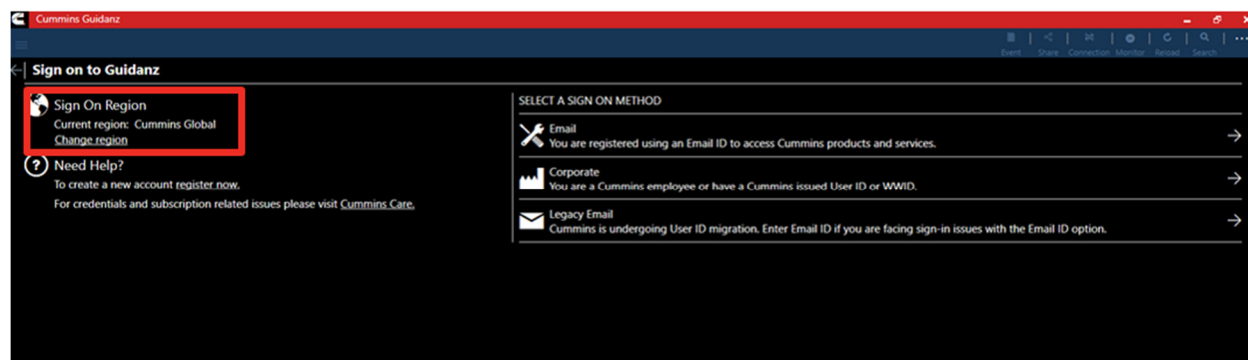


Figure 0-2 Region change icon.

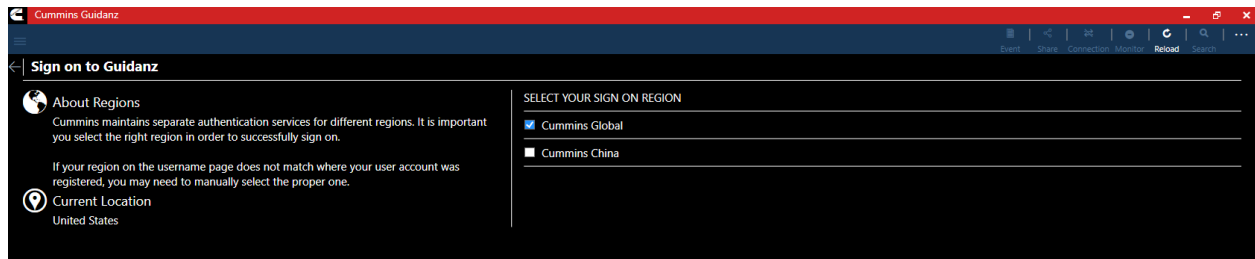


Figure 0-3 Region Selection Options.



Figure 0-4 Register now link.

SUBSCRIPTION MANAGEMENT

To view your current active subscriptions, users can navigate to: Settings à Account Management à Select the user under Profiles and Accounts à Subscription Management

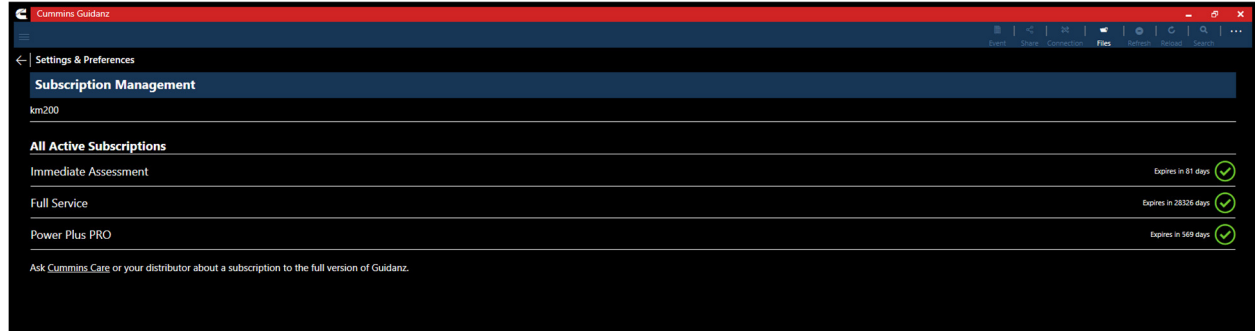


Figure 0-5 Subscription Management page.

SUBSCRIPTION LEVELS

Guidanz Diagnostic Toolkit PC Application supports the following subscriptions. Please navigate to the specific document section to view features available for a specific subscription.

- Guest User
- Immediate Assessment (IA)
- Road Speed Governor Restrictions (RSGR)
- Service Diagnostics
- PPR (Power Plus Pro)

SUBSCRIPTION EXPIRATION NOTIFICATIONS



When a user's subscription will expire in fourteen days or less, Guidanz Diagnostic Toolkit – PC Application will display a colored icon on the Subscription Management page.

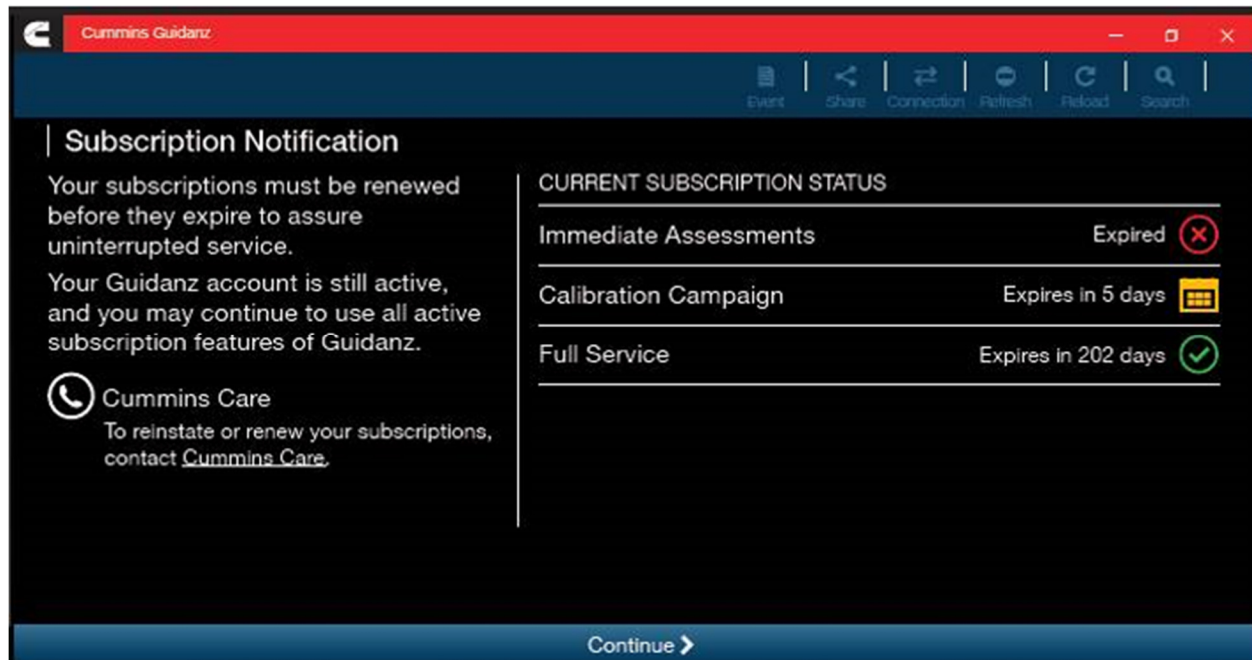


Figure 0-6 Subscription Expiration Notification.

HOME/START PAGE OVERVIEW

After logging in, user will see the Home page.

Note: When the user is on the Home Page/Start Page, Guidanz is disconnected from the controller.

Note: Features displayed on the Home page are dependent upon the user's subscription level.



Figure 0-1 Home Page with all subscription options enabled.

NEW ASSESSMENT

New Assessment allows IA users to Read and prioritize faults in the connected Engine. It also allows them to create a Service Request.

PENDING SERVICE REQUESTS



Pending Service Requests allows users to view scheduled Service request on their calendar and connect to the vehicle to perform an Immediate Assessment.

ANALYZE EQUIPMENT

Analyze Equipment allows users to connect to the Engine or Controller to read/reset faults, view Device Settings, run Diagnostic tests, and monitor parameter values.

HISTORY AND TEMPLATES

History and Templates allows users to view and connect to ECM images, Controller Capture files, view Templates, and view or continue Diagnostic Sessions.

OFFLINE DIAGNOSTIC SESSIONS

Diagnostic Sessions can be started or continued while offline by selecting the History and Templates icon from the Home screen, and then clicking the Diagnostic Sessions row.

Technicians can search Diagnostic Sessions created at their location by selecting “Search Online.” The search options allow users to specify a Diagnostic Session or Engine Serial Number.

Not entering any Diagnostic Session number, or Engine Serial Number, allows the users to view all Diagnostic Sessions at their location based on the status and duration selected in the drop down menu.

Cummins Guidanz

← | 🔍 Search Online

To search online you can provide either Diagnostic Session Number or other information to get focused data

Diagnostic Session Number *GDNs can be up to 8 characters long*

Engine Serial Number *All Cummins ESNs are 8 digits long*

Diagnostic Session Status

Duration

Search →

Figure 0-2 Diagnostic Session Search page.

SCAN FAULTS

Scan Faults is a quick connection that takes the user directly to the Faults page.

CALIBRATION FILES

Calibration files allow the user to view the currently downloaded calibration files, PowerGen customer, the ability to download packages and view downloaded Feature files while not connected to a controller.



GUIDANZ SERVICE EVENT MANAGEMENT

Link that takes users directly to the Guidanz Web login screen.

CONTACT CUMMINS

Contact Cummins allows users to call, email, or navigate to the Cummins Support Team.

SETTINGS

Settings allows the user to manage their account, and change displays settings like Units of measure & and work order creation on connection.

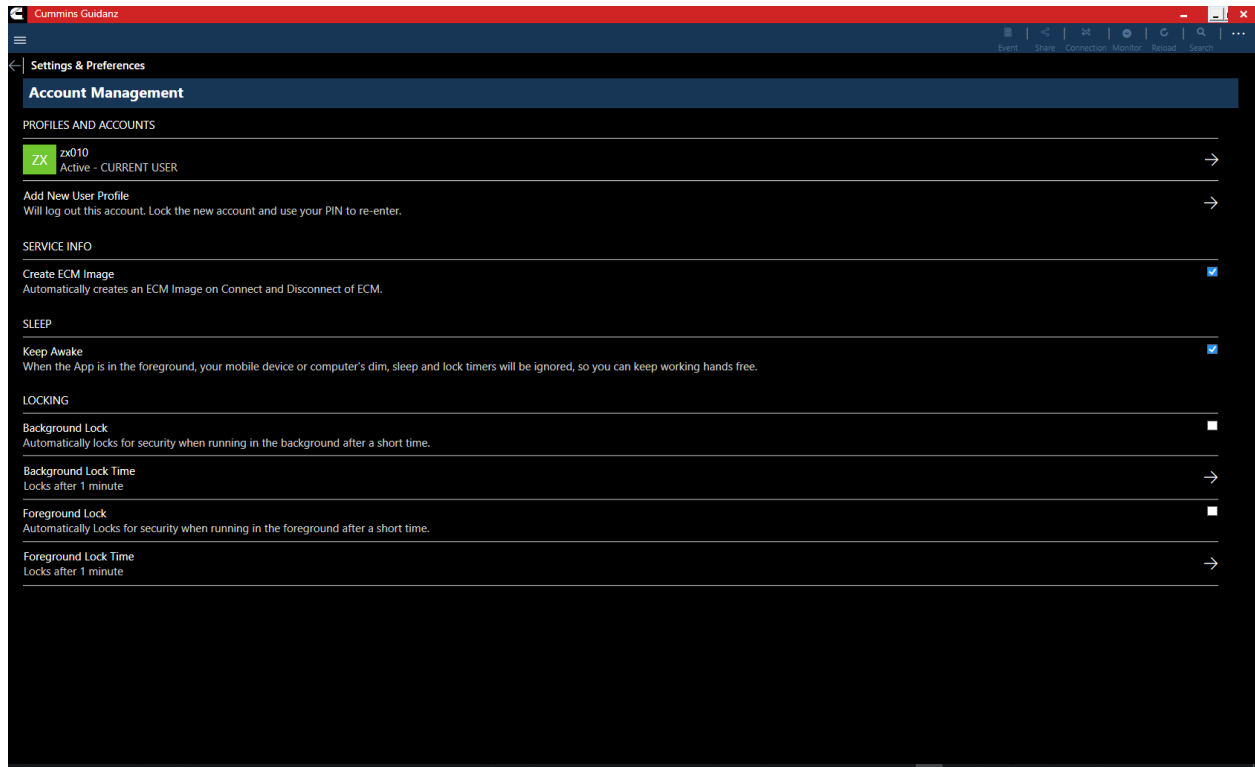


Figure 0-3 Settings Page

LANGUAGE

By default, Guidanz Diagnostic Toolkit – PC Application is installed in English. To change the language, select English (US), and then select the desired language from the pop-up window. Currently supported languages include English, French, Spanish, and Chinese.





ENGINE DRIVEN CONTROL FEATURES

SERVICE & RSGR SUBSCRIPTION

ADAPTER CONNECTION

When New Assessment, Analyze Equipment, or Scan Faults is selected, the tool will offer a list of supported adapters to connect to the ECM

The page is broken into two sections USB adapters & Paired Bluetooth adapters. If a previously paired Bluetooth adapter is nearby, it will show as available.

Users can Select the adapter they are currently using to continue the connection.

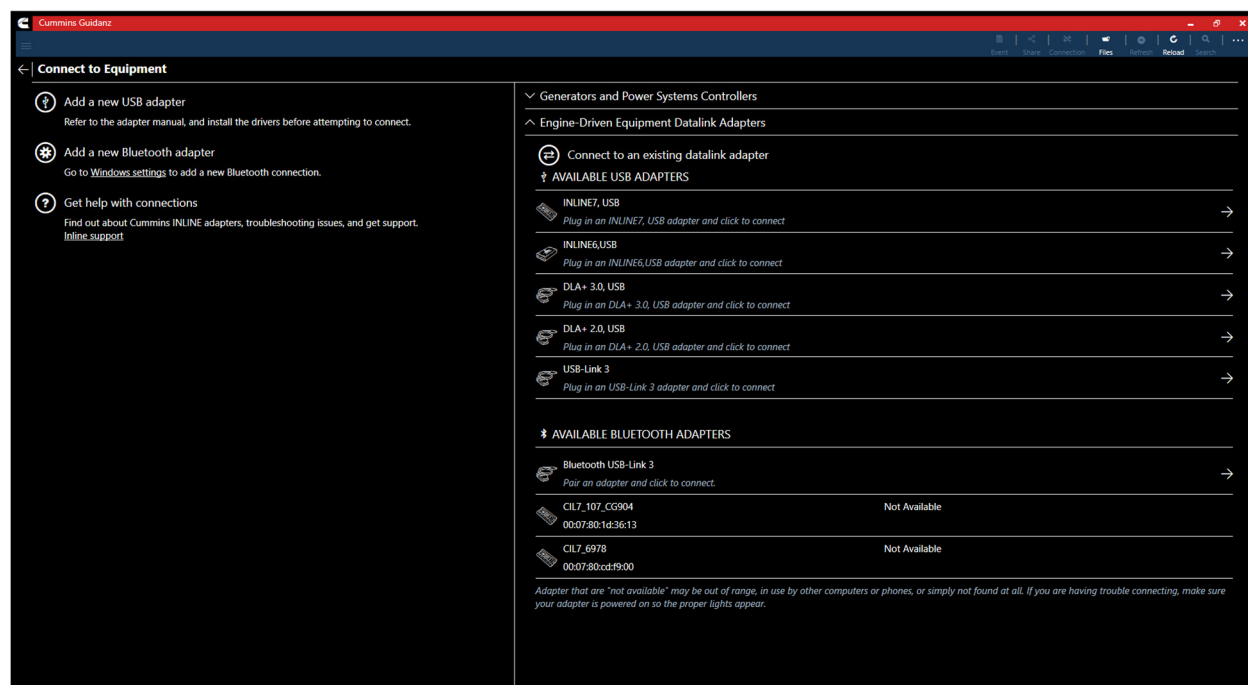


Figure 0-1 Adapter Connection Screen

MULTI – LEVEL SECURITY

During the connection, if the ECM has a password set, users will be prompted to enter the password to complete the connection.

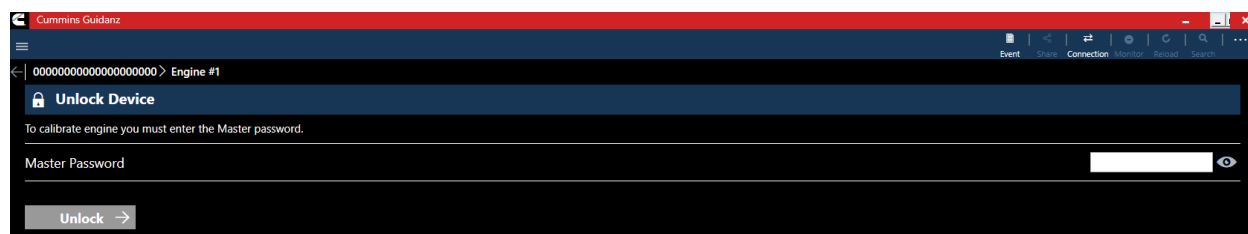


Figure 0-2 MLS Unlock screen during connection.



The MLS screen can also be accessed through the Toolbar 3 dot menu. Technicians can set, lock, unlock, and remove ECM passwords through the Manage Passwords screen.

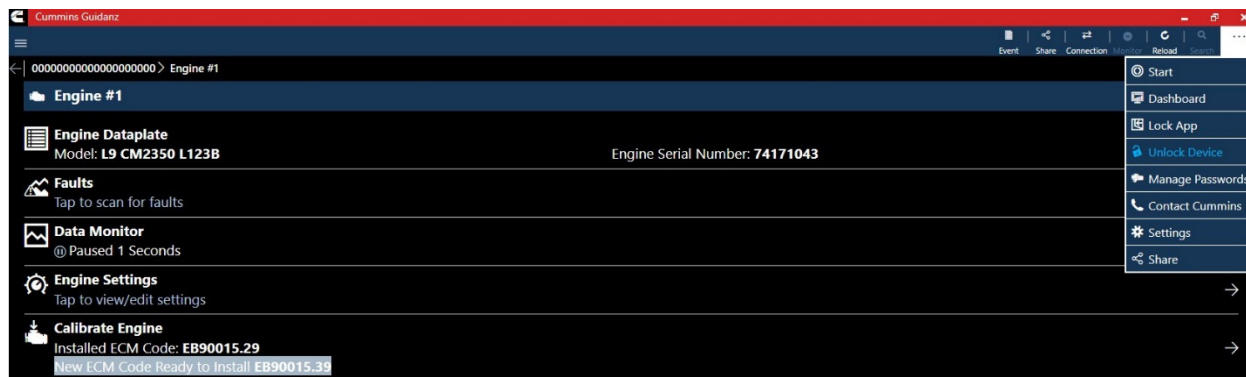


Figure 0-3 Unlock device option from Toolbar.

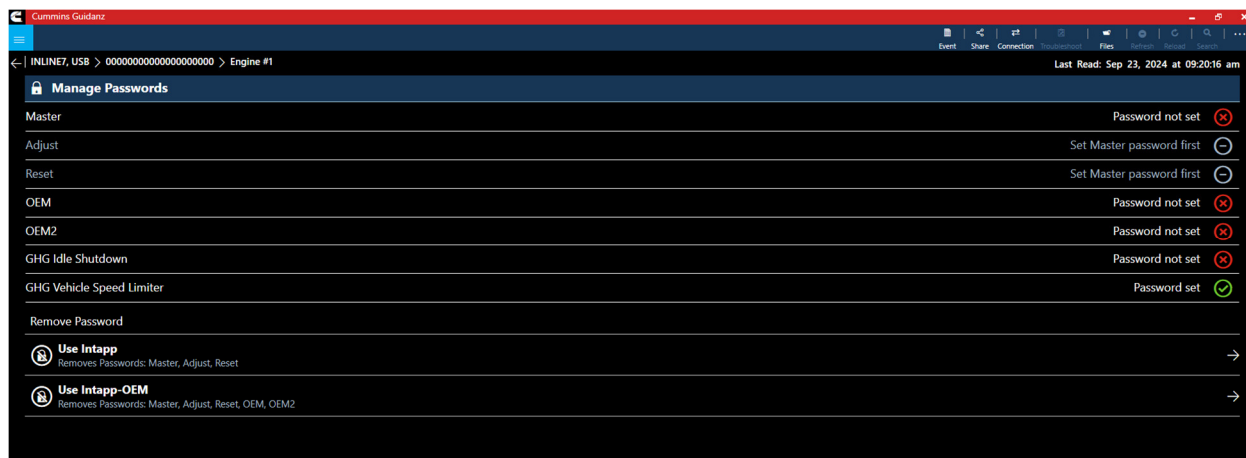
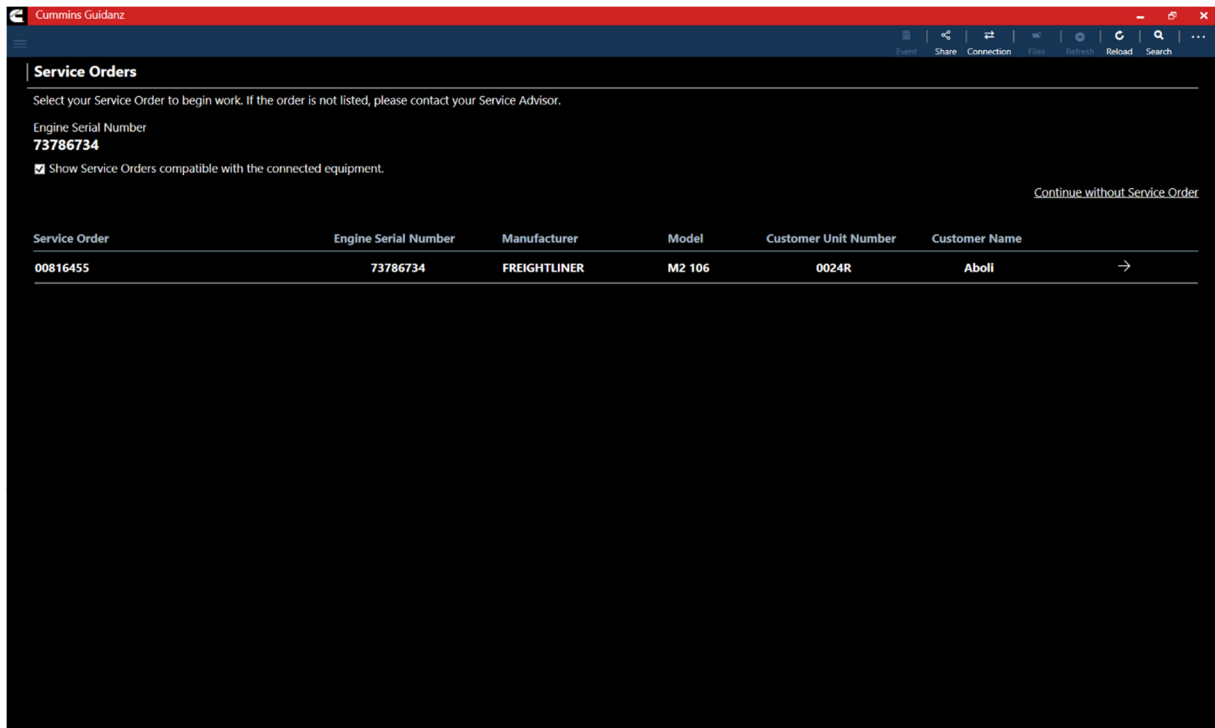


Figure 0-4 Manage Passwords screen

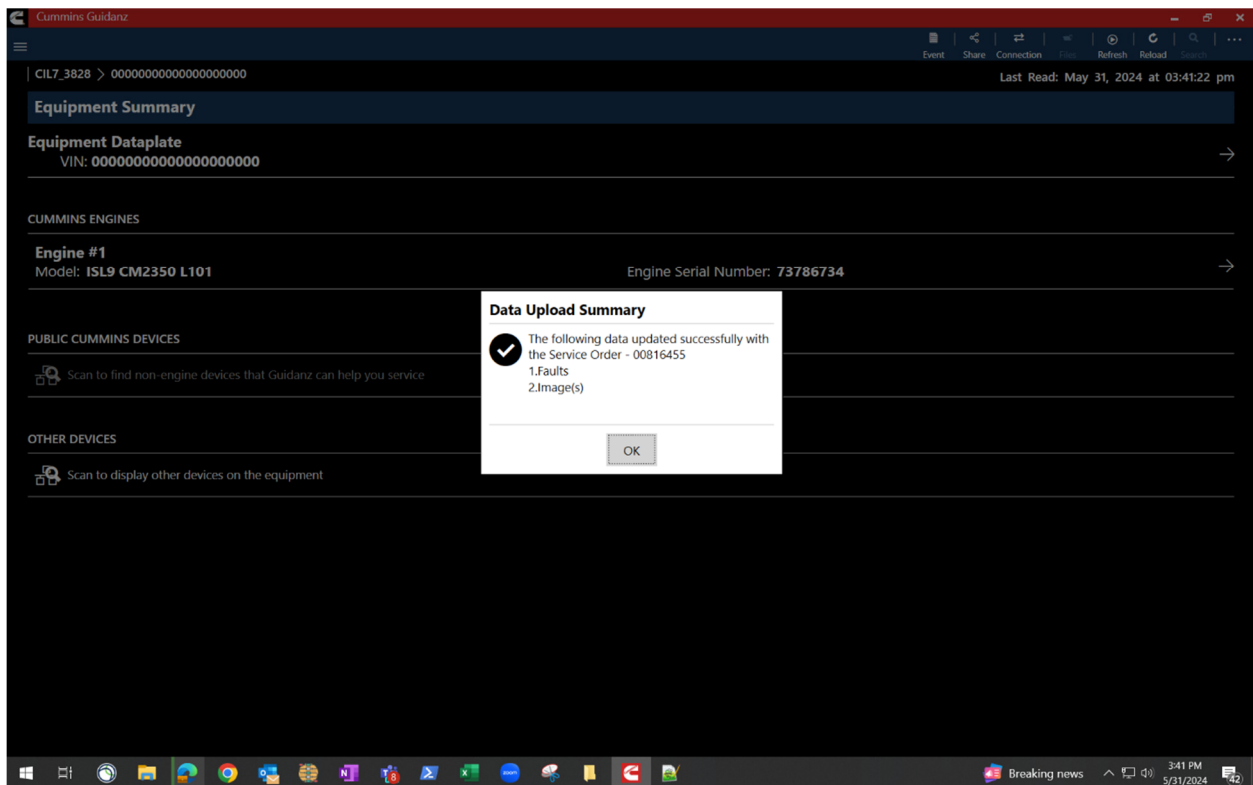
SERVICE ORDER ASSOCIATION

After connection to the vehicle is established, the application will pull all service assigned to technicians from the Guidanz Service Event Management (SEM). By default, only service orders that match the ESN pulled from the vehicle will be shown. Technicians can display all service orders assigned to them by unchecking the “Show Service Orders compatible with the connected equipment” checkbox. If your site does not subscribe to Guidanz SEM, or you do not have a Service Order assigned, you can skip the association by selecting the “Continue without Service Order” link.

*Using this link will not send any information from the Guidanz Diagnostic Tool Kit to Guidanz SEM



After Intake is completed with an associated Service Order, Guidanz Diagnostic Tool Kit – Windows will automatically send the vehicle and Fault data to Guidanz Service Event Management.





INTAKE

During the Intake process, the application will connect to the selected Datalink adapter and pull the vehicle, engine serial number and Customer Name. Users can edit and change this information if they are incorrect.

The intake page also offers the ability to automatically create an ECM image during intake if desired. The default behavior of the “Create ECM Image” checkbox is controlled on the [Settings](#) Page.

Figure 0-5 Engine serial number pulled from ECM. Users can edit.

Based on the confirmed ESN, the equipment make and model list is retrieved from the server. The application pre-selects the data received from warranty data on the server and from the ECM if available. The user will still need to confirm these selections.

If there is no manufacturer list, it can be caused by:

- No data based on the ESN provided
- No Internet
- Server maintenance or downtime

During the Intake process, GDTK Windows will validate the Engine Serial number and calibration on the ECM with the expected calibration for that engine. If there is a difference, the application will inform the user of the expected calibration and will allow the user to recalibrate the ECM with the correct calibration without requiring a Cal-Assist unit. **(MY 2013 and up engine programs only.)**

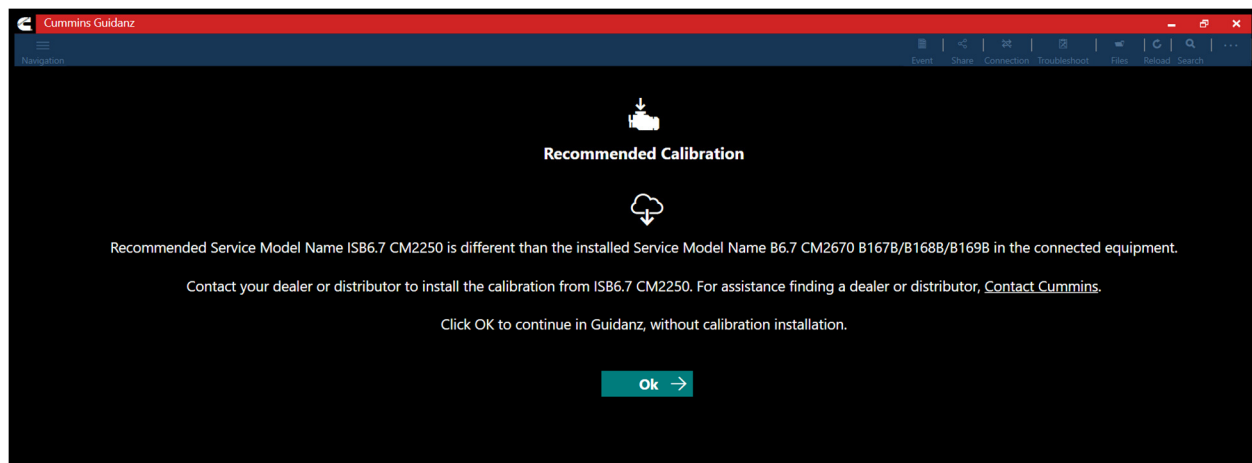


Figure 6 Secure Calibration Management Intake Screen

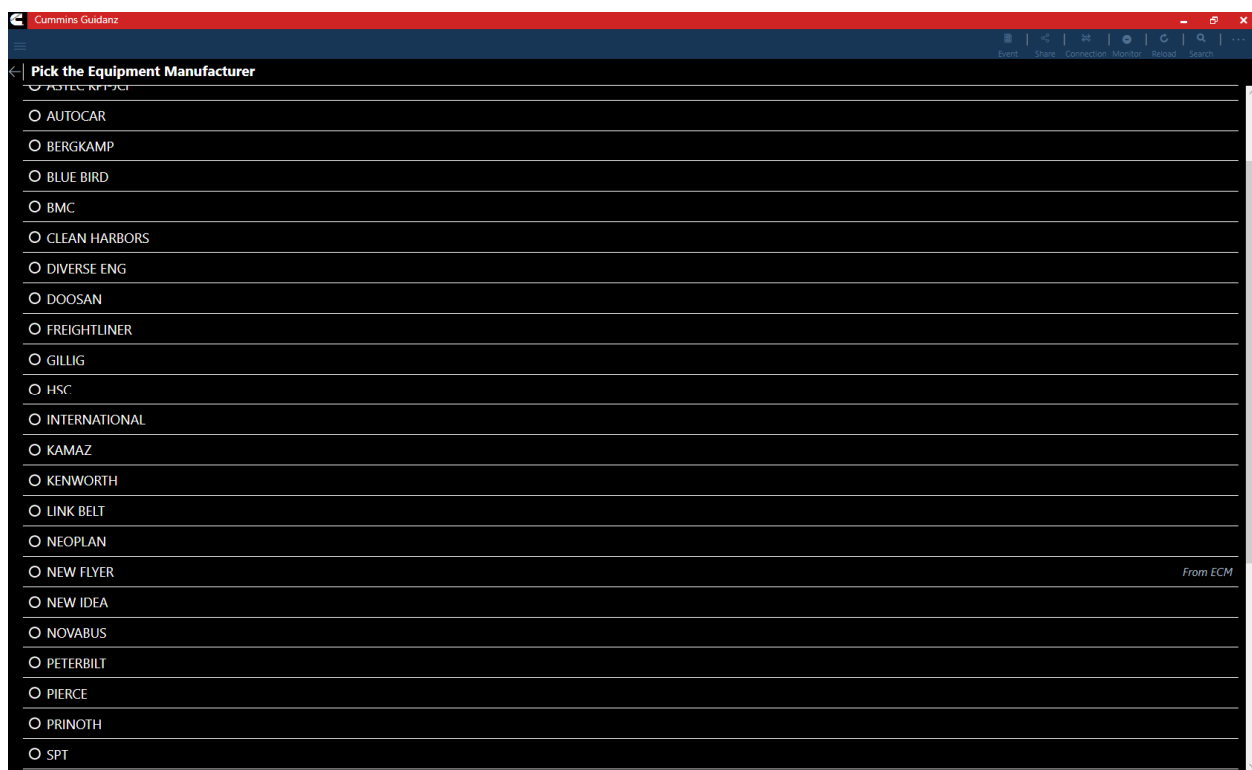


Figure 0-7 Make screen

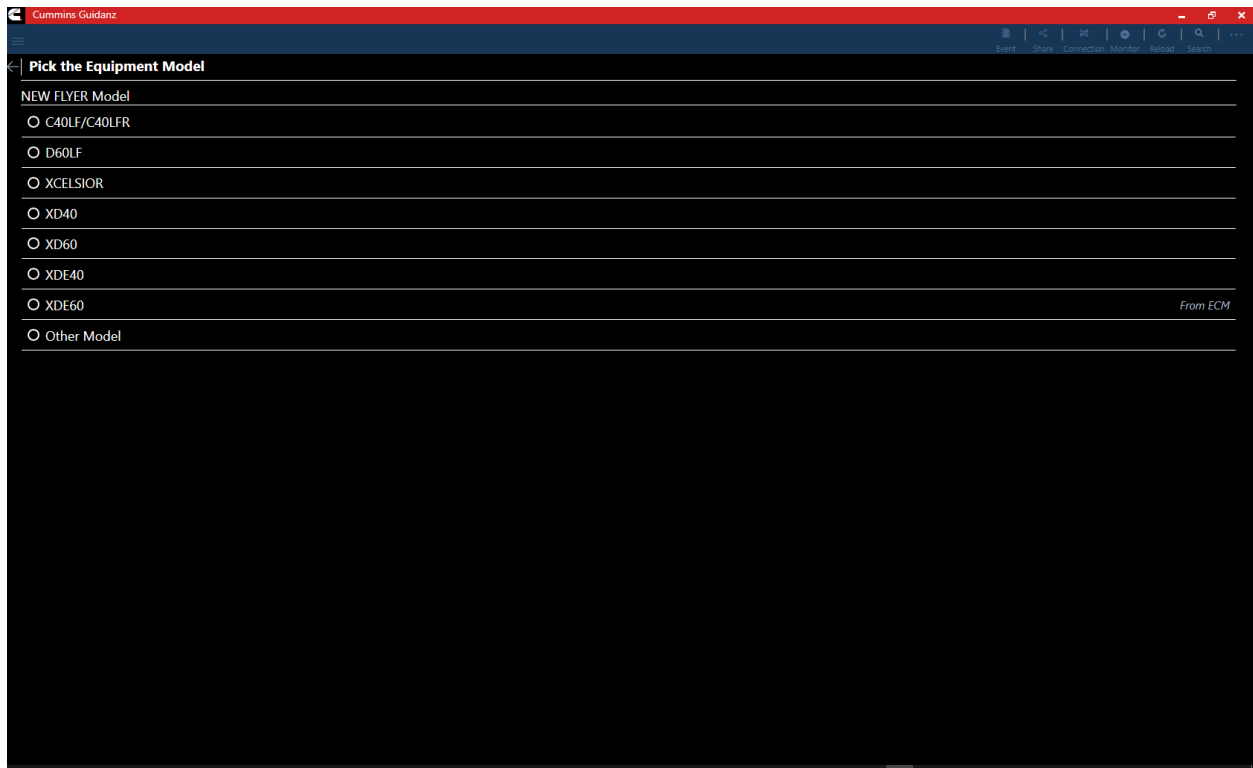


Figure 0-8 Model Screen

ECM IMAGE CREATION

An ECM image is a snapshot of the state of the controller at the time the image is created. ECM Images include Faults, Device Settings, and Audit Trail information that can be exported and mail to other users of both Guidanz Diagnostic Toolkit PC Application and INSITE.

EQUIPMENT SUMMARY

The Equipment Summary screen will show (if available):

- Equipment Dataplate
- Cummins Engines or control modules
- Public Cummins devices
- Other devices

EQUIPMENT DATAPLATE

The Equipment Dataplate can be accessed via the Equipment Summary Screen and Engine Dataplate. It contains the information the user enters such as customer name, manufacturer, model, and well as other information.



INFORMATION YOU ENTERED	
Customer Name	Cummins
Customer Notes	no data
Manufacturer	NEW FLYER
Service Model	XDE60
Change this information	→
CUSTOMER INFORMATION	
Customer Location	Columbus
Customer Name	Cummins
Customer Unit Number	5432
VEHICLE/OEM INFORMATION	
Engine Distance	0.0 mi
OEM Name	NEW FLYER
OEM Vehicle or Equipment Model	XDE60
Vehicle Identification Number or Equipment Serial Number	00000000000000000000
Vehicle or Equipment Year	2017

Figure 0-9 Equipment Dataplate screen

DEVICE DASHBOARD

The device dashboard can be accessed by clicking on a Cummins engine/control module, Public Cummins device or other device from the Equipment Summary screen. The device dashboard shows all functionality available for the specific device.

Engine #1	
Engine Dataplate Model: X15 CM2350 X1168	Engine Serial Number: 79966714
Faults Scan for faults	→
Data Monitor Stopped 1 Second	→
Engine Settings View and adjust settings and parameters	→
Calibrate Engine Installed ECM Code: GP80003.06	→
Advanced Features Tap to use features	→
Diagnostic Tests Run tests on the connected device	→
Trip Information See and reset usage data and reports	→
Images & Templates Create, import, view, share, or delete	→
Audit Trail View the device change log	→

Figure 0-10 Device Dashboard for a Cummins ECM

ENGINE DATAPLATE

The Engine Dataplate can be accessed via the device dashboard. The Dataplate contains information read from the ECM such as calibration information, ESN stored in the ECM, and system information.



Cummins Guidanz	
000000000000000000000000 > Engine #1	
Engine Dataplate	
CALIBRATION	
Calibration Software Phase	1F0C080F
Calibration Time/Date Stamp	Jan 23, 2018 at 10:39 AM Eastern Standard Time
DO Option	92433
ECM Code	EB90015.39
Other Options	Not Available
SC Option	99244
ECM	
ECM Name	CM2350A
ECM Part Number	5290170
ECM Serial Number	852
ENGINE INFORMATION FROM MODULE	
Engine Build Date	070717
Engine Make	CMMNS
Engine Model	6L u13D0890000000
Engine Serial Number	74171043
Service Model	L9 CM2350 L123B
SYSTEM	
Advertised Power RPM	2000 rpm
Advertised Power at RPM	350 hp
Control Parts List	3664
Fuel Code	FP92246
Governed Speed	2200 rpm
Peak Torque RPM	1400 rpm
Peak Torque at RPM	1000 ft*lb
EQUIPMENT INFORMATION	

ECM FAULTS

Selecting Faults on the Device dashboard displays the Faults and Analysis screen (internet connectivity required) with Primary, Related, & Unprioritized faults.

PRIORITIZED, SECONDARY, & UNPRIORITIZED FAULTS

Primary Faults are critical faults that should be repaired first. Resolving the primary faults will many times also resolve secondary faults.

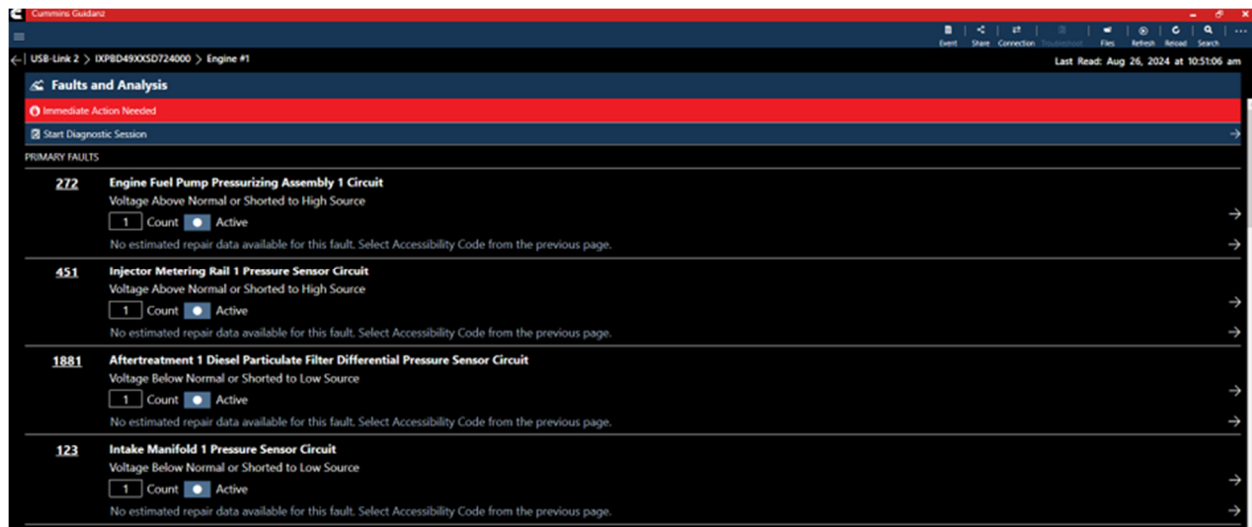


Figure 0-11 Faults screen from Cummins ECM

FAULT SNAPSHOT

Clicking on an individual Cummins Fault Code displays the Fault Details and snapshot (if supported.)



Figure 0-12 Cummins Fault Details and Snapshot

FIS (FAULT INFORMATION SYSTEM)

Clicking on a fault code number will open the respective Fault Information System (FIS) file in a web browser (Internet required.)



Injector Metering Rail 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source

Overview

Codes	Reason	Effect
Fault Code: 451 PID(P): P157 SPN: 157 FMI: 3/3 Lamp: Amber SRT:	High signal voltage detected at the fuel rail pressure sensor circuit.	Progressive power and/or speed derate increasing in severity from time of alert. If the Engine Protection Shutdown feature is enabled, the engine will shut down 30 seconds after the red STOP lamp starts flashing.

Circuit Description

The engine control module (ECM) provides a 5 volt supply to the fuel rail pressure sensor using a dedicated sensor supply circuit. The ECM also provides a ground on the sensor return circuit. The fuel rail pressure sensor

Figure 0-13 QSOL Fault Code FIS file.

CLEARING FAULT CODES

- To clear fault codes, click on the right-hand top Menu option and select Clear All Faults.
- After user confirms to Clear All Faults Codes, app continues to Key Off/Key On process.
- At the end of the process, app confirms Faults cleared successfully.
- If user Cancels, no faults will be cleared.

Cummins Guardian

000000000000000000000000 > Engine #1

Faults and Analysis

PRIMARY FAULTS

451	Injector Metering Rail 1 Pressure Sensor Circuit Voltage Above Normal or Shorted to High Source 1 Count <input checked="" type="checkbox"/> Active
272	Engine Fuel Pump Pressurizing Assembly 1 Circuit Voltage Above Normal or Shorted to High Source 1 Count <input checked="" type="checkbox"/> Active
2272	EGR Valve Position Circuit Voltage Below Normal or Shorted to Low Source 1 Count <input checked="" type="checkbox"/> Active

Start
Dashboard
Lock App
Unlock Device
Manage Passwords
Contact Cummins
Settings
Clear All Faults
Share

Figure 0-14 Fault Screen with Clear all Faults menu selected

DIAGNOSTIC SESSIONS

CREATING



Diagnostic Sessions can be created or continued from the Faults screen by click “Start Diagnostic Session.” After selecting to start a new Diagnostic Session, or continue one already started, the app will display the equipment information screen. Please confirm or change the information as needed, and click Continue to begin/resume the Diagnostic Session.



Figure 0-15 Access to Diagnostic Session

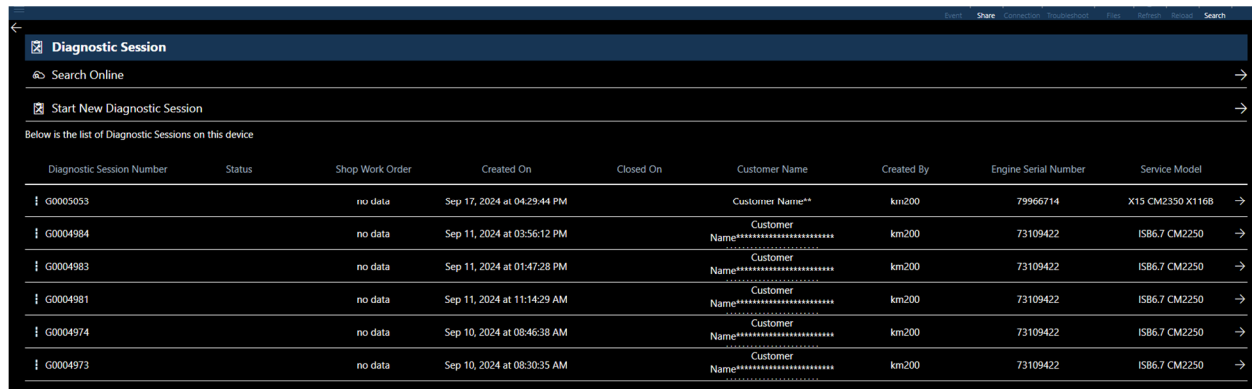


Figure 0-16 Diagnostic Session New/Continue selection screen



Equipment Information

To give you accurate diagnostic solutions, first we need to confirm the information below. ** fields are mandatory

CUSTOMER INFORMATION

Customer Name ** Customer Name**

Customer Unit Number 0000000000

ENGINE INFORMATION

Engine Serial Number ** 79966714

Service Model Name X15 CM2350 X1168

Manufacturer PETERBILT

Model 567

Odometer/Engine Hours 0 mi ☒ hrs ☐

OTHER INFORMATION

Application AUTOMOTIVE

Shop Work Order no data

Continue →

Figure 0-17 Diagnostic Session Equipment Information Screen

SOLUTIONS

The Diagnostic Session is displayed in its own window, allowing technicians to navigate to other areas of the tool, while still having access to the troubleshooting trees.

Events

Sort order: Newest Event First

Images
View, share, delete, and create templates of ECM Images

Templates
View list, delete, and apply templates to device modules

Diagnostic Sessions
Create, view, edit, and delete

Capture Files
View, share, and delete capture files

WO-20240920-075143 Equipment 00000000000000000000 Serviced On Sep 12, 2024

WO-20240917-162226 Equipment 0 Serviced On Sep 12, 2024

WO-20240917-160659 Equipment 0 Serviced On Sep 12, 2024

WO-20240913-095245 Equipment 0 Serviced On Sep 11, 2024

WO-20240912-145328 Equipment 0 Serviced On Sep 11, 2024

WO-20240912-143807 Equipment 0 Serviced On Sep 11, 2024

WO-20240912-143126 Equipment 0 Serviced On Sep 12, 2024

WO-20240912-100939 Equipment 0 Serviced On Sep 12, 2024

WO-20240911-155501 Equipment IXPBD49XSD724000 Serviced On Sep 11, 2024

WO-20240911-133104 Equipment IXPBD49XSD724000 Serviced On Sep 11, 2024

Diagnostic Session

G0005053

1844 Crankcase Pressure Circuit View Solutions

6421 Engine Brake Actuator Driver Output 2 Circuit View Solutions

6418 Engine Brake Actuator Driver 1 Circuit View Solutions

2738 Engine Start Enable Device 1 Circuit View Solutions

1117 Power Supply Lost With Ignition On View Solutions

4289 Accelerator Pedal or Lever Position Sensor 1 Circuit Frequency View Solutions

4149 Accelerator Pedal or Lever Position Sensor 2 Circuit Frequency View Solutions

Figure 0-18 Open Diagnostic Session Window

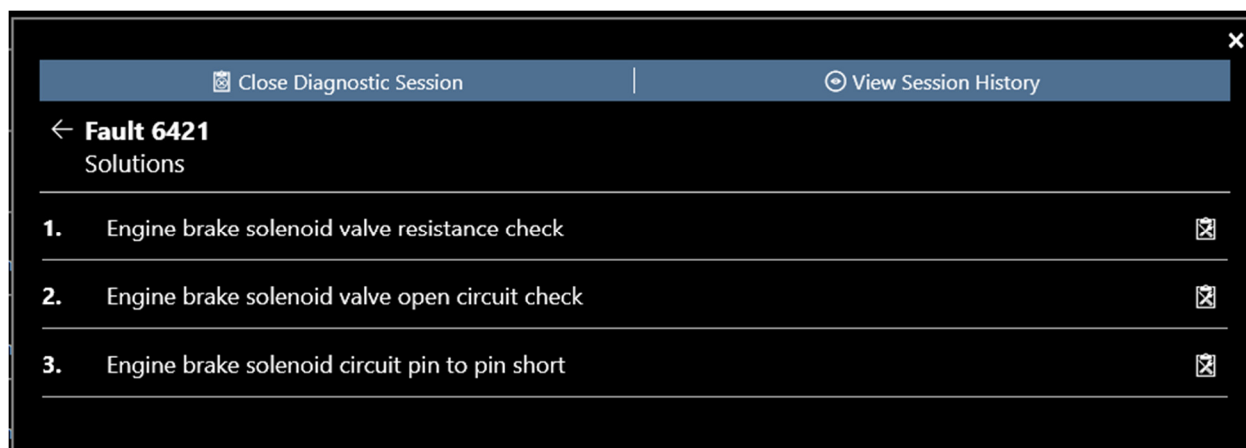


Figure 0-19 Solutions



Previous Solution

Next Solution

Solution List

Fault Code List

Close Diagnostic Session

View Session History

← Fault 1117

Battery power removed by battery disconnect switch (S00000706)

VERIFICATION

CONDITIONS

ACTION

SPECIFICATION

If the battery disconnect switches are not being used correctly, then proceed to the Repair section.

ACCESS SRT CHECKLIST

☐ Continue without checklist

DOES THIS LOOK LIKE A SOLUTION?

☒ This is not a solution. In-Spec

☒ Out-of-Spec. Repair Recommended

☐ Unable to perform procedure

Your comments are required

Submit

Figure 0-20 Accessibility Checklist and troubleshooting solution

ACCESSIBILITY CHECKLIST

The Accessibility Checklist for a fault is accessible by click the “ACCESSIBILITY CHECKLIST” row in the Diagnostic Session container. After selecting the required items, scroll down and click the Submit button to add the checklist items to the Diagnostic Session.



×

← Fault 6421

Engine brake solenoid valve resistance check (S00000539)

☐ 17-00V-00: Hydraulic Oil Cooler or Transmission Oil Cooler - Remove and Install (CMI)

☐ 17-00X-00: Radiator Brace - Remove and Install, Each (CMI)

☐ 17-00Y-00: Radiator Shroud - Remove and Install (CMI)

☐ 17-00Z-00: Radiator, Charge Air Cooler and/or Air Conditioner Condenser Assembly - Remove and Install (CMI)

☐ 17-011-00: Steering Shaft - Remove and Install (CMI)

☐ 17-012-00: Vehicle Fairing (Without Quick Disconnect) - Remove and Install, Each (CMI)

☐ 17-015-00: Wheel and Tire Single Assembly - Remove and Install (Automotive) (CMI)

☐ 17-016-00: Fender Extension - Remove and Install (CMI)

☐ 17-018-00: Power Steering Pump - Move for Access (CMI)

☐ 17-019-00: Power Steering Reservoir - Move for Access (CMI)

☐ 17-01A-00: Windshield Wiper Reservoir - Remove and Install (CMI)

☐ 17-01B-00: Coolant Reservoir - Remove and Install (CMI)

☐ 17-01H-00: Transmission, Automatic or Torque Converter - Remove and Install (CMI)

☐ 17-01J-00: Transmission, Manual - Remove and Install (CMI)

☐ 17-01K-00: Dash Panel - Remove and Install (CMI)

☐ 17-033-00: Skid Plate, Under Oil Pan - Remove and Install (CMI)

☐ 17-03G-00: Radiator Shutter Assembly - Check Operation (CMI)

☐ 19-0FQ-00: Vehicle Speed Sensor (VSS) - Remove and Install (CMI)

Submit →

Figure 0-21 Accessibility Checklist screen

SOLUTIONS

After verifying the Solution specification, select the appropriate outcome and comments. After completion, the “Submit” button will become enabled to allow the Diagnostic Session to be updated with the resolution.

ACCESSIBILITY CHECKLIST →

DOES THIS LOOK LIKE A SOLUTION?

☐ This is not a solution. In-Spec

☒ Out-of-Spec. Repair Recommended

☐ Unable to perform procedure

Your comments are required

Submit →

Figure 0-22 Troubleshooting Solution

VIEWING AND SHAREING DS HISTORY



The Diagnostic Session can be shared over email by selecting “View Session History” from the top Window bar, and then selecting “Share”.

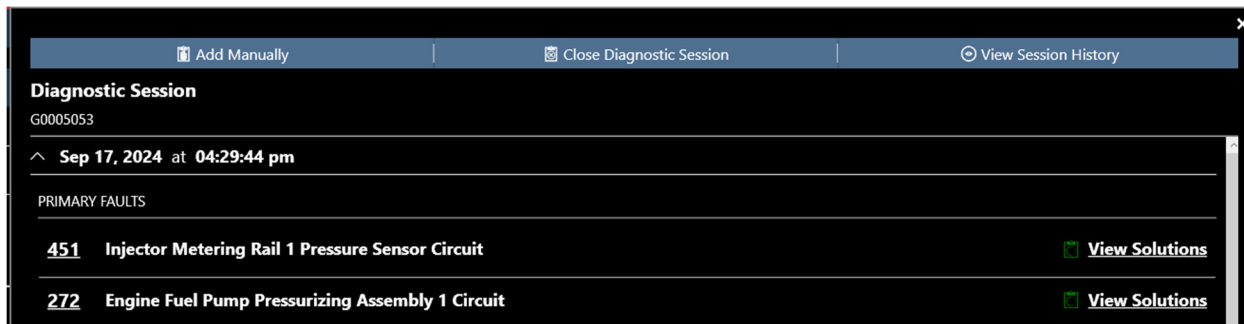


Figure 0-23 Diagnostic Session screen

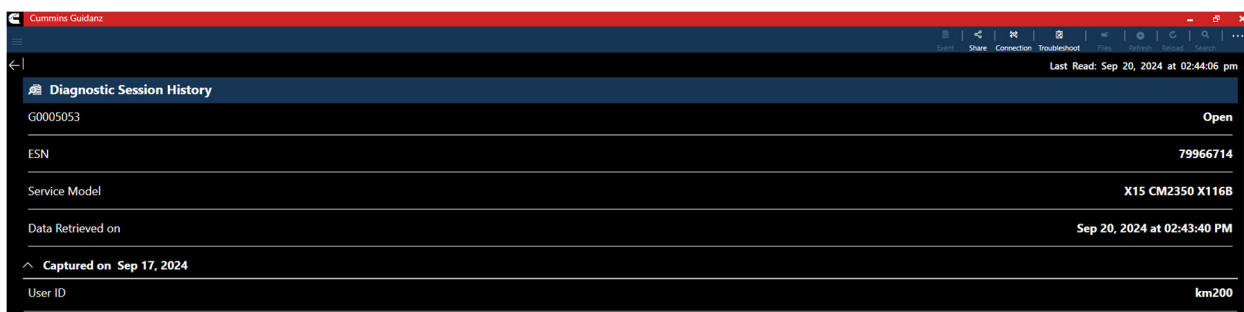


Figure 0-24 Diagnostic Session History

DATA MONITOR

Clicking on Data Monitor on the ECM Device Dashboard takes the user to the Data Monitoring screen which allows the user to monitor and record parameters. Parameters are divided into pre-defined groups that can be selected based on the vehicle behavior being experienced. When clicking on Monitor the user can monitor all parameters while ECM is running.

MONITORING

From the monitoring screen users can perform the below actions:

- Open the Data Monitoring control screen by selecting the Monitoring, Recording, or Stop button.
- Modify the Sampling rate by clicking the sampling rate and end time button on the bottom right of the screen.
 - Note Setting the sampling rate too low can cause connection issues.
- Start the recoding process by clicking on the Record button.
- Start Graphical monitoring by clicking the Visual Data button.

RECORDING



Using the recording function will allow users to save a csv file of the data. While recording, each time the user clicks the Pause button or leaves the DML screen a record file is created and stored in:

C:\Users\Public\Documents\Cummins\Guidanz\Exports

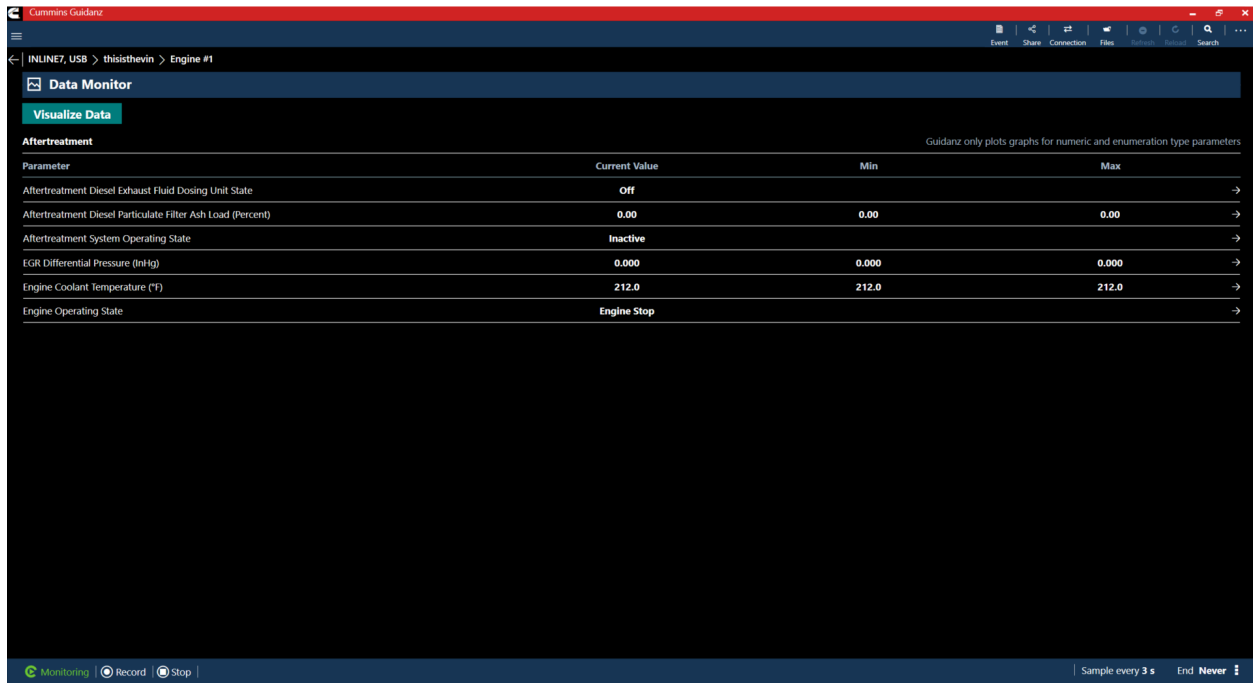


Figure 0-25 DML while recording

GRAPHICAL MONITORING

Selecting the “Visualize Data” button, allows users to create a graphical representation of numerical and enumeration type parameters.

After selecting parameters to graph, users can use the following actions to control the graph:

1. Left click in graph to stop auto-scrolling.
2. Double click when stopped, to resume auto-scrolling.
3. Annotate any point on the graph by right- clicking.
4. Group or separate graphs with the same units by selecting the “Grouped” or “Separate” buttons.

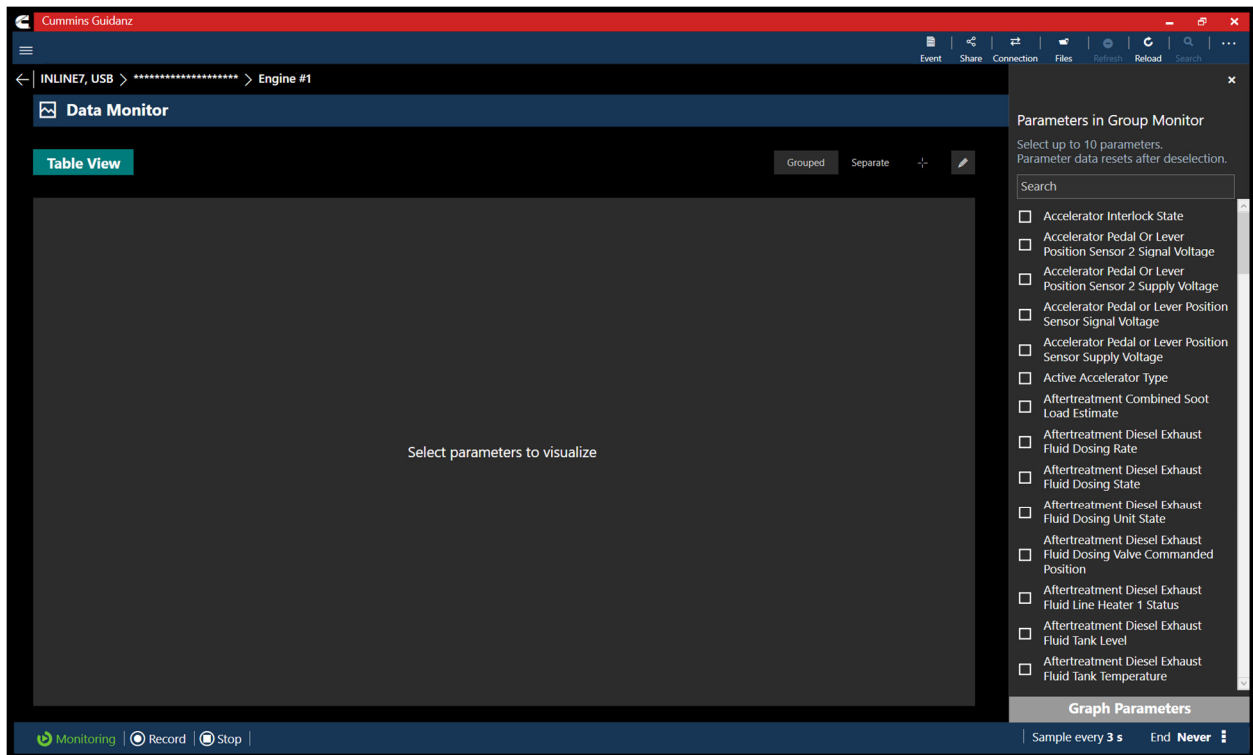


Figure 0-26 Graphical Monitoring parameter selection screen.

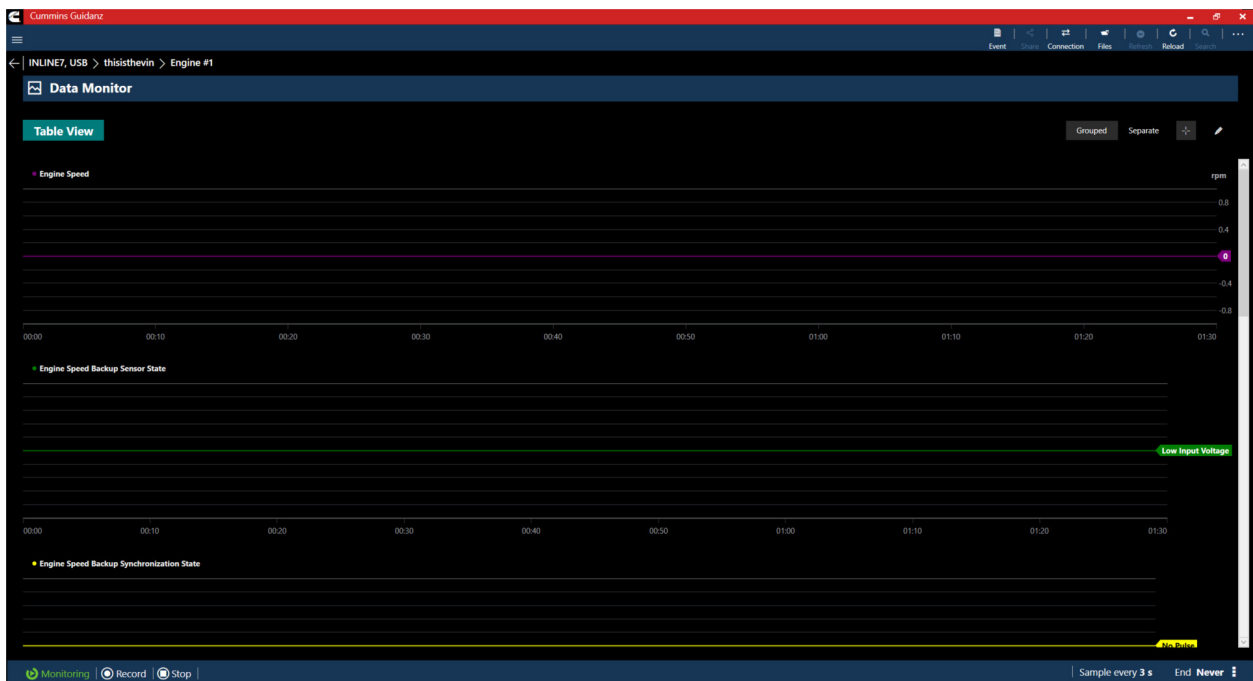


Figure 0-27 Graphical Monitoring Screen



ENGINE SETTINGS

Clicking on Engine Settings on the ECM Device Dashboard the user is taken to the Engine Settings screen where the user can see the values of each parameter. User can view and edit System ID and Dataplate settings by clicking on System ID and Dataplate in the Engine Settings screen.

ADJUSTING SETTINGS

User can search the Engine Settings parameter list. User can change parameter and sub-parameter values that are not locked by changing the value within the specified min and max values.

After user confirms the changes, user can save changes. Changes are written to ECM by going through Key Off/Key On process. At the end of the process, saved changes are confirmed. If you move away from the screen without saving, the changes will be discarded.

RSGR subscription users will see that Road Speed Governor Restricted parameters in Engine settings are locked and not adjustable.

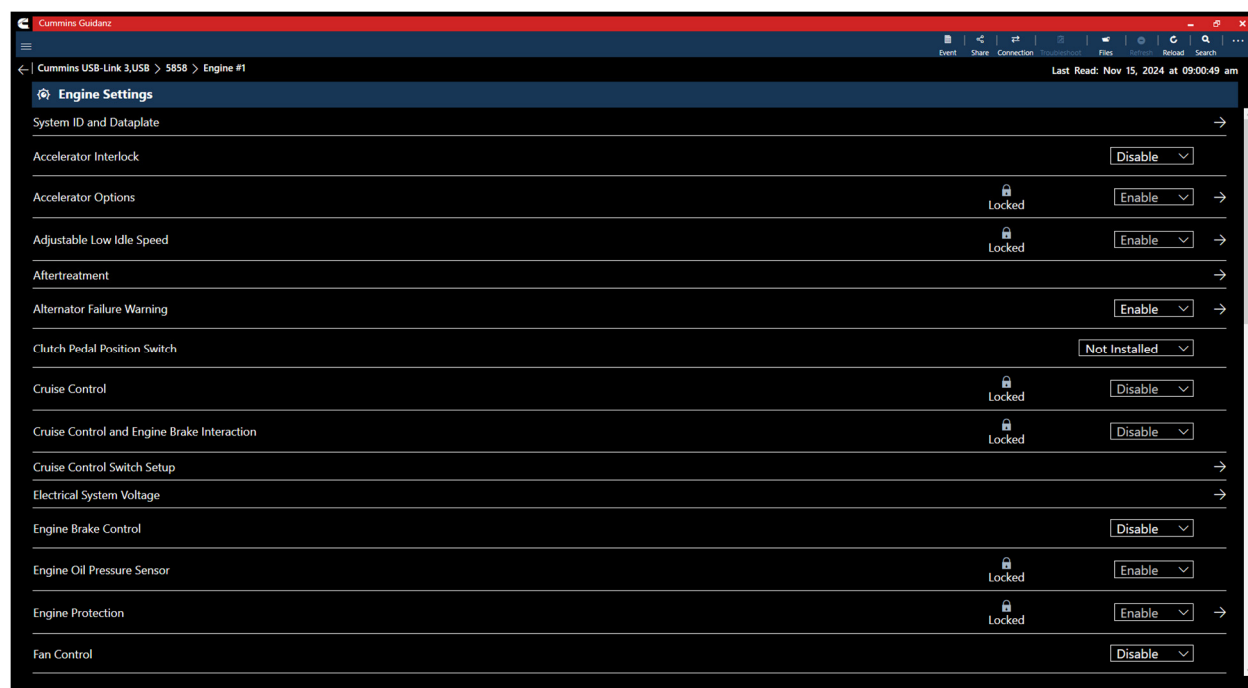


Figure 0-28 Engine Settings

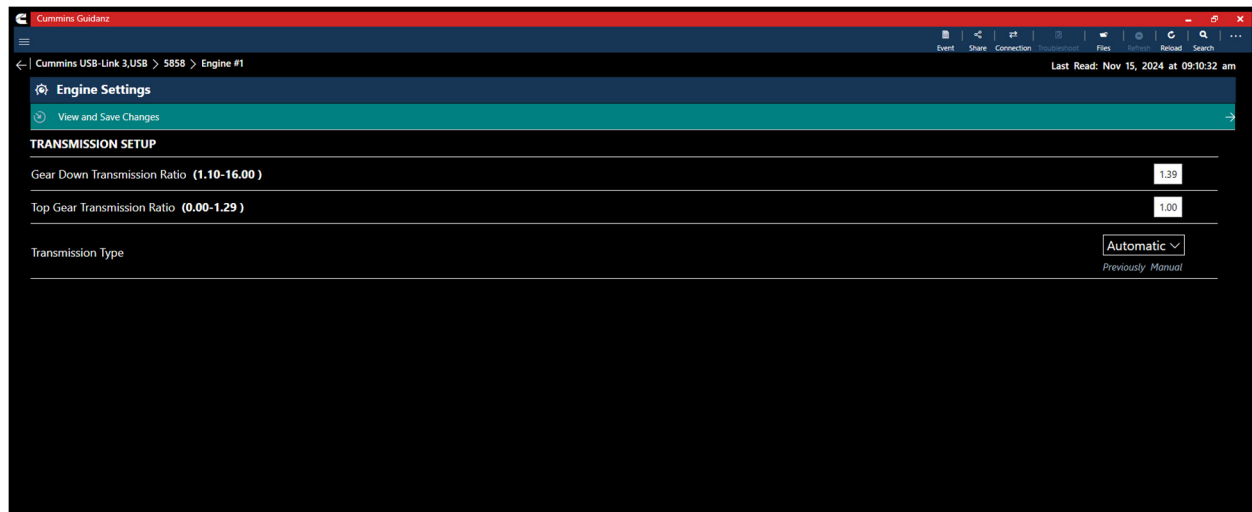


Figure 0-29 Engine Settings with Parameters changed

CALIBRATE ENGINE

Clicking on Calibrate Engine will allow the user to update the Engine to the latest calibration revision if a newer revision is available.

DOWNLOADING NEW REVISION

When Guidanz detects a new revision of the ECM calibration is available or the Calibration does not match the expected calibration based on the Engine Serial number, users will be prompted to download the ECM Code.

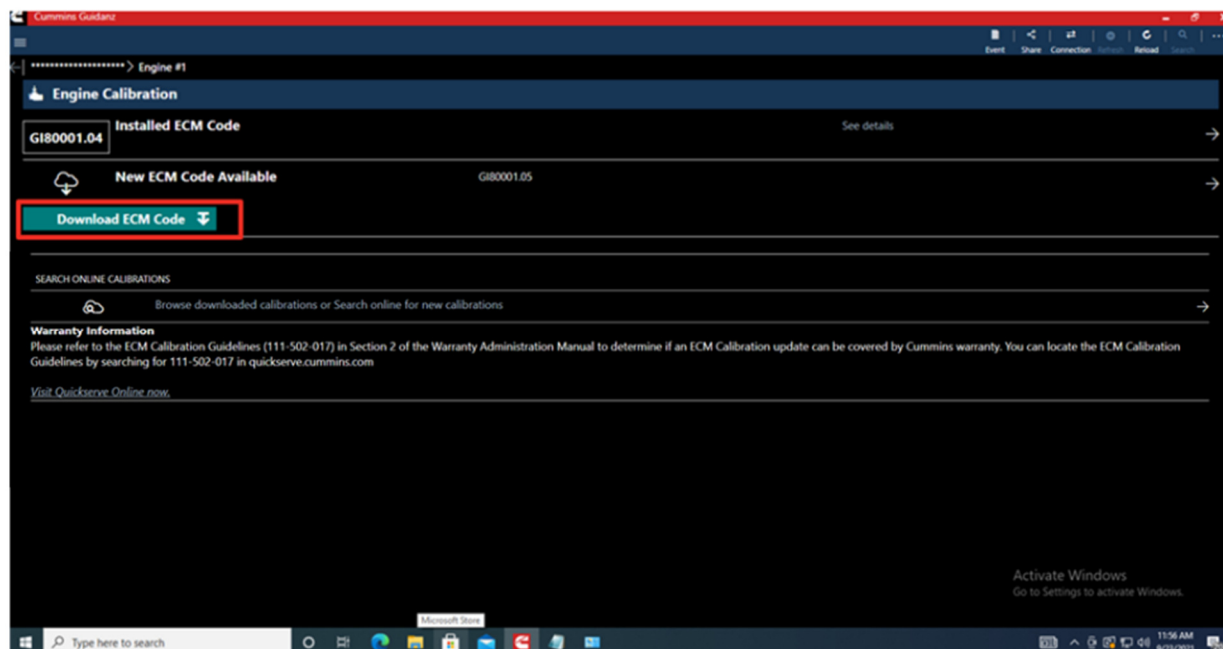


Figure 1-30 Engine calibration with new revision detected



SEARCHING AND DOWNLOADING CALIBRATIONS

From the Engine calibration page (Figure 1-30) users can select the reveal arrow on the right side of the screen to browse previously downloaded calibrations, or to use the “Find Online” functionality to download calibrations to the user’s device. If a calibration is found, users can download the calibration to their device and view the Revision History. When users are online and expected to stay online, there is no need to fill out the bottom portion of the page.

Figure 0-31 Calibration search page

To view available or downloaded production calibrations in GDTK Windows, technicians can expand the drop-down menu and click the reveal arrow next to an ECM Part Number. This will display all associated calibrations. If a technician needs to manage Engine Serial Numbers (ESNs) for offline calibration use, they can do so by selecting the three-dot menu on the left side of the screen. This opens the “Manage ESN” screen, where users can enter the engine’s serial number and select the reason for the calibration. This step is essential for obtaining pre-authorization when internet access is not available at the vehicle location.



The screenshot shows the 'Calibration Files' page in the Cummins Guidanz application. The breadcrumb navigation is 'Cummins USB-Link 3,USB > 5858 > Engine #1'. The page title is 'Calibration Files'. Below the title, it says 'Showing 1 search results for "4354593"'. There are tabs for 'My Calibrations' and 'Find Online'. The 'My Calibrations' tab is active, showing a table of production calibrations. The table has columns: Base ECM Code, Engine Model, Market, Critical Parts List, Advertised Power at RPM, Governed Power at RPM, Torque at RPM, Customer/OEM Name, Customer/OEM Model, and Application Code. The table contains 15 rows of data for various engine models and ECM codes.

Base ECM Code	Engine Model	Market	Critical Parts List	Advertised Power at RPM	Governed Power at RPM	Torque at RPM	Customer/OEM Name	Customer/OEM Model	Application Code
KT10024.04	6BTAAS.6	AUTOMOTIVE	5293	186 hp @ 2300 rpm	186 hp @ 2300 rpm	627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10023.04	6BTAAS.6	AUTOMOTIVE	5293	186 hp @ 2300 rpm	186 hp @ 2300 rpm	627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10022.05	6BTAAS.6	AUTOMOTIVE	5293	0220 hp @ 2300 rpm	0220 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10021.05	6BTAAS.6	AUTOMOTIVE	5293	0220 hp @ 2300 rpm	0220 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10020.05	6BTAAS.6	AUTOMOTIVE	5293	186 hp @ 2300 rpm	0186 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10019.06	6BTAAS.6	AUTOMOTIVE	5293	0220 hp @ 2300 rpm	0220 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10018.00	6BTAAS.6	AUTOMOTIVE	5293	0186 hp @ 2300 rpm	0186 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10017.09	6BTAAS.6	AUTOMOTIVE	5293	0186 hp @ 2300 rpm	0186 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10016.10	6BTAAS.6	AUTOMOTIVE	5293	0220 hp @ 2300 rpm	0220 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10015.12	6BTAAS.6	AUTOMOTIVE	5293	0186 hp @ 2300 rpm	0186 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10014.12	6BTAAS.6	AUTOMOTIVE	5293	0186 hp @ 2300 rpm	0186 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA
KT10013.17	6BTAAS.6	AUTOMOTIVE	5293	0220 hp @ 2300 rpm	0220 hp @ 2300 rpm	00627 lb-ft @ 1000 rpm	CUMMINS GENERAL	GENERIC	NA

Figure 0-32 Calibration Files Page 2

The screenshot shows the 'Calibrating Engine #1' page in the Cummins Guidanz application. The breadcrumb navigation is 'CIL7_6978 > ***** > Engine #1'. The page title is 'Calibrating Engine #1'. Below the title, it says 'My Calibrations' and 'Find Online'. The 'My Calibrations' tab is active, showing a table of production calibrations. The table has columns: Base ECM Code, Engine Model, Market, Critical Parts List, Governed Power at RPM, Torque at RPM, and Customer/OEM Name. The table contains 1 row of data for engine model 6LTAA8.9-E. A 'Calibration File Options' dialog box is open, showing options: 'Revision History', 'Delete', and 'Manage ESN'. The 'Cancel' button is at the bottom.

Base ECM Code	Engine Model	Market	Critical Parts List	Governed Power at RPM	Torque at RPM	Customer/OEM Name
KN10011.19	6LTAA8.9-E	AUTOMOTIVE		0394 hp @ 1900 rpm	01327 lb-ft @ 1100 rpm	CUMMINS GENERAL

Figure 33 Calibration Files options



Engine Serial Number	Reason	TSB/TRP/ATC/Campaign Number	Enter Installed ECM Code
<input type="text"/>	Select a reason		

Figure 34 Manage ESN screen

IMPORTING CALIBRATIONS

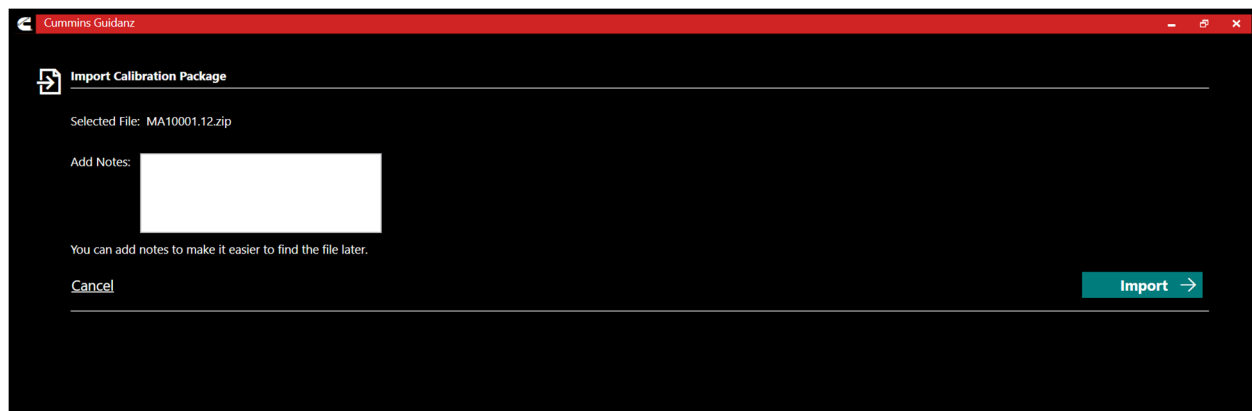
Properly configured calibration packages can be imported into GDTK by selection the Calibration Files option from the Home screen. On the Calibration Files page, selecting the Import Calibration button will open Windows file explorer, and allow the user to select the appropriate “zipped” esdn folder.

Engine-Driven Equipment

Production Imported

Automotive

After selecting the esdn folder, users have the option to add notes to the package.



CALIBRATION PROCESS

The calibration process is broken into 3 sections:

- Downloading the new calibration to the computer
- Transferring the new calibration to the ECM
- Restoring and closing the ECM after the transfer process

The process of transferring the new calibration to the ECM can take up to an hour and should only be performed when the vehicle has sufficient battery capacity. Failure to meet the standards can result in the vehicle becoming inoperable. At the beginning of the transfer process, users have the option to save and restore adjustable parameters to the ECM after the calibration process. It is highly recommended that users select this option when performing a calibration update.

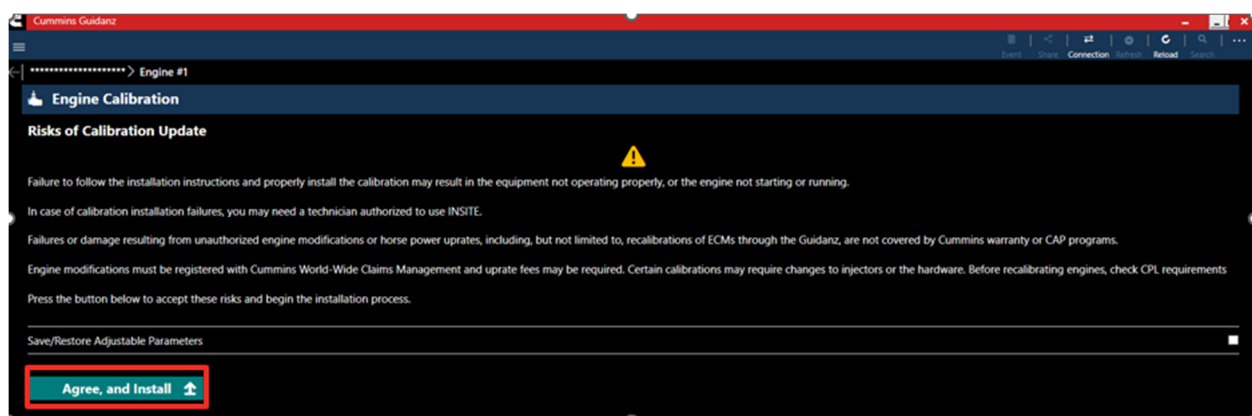


Figure 0-35 Transfer calibration to ECM step 1 with Save and Restore adjustable parameter checkbox unchecked

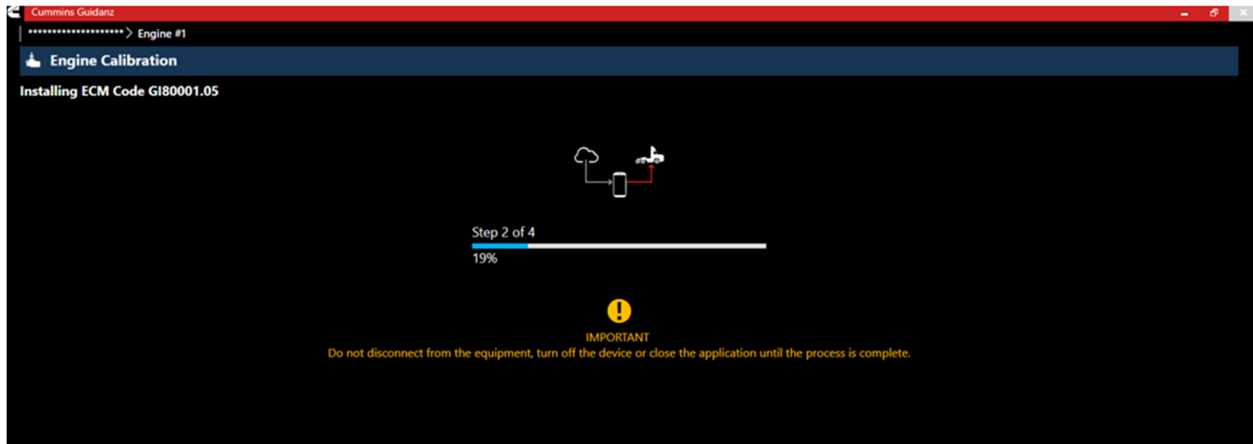


Figure 0-36 Transfer calibration to ECM step 2

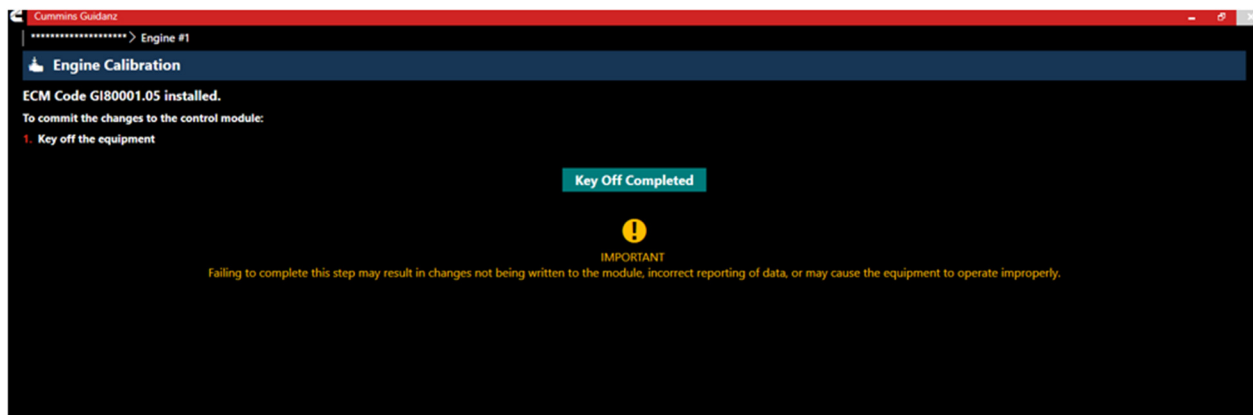


Figure 0-37 Restoring and completing the ECM calibration process

CALIBRATION FAILURE (ROM-BOOT RECOVERY)

In the event of a calibration failure, Guidanz will allow the user to attempt to recover the calibration, on the next connection.

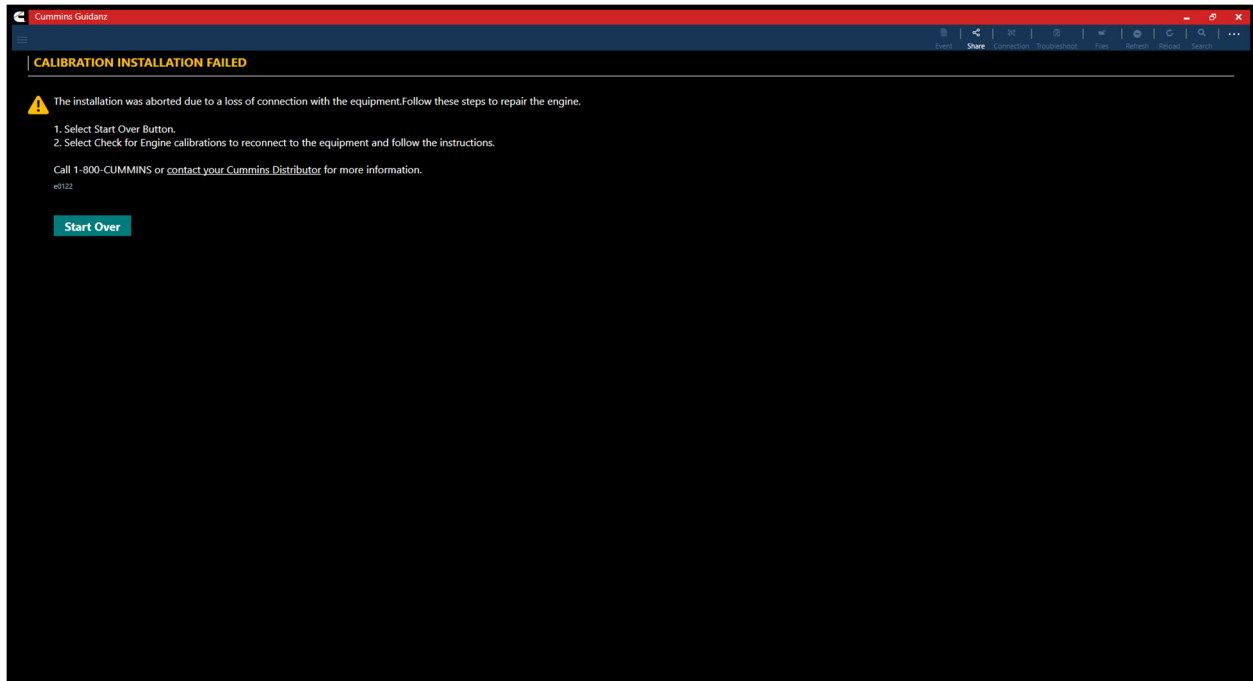


Figure 0-38 Calibration Failure Page

After clicking “Start Over” users are taken to the Home page. Initiating a new connection through the Analyze Equipment button will prompt the user to attempt to recover and calibrate the ECM. Selecting “Try Again” will begin the process.

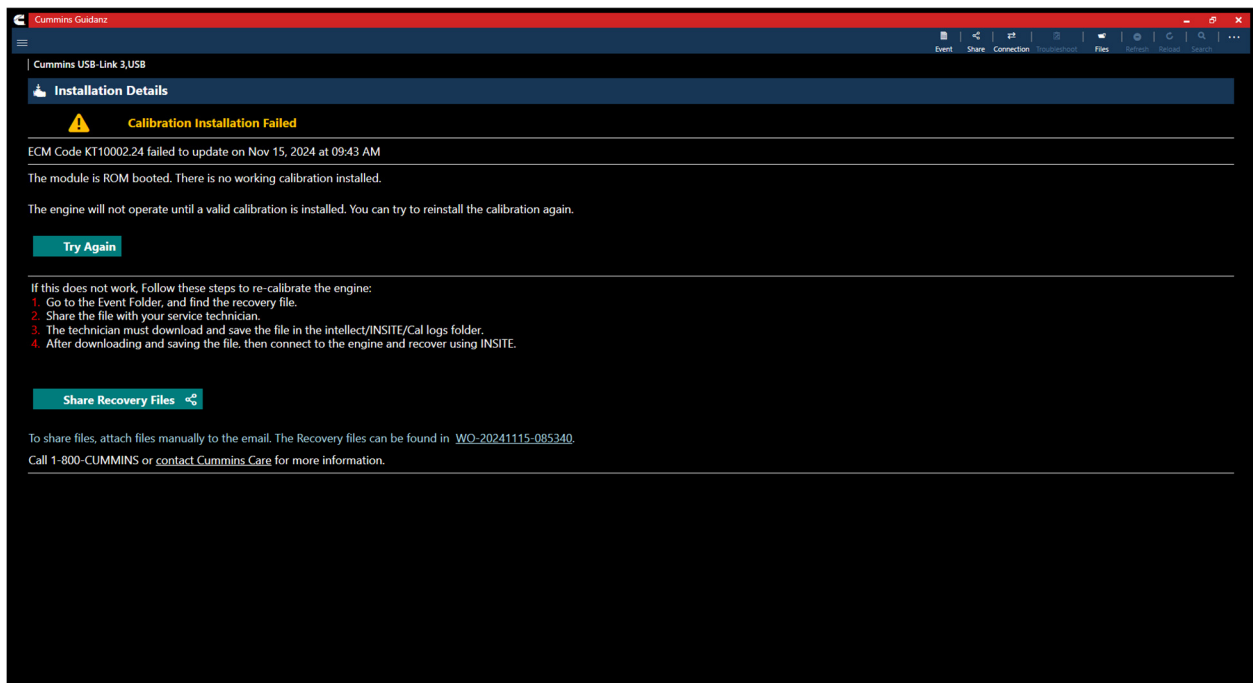


Figure 0-39 Calibration Recovery page



SECURE CALIBRATION MANAGEMENT FOR OFFLINE INSTALLATION

When technicians know they'll be working in a location without internet access, GDTK Windows provides a way to get pre-authorization for engine recalibrations ahead of time. To begin the process, the technician must enter the Engine Serial Number (ESN) into the system. After that, they need to select the appropriate reason for the calibration from a predefined list. The valid reasons include: Revision Update or ROM-Booted, Campaign, Temporary Repair Procedure, Account Team Coverage, Uprate, Technical Service Bulletin (TSB), or a Seeded ECM.

Once the reason is selected, clicking the "Search" button will validate the entered information. If everything checks out, the system will grant approval to perform the calibration when the technician arrives at the site. This ensures that the recalibration can be completed even without an internet connection, as long as the pre-authorization was obtained in advance.

The screenshot displays the 'Cummins Guidanz' application window. The main section is titled 'Calibration Files' and includes a 'Find Online' button. Below this, a dropdown menu shows 'Engine-Driven Equipment'. The 'Find Calibration Files' section prompts the user to 'Enter the Base ECM Code for Engine Calibration', with 'KH10012' entered in the field. A note states: 'For ECMs, the Base Code is the part to the left of the decimal.' A yellow warning icon and text indicate: 'The following information is required to install a calibration in case of internet unavailability.' The 'Engine Serial Number' field contains '73109422', with a note below it: 'All Cummins ESNs are 8 digits long.' The 'Select reason to install Calibration' dropdown is set to 'Revision Update for healthy/ROM BOOT'. A green 'Search' button is at the bottom. At the very bottom, two status messages are shown: 'Downloads may take a while, please be patient.' and 'Be sure the computer has sufficient battery charge, or plug it in now.'

Figure 40 Secure Calibration Management Offline Validation

DIAGNOSTIC TESTS

Clicking on Diagnostic Tests on the ECM Device Dashboard the user is taken to the Diagnostic Tests screen where the user can see all the diagnostic tests implemented in the Guidanz PC Application and supported by the calibration.



Figure 0-41 Diagnostic Test container page

INSTRUCTIONS

Each individual Diagnostic Test includes its own set of instructions. Some tests require the engine to be running, others require just a Key-on. Please follow the instructions for the specific Diagnostic Test to ensure the test performs as expected.

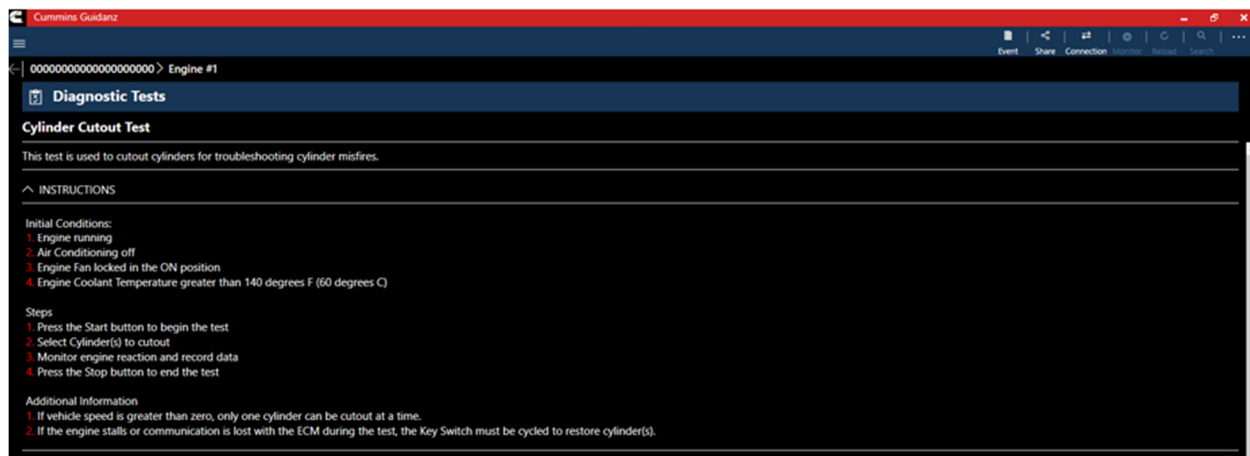


Figure 0-42 Diagnostic Test instructions

STARTING/STOPPING

When all pre-conditions are met, the user can Start and Stop the test using the buttons located at the bottom left of the test.

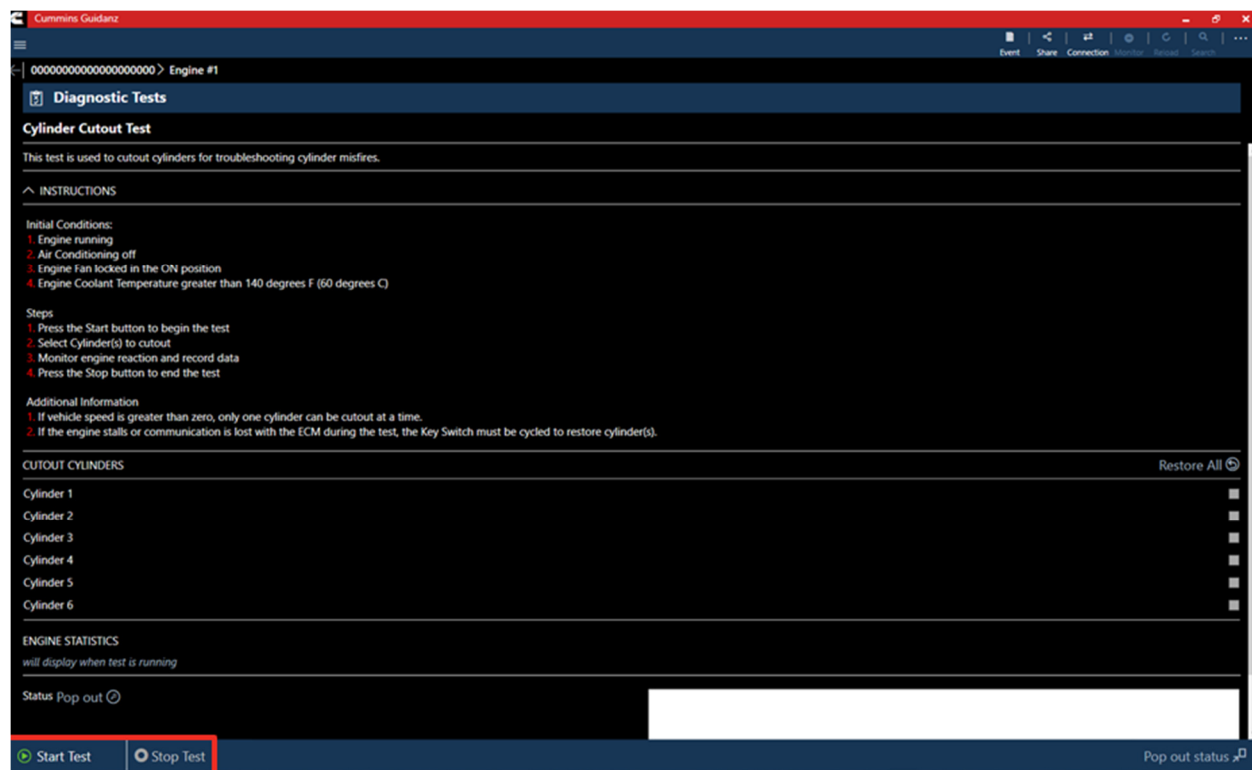


Figure 0-43 Diagnostic Test Start/Stop button

RESULTS

Most Diagnostic Tests include a status box to display the status of the test being performed. For the user to better monitor the test progress during the diagnostic session, a user can pop out the Status box either by clicking on the pop out icon next to Status or on the Pop out status icon on the right-hand bottom of the screen.

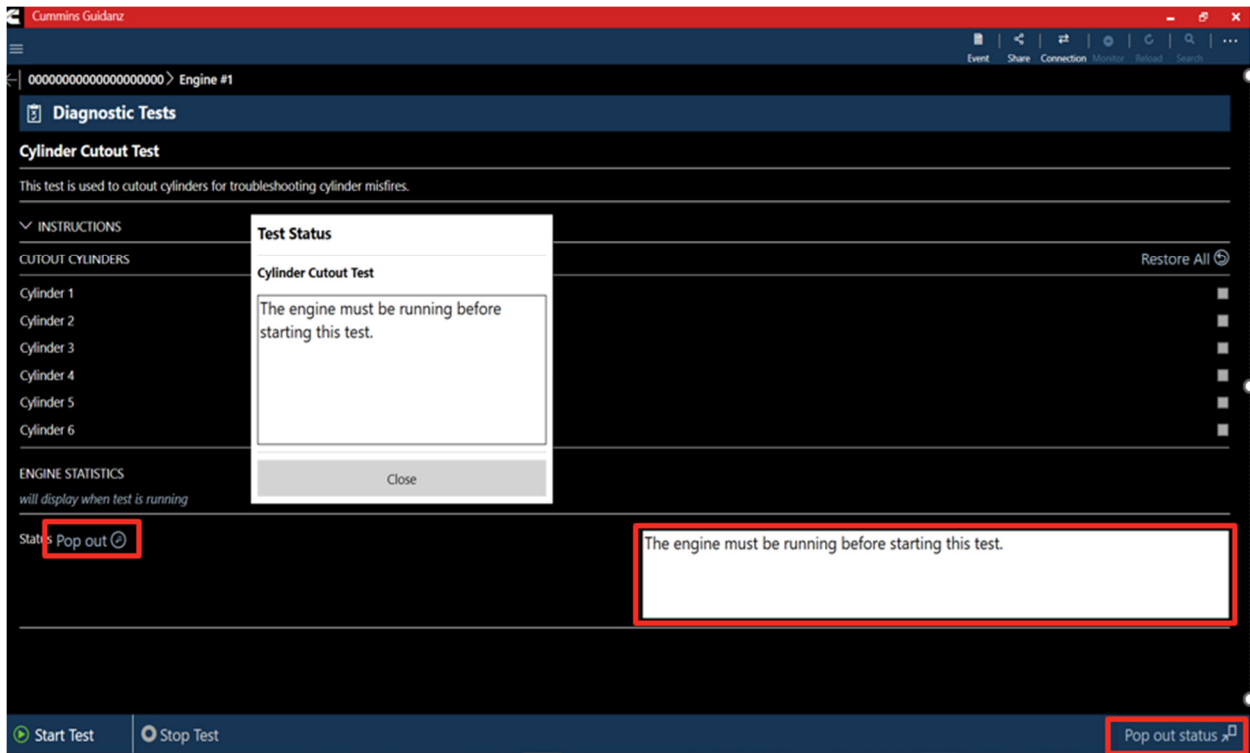


Figure 0-44 Diagnostic Test status messages

ADVANCED FEATURES

Clicking on Advanced Features on the ECM Device Dashboard the user is taken to the Advanced Features screen where the user can see all the Advanced Features implemented in the Guidanz PC Application and supported by the calibration.





INSTRUCTIONS

Each individual Advanced Feature includes its own set of instructions. The majority require the engine to be stopped. Please follow the instructions for the specific Feature to ensure expected functionality

The screenshot shows the 'Advanced Features' section in the Cummins Guidanz application. Under 'Aftertreatment History', there is a table with the following data:

Parameter	Value	Units
ECM Time(Key On Time)	000000:00:00	HH:MM:SS
ECM Real Time	000000:00:00	HH:MM:SS
Diesel Oxidation Catalyst Inlet Temperature	32.0	deg F
Diesel Oxidation Catalyst Outlet Temperature	32.0	deg F
Diesel Particulate Filter Outlet Temperature	32.0	deg F
Diesel Particulate Filter Differential Pressure	0.0	InHg
Diesel Particulate Filter Soot Load	Normal	

Below the table is a dropdown menu for 'Maximum Soot Load Condition' set to 'Maximum Soot Load Condition'.

TRIP INFORMATION

Clicking Trip Information on the ECM Device Dashboard the user is taken to the Trip Information screen. The trip information screen gives details such as Fuel used, Distance travelled, and engine running hours.

The screenshot shows the 'Trip Information' screen in the Cummins Guidanz application. It features a dropdown menu for 'All Trips (Cumulative)' and a 'Reset' button. Below these are several expandable sections for trip details:

- Aftertreatment
- Distance
- Fuel Used
- Multiple PTO
- Other
- Time

TRIP INFORMATION RESET

When required or requested, the Trip Information can be reset to default by selecting the “Reset” button.

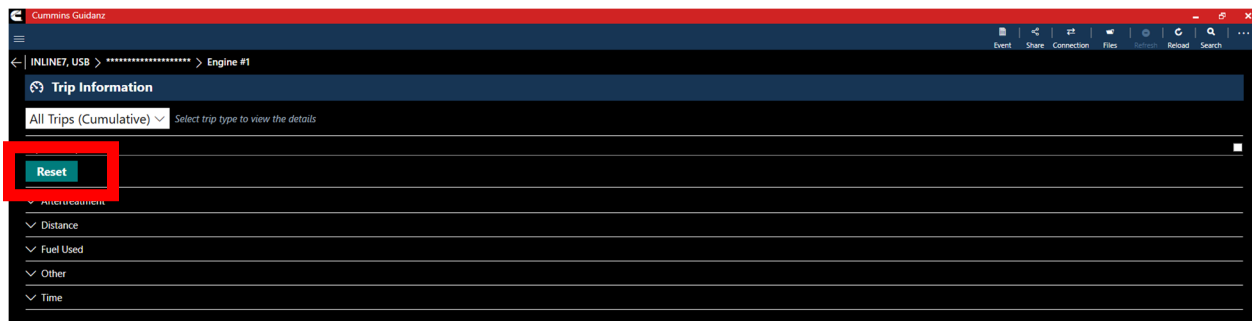


Figure 0-45 Trip Information Reset

IMAGES & TEMPLATES

Clicking on Images & Templates on the ECM Device Dashboard the user is taken to the Events screen where the user can view, manage, and connect to available Images Templates, Diagnostic Sessions, or Capture files. Clicking on Images row shows all captured images for the connected ESN. User can also search the Images or change the Sort order.



IMAGES

Clicking on the three dots on the left-hand side of the ECM image allows the user to Convert to Template, Share EIF File, and Delete File. Clicking on an image row allows the user to connect to the ECM image. If the user is currently connected to an Engine, they will be disconnected to connect to the ECM Image.

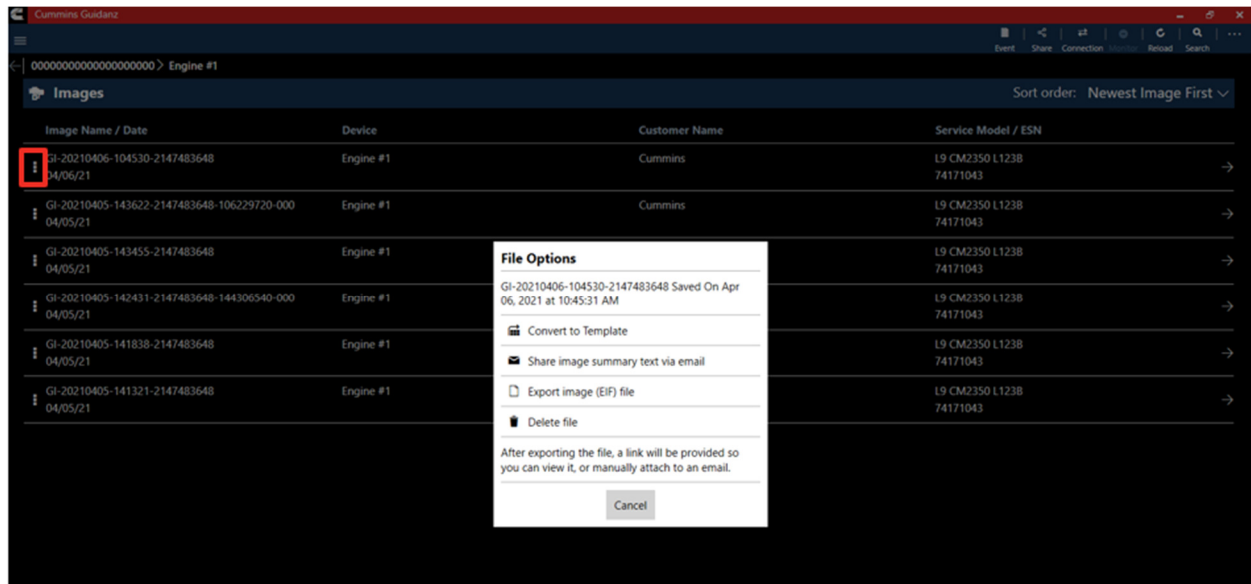
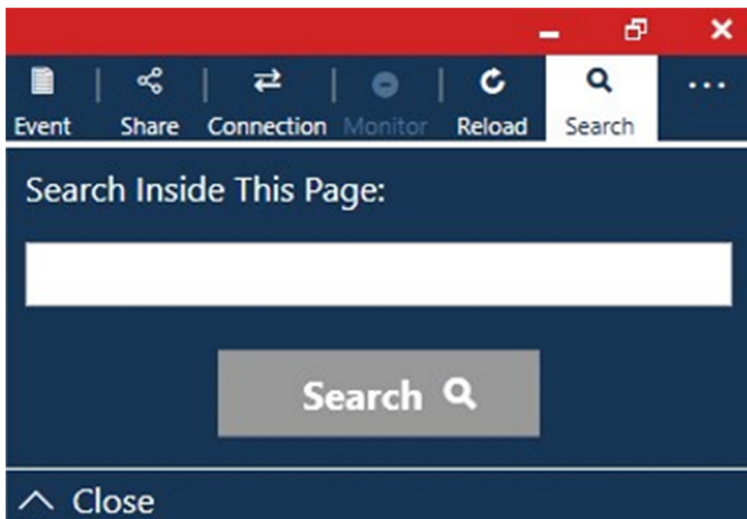


Figure 0-46 ECM Image screen

SEARCHING

Users can also search for specific ECM images from the toolbar.



SHARING

CONVERTING TO TEMPLATE

When user selects to convert image to template, user can change template name and enter template notes

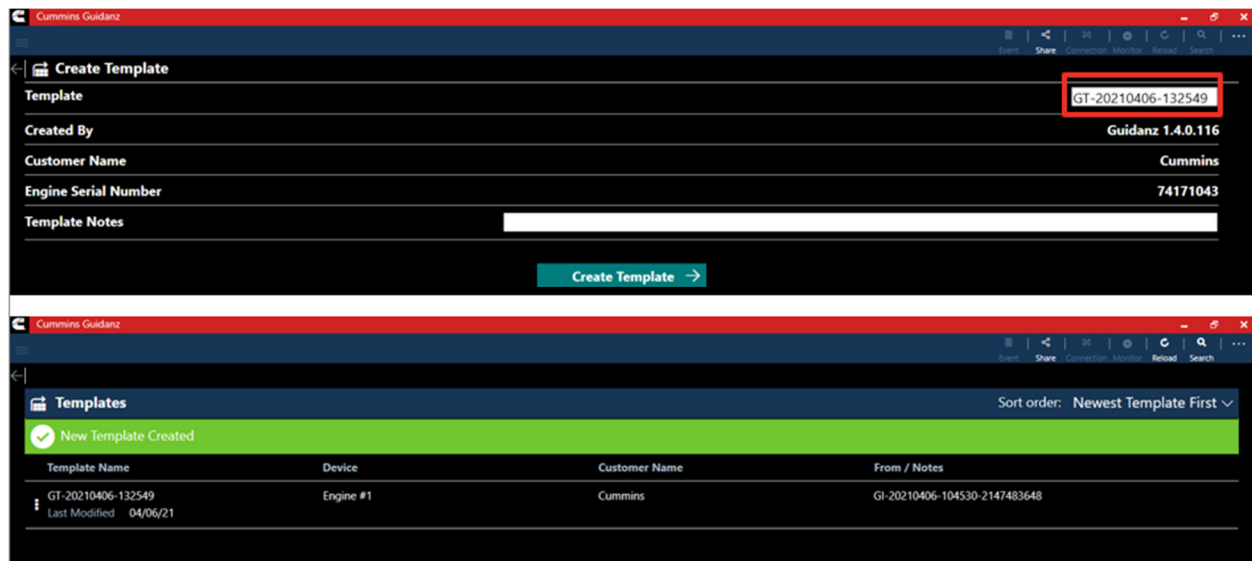


Figure 0-47 ECM Image Conversion to Template

EXPORTING

Users can export Image files in EIF format to share with other Guidanz Diagnostic Toolkit (PC or Mobile Application) or Insite users. After successfully exporting the image, users will be given a link to the location to quickly find and share through email.



IMPORTING

Importing EIF files can be done through your PC's Windows Explorer. Users that have Insite already installed will need to associate the .EIF file type with Guidanz for simple double click import. Guidanz will give you the opportunity to change the ECM image name and add technician notes before completing the import.

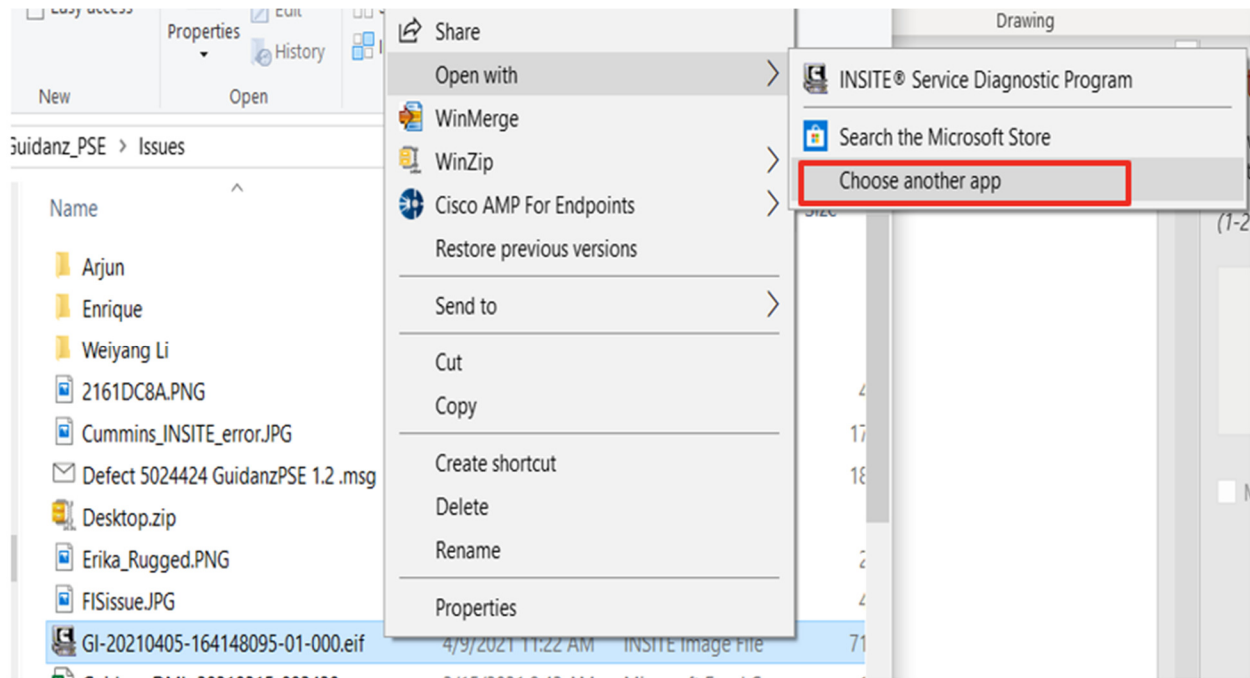


Figure 0-48 Selecting and Right clicking the .EIF file

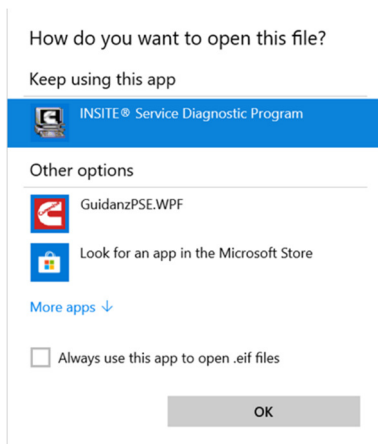


Figure 0-49 Selecting Guidanz for users that have INSITE installed



ECM Image	GI-20210405-164148095-01-000
Created By	Guidanz 4.6.0.227
Customer Name	Customer Name**
Engine Serial Number	74053160
Equipment	00000000000000000000
Service Model	ISX12 CM2350 X102/X103/X108/ISX15 CM2350 X101/X104/X109
Image Type	INITIAL IMAGE
Unit Number	0000000000
Odometer	
Technician Notes	
Event Number	WO-20210405-163535
Job Order	
Immediate Assessment	

Continue →

Figure 0-50 ECM Image import

TEMPLATES

When user selects to convert image to template, user can change template name and enter template notes.

Create Template

Template	GT-20210406-132549
Created By	Guidanz 1.4.0.116
Customer Name	Cummins
Engine Serial Number	74171043
Template Notes	

Create Template →

Templates

Sort order: Newest Template First

✓ New Template Created

Template Name	Device	Customer Name	From / Notes
GT-20210406-132549	Engine #1	Cummins	GI-20210406-104530-2147483648
Last Modified	04/06/21		

Figure 0-51 Template creation

WRITING TEMPLATE TO ECM

Templates can be written to an ECM to quickly change multiple device settings to a predetermined value. Selecting the Write to ECM icon from the Template page will begin the process.

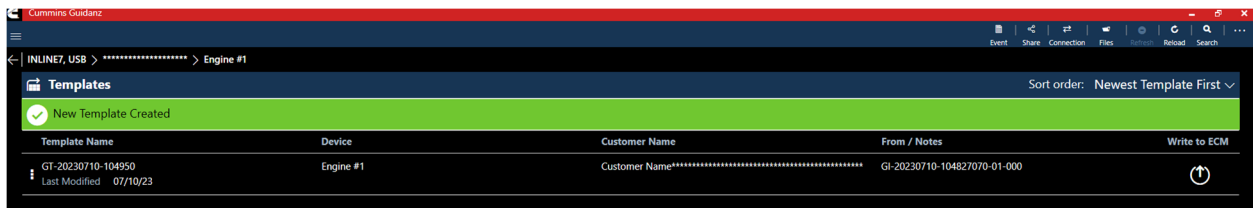


Figure 0-52 Write to ECM icon on right side of screen

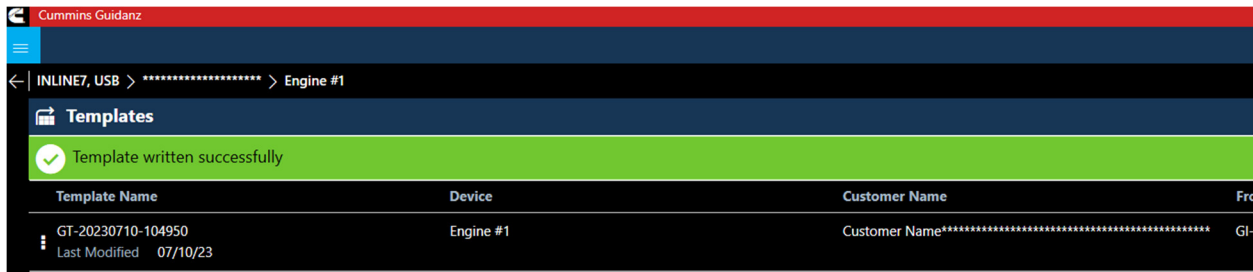


Figure 0-53 Successful Template Write

AUDIT TRAIL

Clicking on Audit Trail on the ECM Device Dashboard the user is taken to the Audit Trail screen where the user can see the audit trail of the connected ECM. Clicking on one of the Audit Trail records will give detailed information on the tool used and the changes made to the connected ECM.

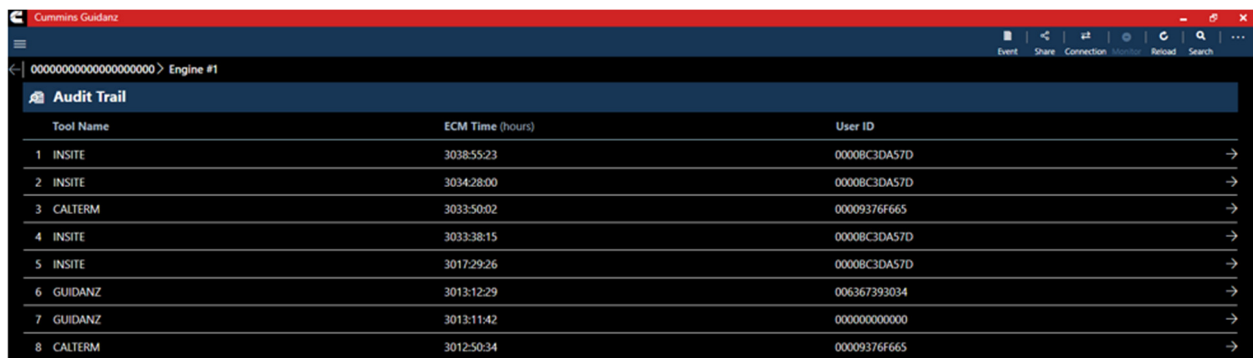


Figure 0-54 Audit Trail Screen



The screenshot shows the 'Audit Trail: Record #1' in the Cummins Guidanz application. It displays a table of tool information and a list of changes performed.

Tool Name	INSITE
Tool Version	8.7.1.93
User ID	0000BC3DA57D
ECM Time (Key On Time)	3038:55:23
ECM Real Time	Not Set

CHANGES PERFORMED	
22	Multi-Level ECM Security
31	Vehicle Anti-Theft Protection
53	ECM Password Removal Tool Used

Figure 0-55 Individual Audit Trail record

FEATURES IN PARALLEL

Feature in parallel allows users to perform multiple functions simultaneously in the app. For example, users can run a diagnostic test while also creating a DML recording of parameters.

To access Features in Parallel, while connected to a vehicle, select the navigation icon from the menu bar, and use the drop-down menu to open the second desired feature.

The screenshot shows the 'Features in Parallel' screen in the Cummins Guidanz application. A navigation menu is open on the left, showing options like 'Engine #1', 'Data Monitor', 'Engine Settings', etc. The main area displays a table of parameters with their current values, minimums, and maximums.

	Current Value	Min	Max
Voltage (V)	0.00	0.00	0.00
Voltage (V)	5.01	5.00	5.01
Voltage (V)	0.00	0.00	0.00
Voltage (V)	5.01	5.01	5.01
Dual Analog			
Part Number	no data		
Aftertreatment DEF Quality Sensor Serial Number	no data		
Aftertreatment DEF Quality Sensor Service Part Number	no data		
Aftertreatment DEF Quality Sensor Supplier Part Number	no data		
Aftertreatment Diesel Exhaust Fluid Dosing Rate (gph)	0.0	0.0	0.0
Aftertreatment Diesel Exhaust Fluid Dosing Unit Heater State	Initializing		
Aftertreatment Diesel Exhaust Fluid Dosing Unit State	Off		
Aftertreatment Diesel Exhaust Fluid Lamp Status	Off		
Aftertreatment Diesel Exhaust Fluid Line Heater 1 Status	Off		
Aftertreatment Diesel Exhaust Fluid Line Heater 2 Status	Off		

IMMEDIATE ASSESSMENT SUBSCRIPTION

SUBSCRIPTION FUNCTIONALITY

Immediate Assessment subscriptions allow users the below functionality.



- Prioritized Cummins fault codes, descriptions, and the top three most likely root causes
- Estimated service times
- Ability to update Guidanz Service Event Management Appointments
- Enter ESN and customer information
- Select manufacturer and model
- Equipment and device data plate information
- Create, View, Resume, Delete Events
- Create a Guidanz Service Event Management Job
- J1939 Device Fault
- Campaign Calibration installation capability
- "Scan Fault" which is a focused function that can be used to just read the faults from the engine without any fault prioritization.
- The ability to share any information in the app via email

NEW ASSESSMENT

When clicking on New Assessment, user connects to the truck via the Data link Adapter. The Guidanz pulls up Engine Serial Number, and Customer Name from ECM, and the user can edit them if they are incorrect. Based on the confirmed ESN, the equipment make and model list is retrieved from the server. Guidanz pre-selects the data received from warranty data on the server and from the ECM if available, but the user must confirm the selection. If there is no manufacturer list, it can be caused by:

- No data based on the ESN provided
- No Internet
- Server issue

INTAKE

During the Intake process, the application will connect to the selected Datalink adapter and pull the vehicle, engine serial number and Customer Name. Users can edit and change this information if they are incorrect. If the user selects other, they will be prompted to select an accessibility code. Note that the results of FC estimated repair times are more accurate with the correct make/model than with the accessibility code.



Cummins Guidanz

← Pick the Equipment Manufacturer

☐ AUTOCAR

☐ BERGKAMP

☐ BLUE BIRD

☐ BMC

☐ CLEAN HARBORS

☐ DIVERSE ENG

☐ DOOSAN

☐ FREIGHTLINER

☐ GILLIG

☐ HSC

☐ INTERNATIONAL

☐ KAMAZ

☐ KENWORTH

☐ LINK BELT

☐ NEOPLAN

☐ NEW FLYER

☐ NEW IDEA

☐ NOVABUS

☐ PETERBILT

☐ PIERCE

☐ PRINOTH

☐ SPT

From ECM

Figure 0-56 Make Screen

Cummins Guidanz

← Pick the Equipment Model

PETERBILT Model

☐ 367

☐ 379

☐ 386

☐ 388

☐ 389

☐ 520

☐ 567

From warranty data

Figure 0-57 Model Screen

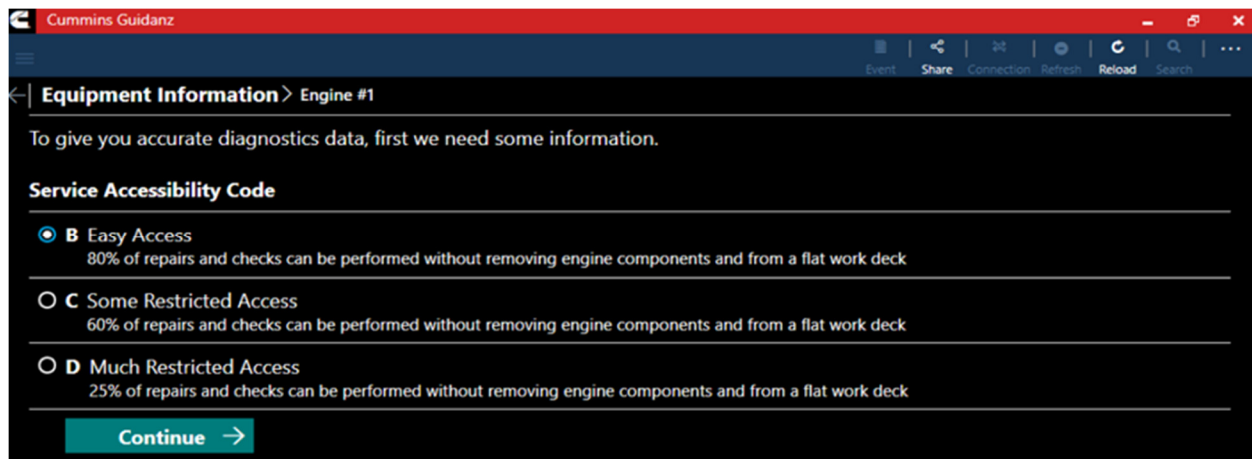


Figure 0-58 Accessibility code selection

SEVERITY CODES

On the faults and Analysis screen the app will displays the overall severity code of the engine.

Each severity is displayed with a specific strip color and icon.

Severity	Icon	Strip color	Message
Stop Now	⛔ Stop Now	Red	Stop Now
Service Now	⚠️ Service Now	Amber	Service Now
Service Soon	🕒 Service Soon	Yellow	Service Soon
Information	ℹ️ Information	Bright Blue	Information

PRIORITIZED FAULTS

Primary Faults are critical faults that should be repaired first. Resolving the primary faults will many times also resolve secondary faults.

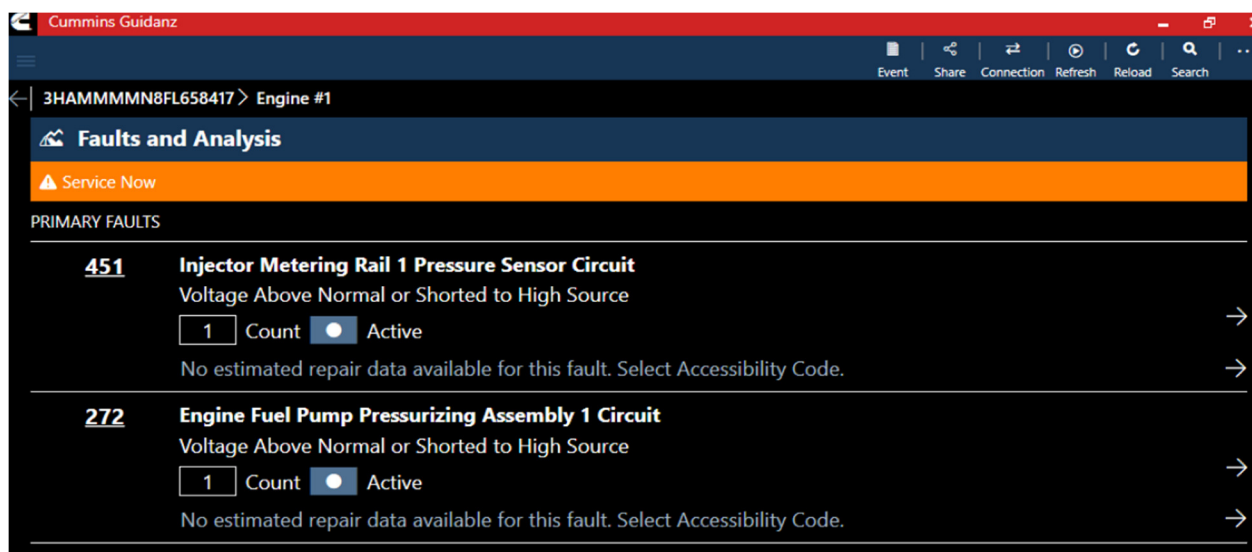


Figure 0-59 Primary prioritized faults and overall engine severity code



ESTIMATED SERVICE TIMES

After the assessment is completed, users will be given estimated service times based on historical data. Note that this information will only be shown if the fault code supports the estimated service time.

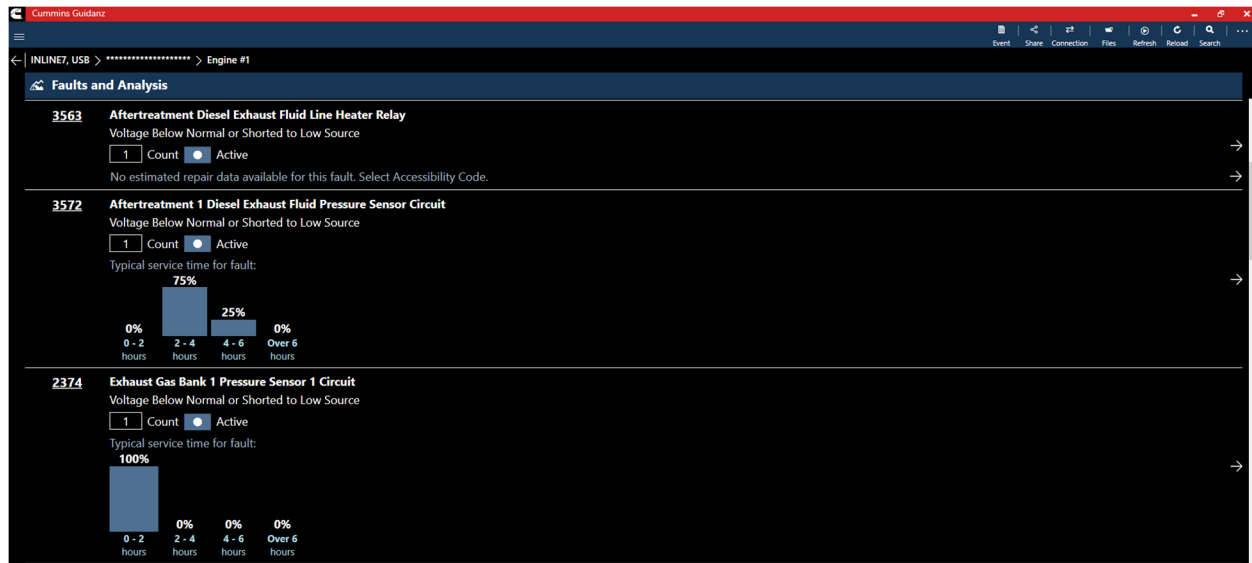


Figure 0-60 Estimated service times

CREATING A SERVICE REQUEST FROM IMMEDIATE ASSESSMENT

After performing the Immediate Assessment on a new engine, users can create a Guidanz Service Event Management's Service request directly from the application.

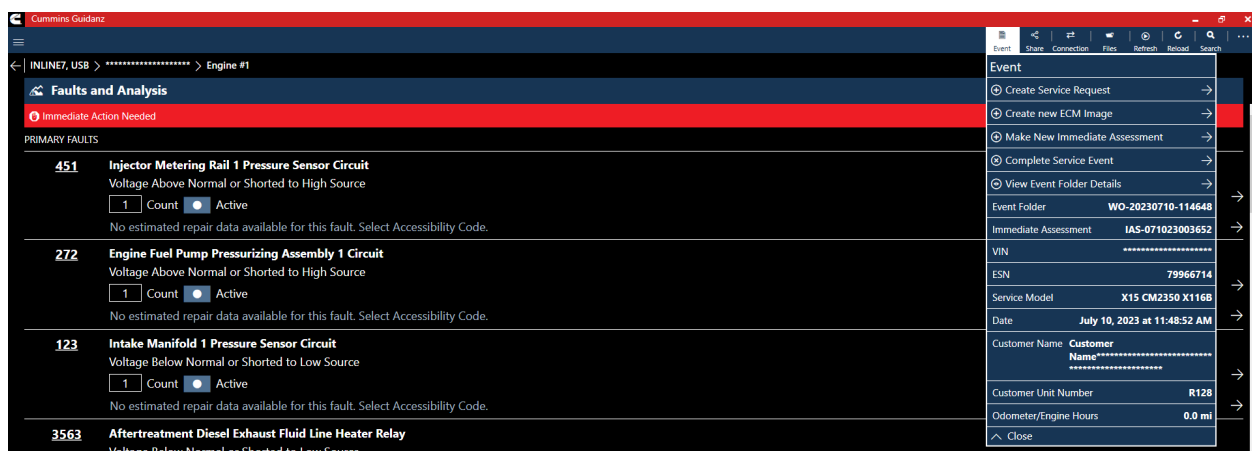


Figure 0-61 Create Service Request from Immediate Assessment

CREATE GUIDANZ SERVICE EVENT MANAGEMENT'S SERVICE REQUEST



PENDING SERVICE REQUESTS

Users can create an Immediate Assessment from a pending service request. Pending service requests are created in Guidanz Service Event Management.

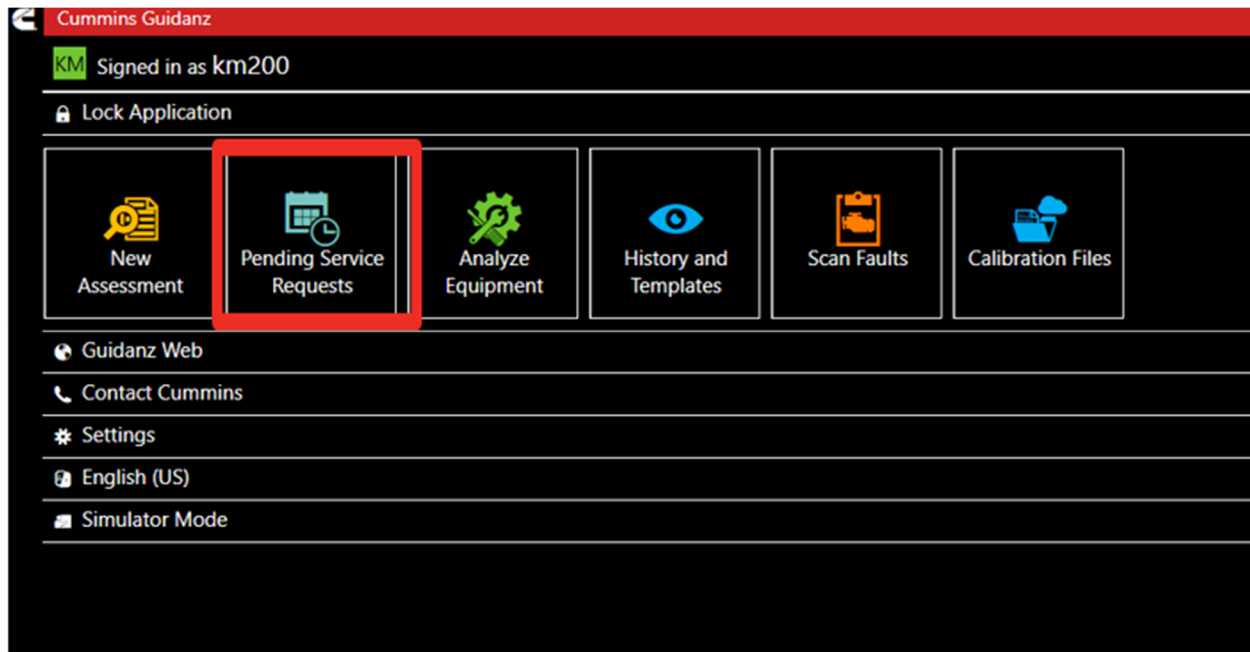
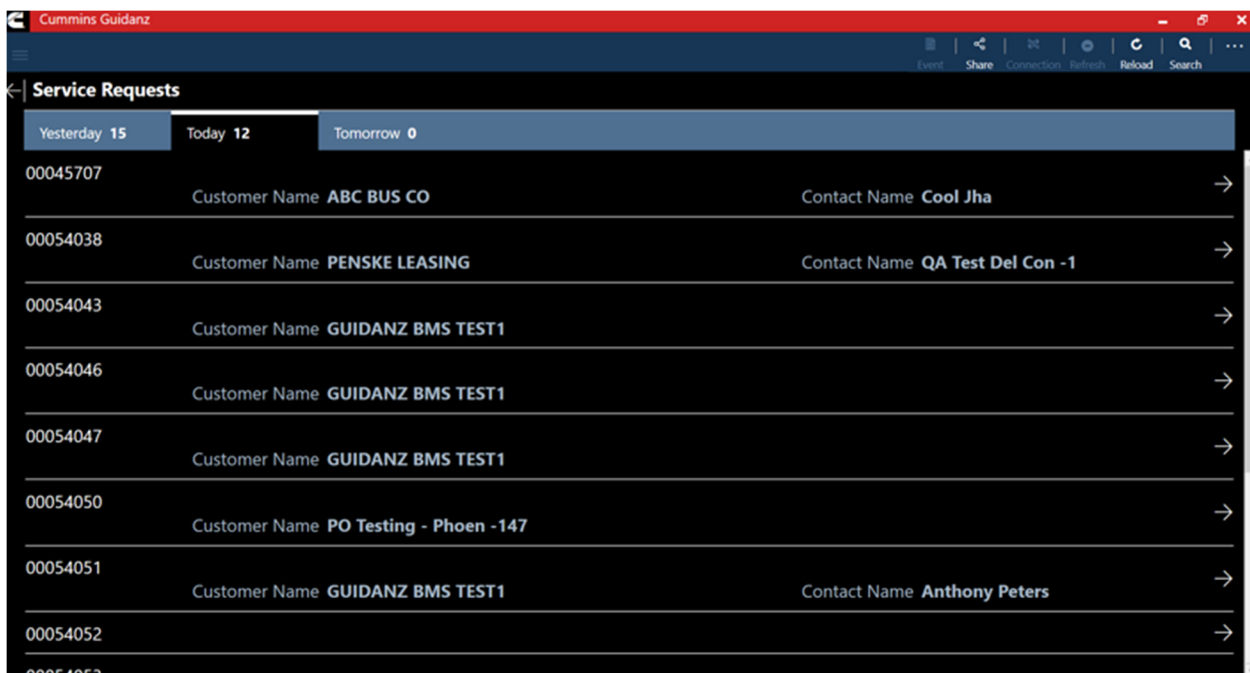


Figure 0-62 Pending Service Request Icon

SCHEDULE PAGE

Users enabled in Guidanz Service Event Management will be able to see appointment from “yesterday, today, and tomorrow” in the app.





PERFORMING IMMEDIATE ASSESSMENT FROM A PENDING SERVICE REQUEST

After selecting the correct appointment, users are given the option to perform the Immediate Assessment directly from the appointment screen. Please see [Intake](#) for complete instructions to perform the immediate assessment.

GUEST/ REGISTERED USER

ADAPTER CONNECTION

When Analyze Equipment, or Scan Faults is selected, the tool will offer a list of supported adapters to connect to the ECM

The page is broken into two sections USB adapters & Paired Bluetooth adapters. If a previously paired Bluetooth adapter is nearby, it will show as available.

Users can Select the adapter they are currently using to continue the connection.

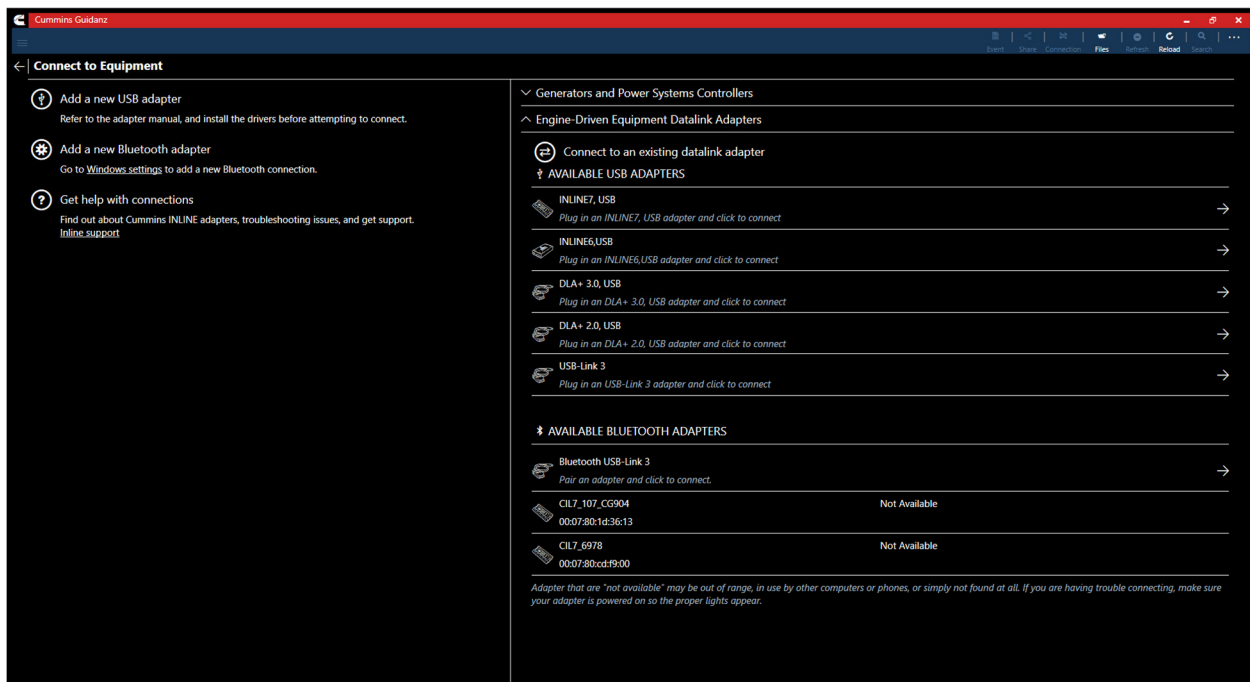


Figure 0-63 Adapter Connection Screen

INTAKE

During the Intake process, the application will connect to the selected Datalink adapter and pull the vehicle, engine serial number and Customer Name. Users can edit and change this information if they are incorrect.

The intake page also offers the ability to automatically create an ECM image during intake if desired. The default behavior of the “Create ECM Image” checkbox is controlled on the [Settings](#) Page.



Engine and Customer Information

To give you accurate diagnostics data, first we need some information.

Customer Name

Engine Serial Number

Complaint or Other Notes

Create ECM Image ☐

Continue →

Figure 0-64 Engine serial number pulled from ECM. Users can edit.

Based on the confirmed ESN, the equipment make and model list is retrieved from the server. The application pre-selects the data received from warranty data on the server and from the ECM if available. The user will still need to confirm these selections.

If there is no manufacturer list, it can be caused by:

- No data based on the ESN provided
- No Internet
- Server maintenance or downtime

Pick the Equipment Manufacturer

☐ AUTOCAR

☐ BERGKAMP

☐ BLUE BIRD

☐ BMC

☐ CLEAN HARBORS

☐ DIVERSE ENG

☐ DOOSAN

☐ FREIGHTLINER

☐ GILLIG

☐ HSC

☐ INTERNATIONAL

☐ KAMAZ

☐ KENWORTH

☐ LINK BELT

☐ NEOPLAN

☐ NEW FLYER

☐ NEW IDEA

☐ NOVABUS

☐ PETERBILT

☐ PIERCE

☐ PRINOTH

☐ SPT

From ECM

Figure 0-65 Make screen



Pick the Equipment Model

NEW FLYER Model

☐ C40LF/C40LFR

☐ D60LF

☐ XCELSIOR

☐ XD40

☐ XD60

☐ XDE40

☐ XDE60 [From ECM](#)

☐ Other Model

Figure 0-66 Model Screen

EQUIPMENT DATAPLATE

The Equipment Dataplate can be accessed via the Equipment Summary Screen and Engine Dataplate. It contains the information the user enters such as customer name, manufacturer, model, and well as other information.

Equipment Dataplate

000000000000000000000000

INFORMATION YOU ENTERED

Customer Name	Cummins
Customer Notes	no data
Manufacturer	NEW FLYER
Service Model	XDE60
Change this information	→

CUSTOMER INFORMATION

Customer Location	Columbus
Customer Name	Cummins
Customer Unit Number	5432

VEHICLE/OEM INFORMATION

Engine Distance	0.0 mi
OEM Name	NEW FLYER
OEM Vehicle or Equipment Model	XDE60
Vehicle Identification Number or Equipment Serial Number	000000000000000000000000
Vehicle or Equipment Year	2017

Figure 0-67 Equipment Dataplate screen



ECM FAULTS

Selecting Faults on the Device dashboard displays the Faults and Analysis screen (internet connectivity required) with Primary, Related, & Unprioritized faults.

HISTORY AND TEMPLATES

Event Folders can be viewed by clicking on History and Templates in the Start screen.

Event Folder Details can be viewed by

- clicking on an event in the Event Folders screen
- clicking on the bottom left icon on the chyron

POWER SYSTEM FEATURES

POWERGEN PLUS SUBSCRIPTION

ANALYZE EQUIPMENT

CONNECTING TO CONTROLLER

When Analyze Equipment or Scan Faults is selected, the tool will offer a list of supported adapters to connect to the controller. After connection, Analyze Equipment will take users to the Device Dashboard. After connection Scan Faults will take users directly to the Active faults page.

The Guidanz Diagnostic Toolkit PC Application app will look for and offer a list of available COM ports for connection.

*Note: Brain box only official supported Serial to USB adapter

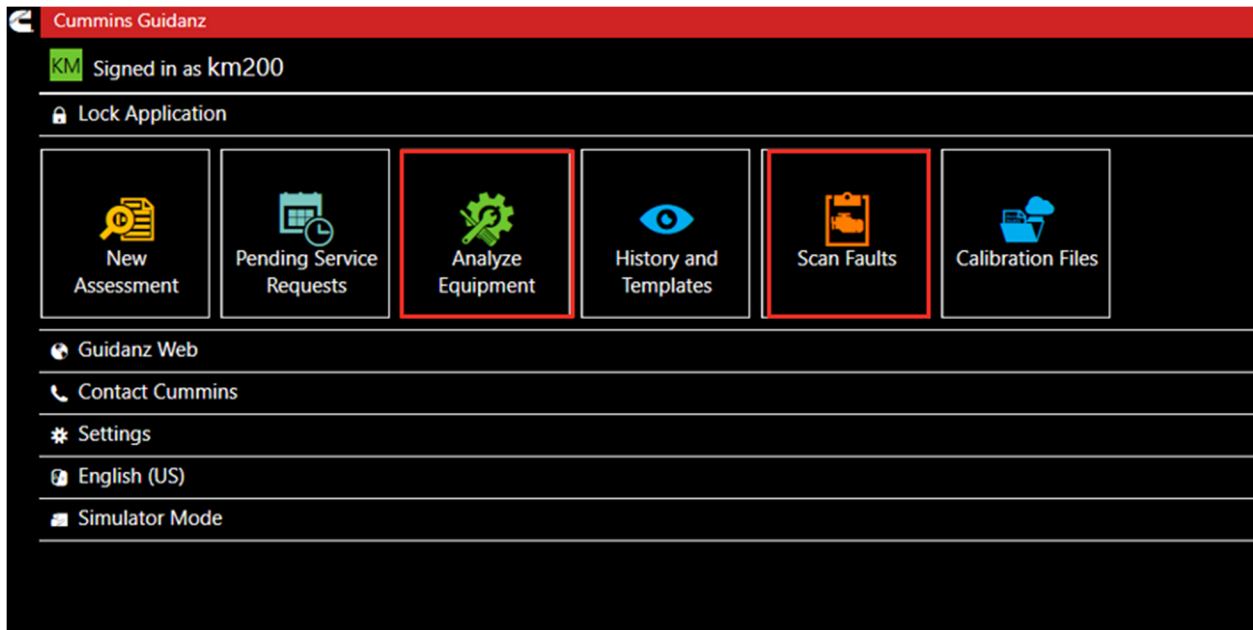


Figure 0-1 Dashboard

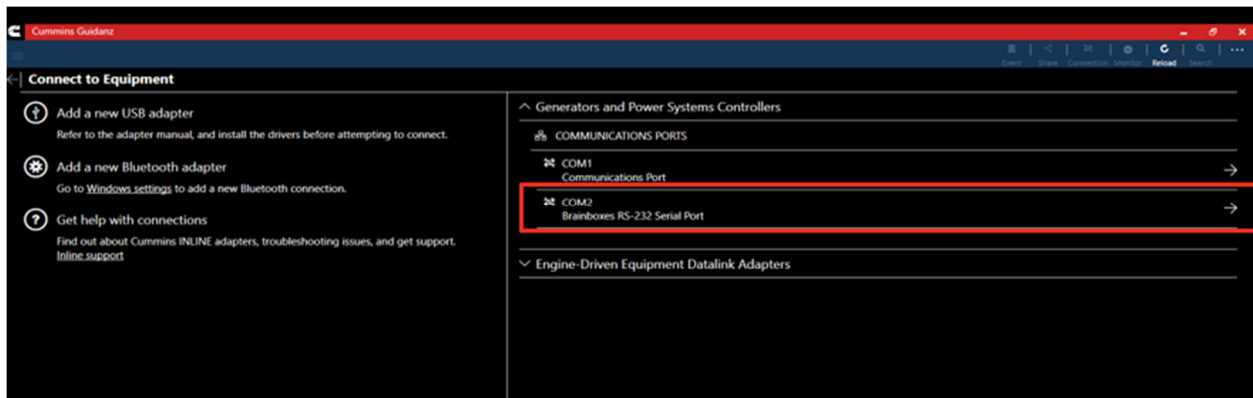


Figure 0-2 Connection screen with Generators and Power Systems Controllers expanded.

INTAKE

During the Intake process, the application will connect to the COM port and pull the Customer Name, Genset Serial number, Unit Number, Genset Model Number, and hour meter. The intake Users can edit and change this information if they are incorrect.

The intake page also offers the ability to automatically create capture file during intake if desired. The default behavior of the "Create ECM Image" checkbox is controlled on the [Settings](#) Page.



Figure 0-3 Intake Page

EQUIPMENT SUMMARY

The Equipment Summary screen will show (if available):

- Equipment Dataplate
- Cummins Genset Controller model

EQUIPMENT DATAPLATE

The Equipment Dataplate can be accessed via the Equipment Summary Screen and Equipment Dataplate. It contains the information the user enters such as customer name, manufacturer, model, and well as other information.

Figure 0-4 Genset Equipment Dataplate Screen.



DEVICE DASHBOARD

The device dashboard can be accessed by clicking on a Genset Controller from the Equipment Summary screen. The device dashboard shows all functionality available for the specific device.



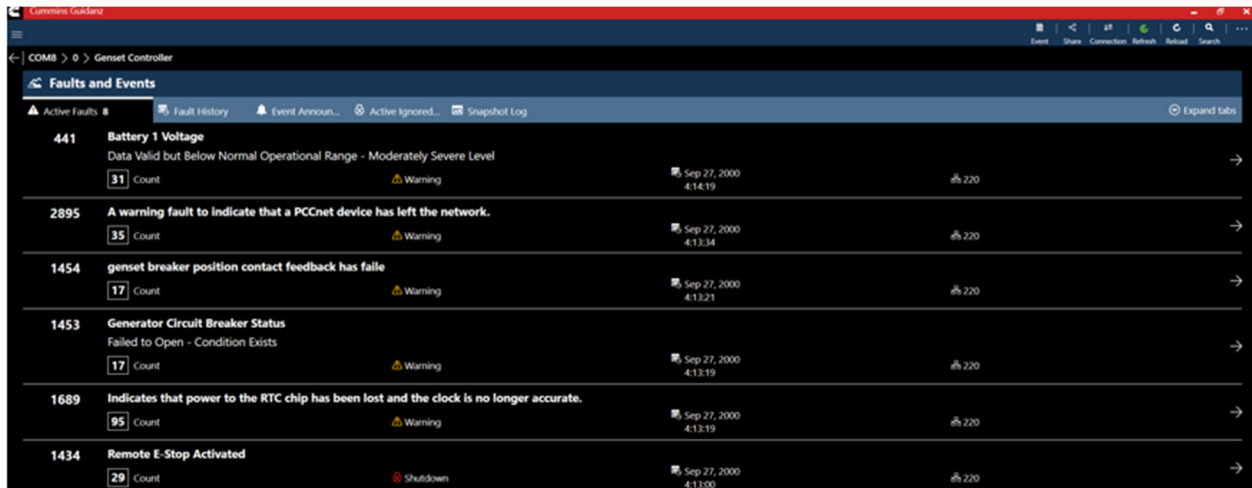
Figure 0-5 Device Dashboard

FAULTS

Selecting Faults on the Device Dashboard displays the Faults and Events add-in.

ACTIVE FAULTS

By default, the Faults and Events add-in will open on the active faults tab. This tab gives the fault number, description, type, and number of occurrences of the current active faults.



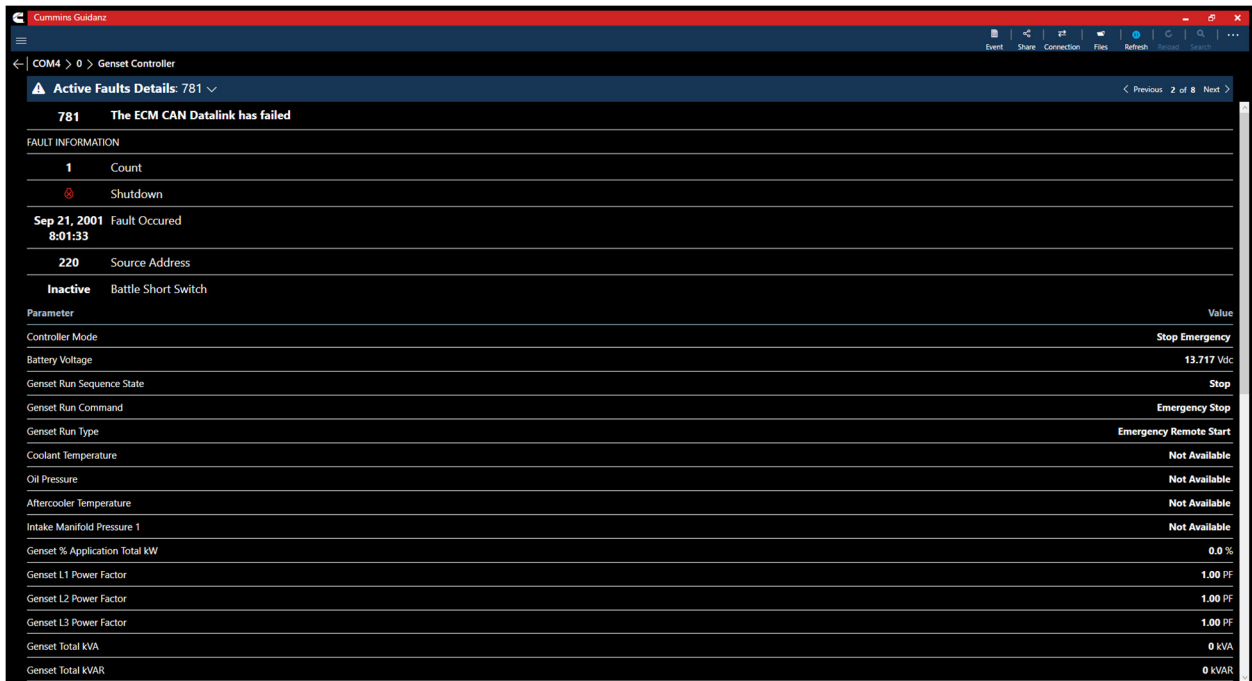
The screenshot shows the 'Active Faults' section of the Cummins Guidanz interface. It displays a list of faults with columns for fault code, description, count, severity, date, and a right arrow icon for details.

Fault Code	Description	Count	Severity	Date	Action
441	Battery 1 Voltage Data Valid but Below Normal Operational Range - Moderately Severe Level	31	Warning	Sep 27, 2000 4:14:19	→
2895	A warning fault to indicate that a PCCnet device has left the network.	35	Warning	Sep 27, 2000 4:13:34	→
1454	genset breaker position contact feedback has failed	17	Warning	Sep 27, 2000 4:13:21	→
1453	Generator Circuit Breaker Status Failed to Open - Condition Exists	17	Warning	Sep 27, 2000 4:13:19	→
1689	Indicates that power to the RTC chip has been lost and the clock is no longer accurate.	95	Warning	Sep 27, 2000 4:13:19	→
1434	Remote E-Stop Activated	29	Shutdown	Sep 27, 2000 4:13:00	→

Figure 0-6 Active Faults

FAULT DETAILS

Clicking on an individual Cummins fault code displays the Fault Details, and the fault snapshot, if supported.



The screenshot shows the 'Active Faults Details' for fault code 781. It includes fault information, source address, and a detailed parameter table.

Active Faults Details: 781	
781 The ECM CAN Datalink has failed	
FAULT INFORMATION	
1	Count
Shutdown	
Sep 21, 2001 Fault Occured 8:01:33	
220	Source Address
Inactive	Battle Short Switch
Parameter	Value
Controller Mode	Stop Emergency
Battery Voltage	13.717 Vdc
Genset Run Sequence State	Stop
Genset Run Command	Emergency Stop
Genset Run Type	Emergency Remote Start
Coolant Temperature	Not Available
Oil Pressure	Not Available
Aftercooler Temperature	Not Available
Intake Manifold Pressure 1	Not Available
Genset % Application Total kW	0.0 %
Genset L1 Power Factor	1.00 PF
Genset L2 Power Factor	1.00 PF
Genset L3 Power Factor	1.00 PF
Genset Total KVA	0 KVA
Genset Total KVAR	0 KVAR

Figure 0-7 Active Fault Snapshot

FAULT RESET

Users can click on “...” for access to the “Clear Faults option.

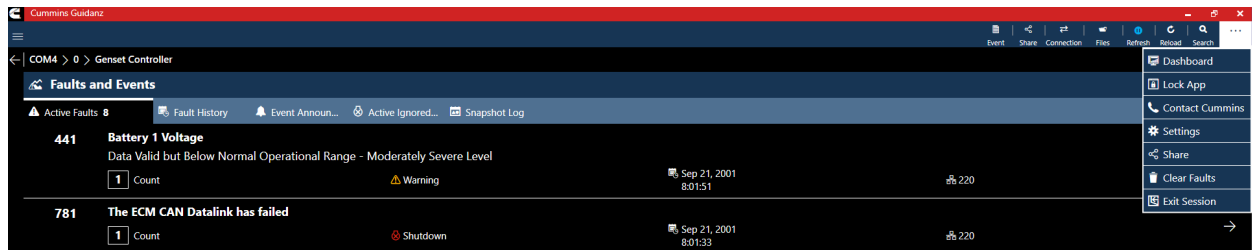


Figure 0-8 Reset Faults

FAULT HISTORY

Clicking on the Fault History tab allows users to view active and inactive faults.

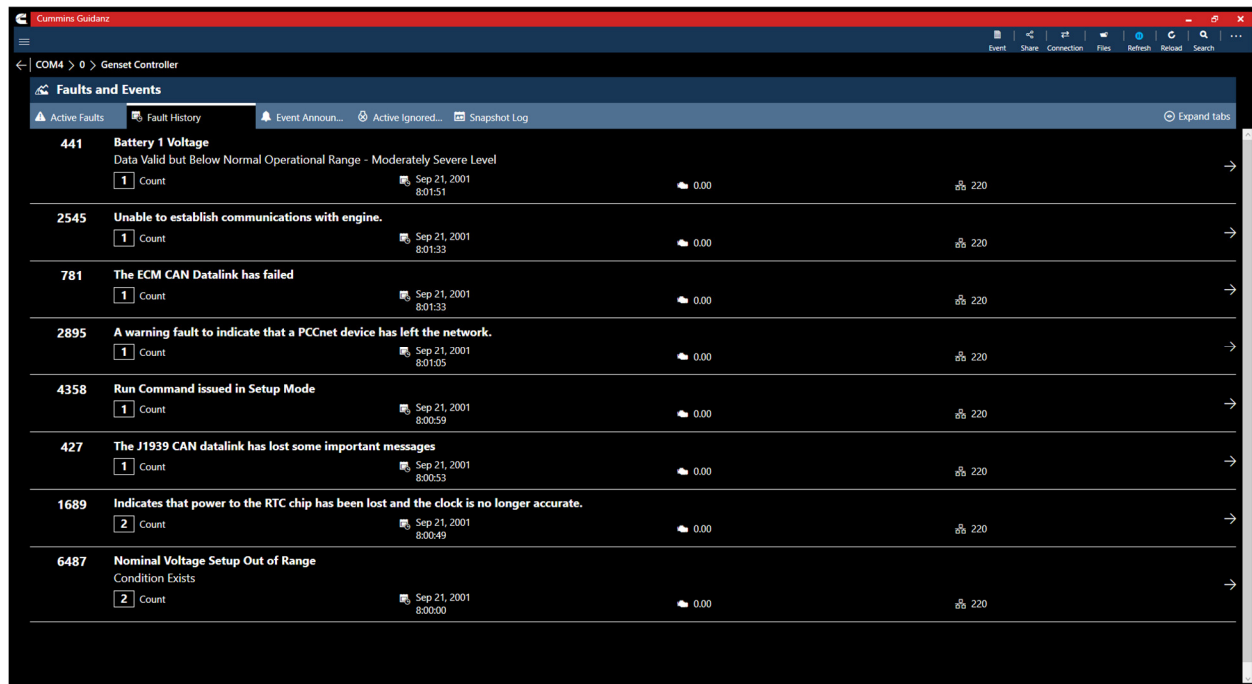


Figure 0-9 Fault History

EVENT ANNOUNCEMENT'S

Clicking on the Event Announcement's tab allows users to acknowledge individual or all announcements.

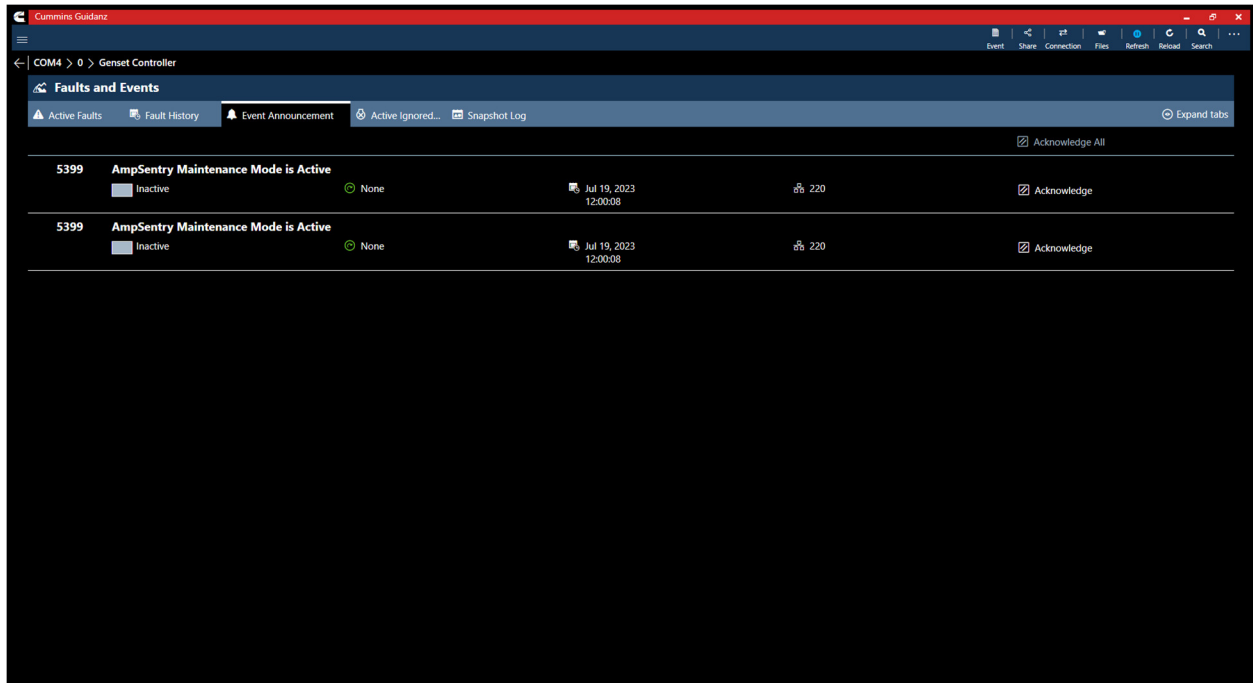


Figure 0-10 PowerGen Event Announcements

ACTIVE IGNORED ENGINE SHUTDOWN FAULTS

Clicking on the Active Ignored Engine Shutdown tab allows the user to view the current ignored shutdown events.

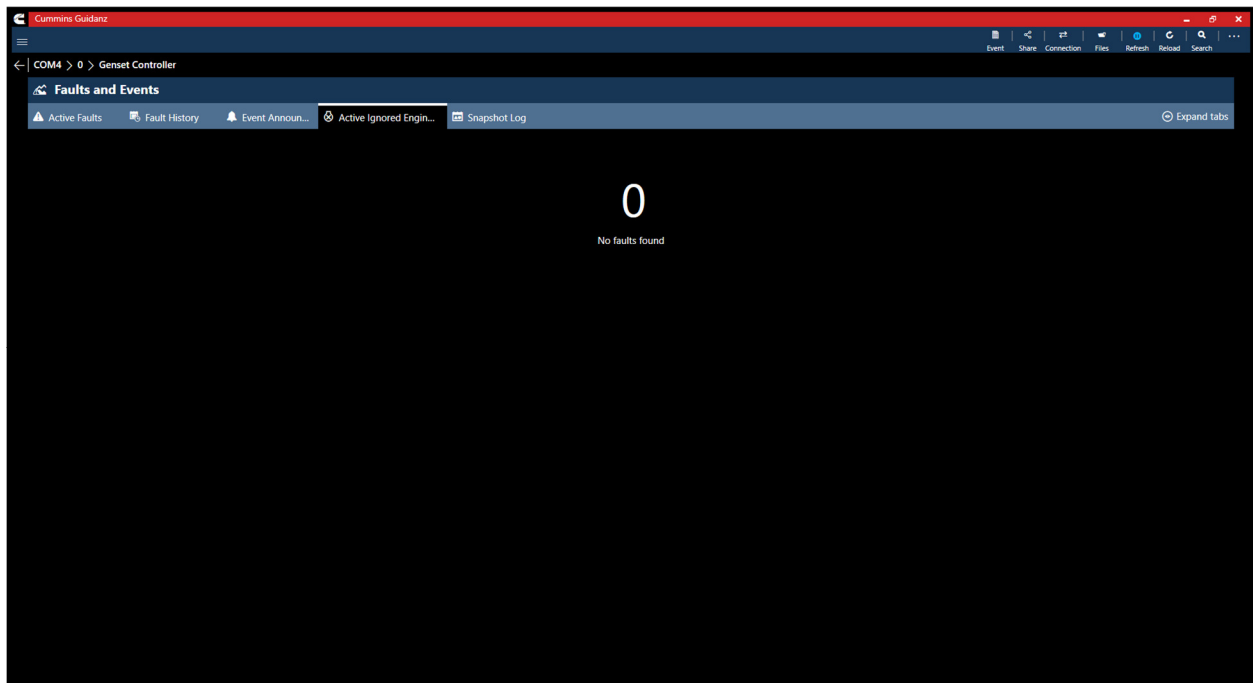


Figure 0-11 PowerGen Active Ignored Engine Shutdown

MAINTENANCE ALARM STATUS



Click on the Maintenance Alarm Status tab allows the user to view the current active maintenance alarms.

- Note that this feature is not supported on the PCC3300 V1 controller.



Figure 0-12 Maintenance Alarms

SNAPSHOT LOG

Clicking on the Snapshot Log allows users to view snapshot logs and number of occurrences for all faults enabled with a snapshot.

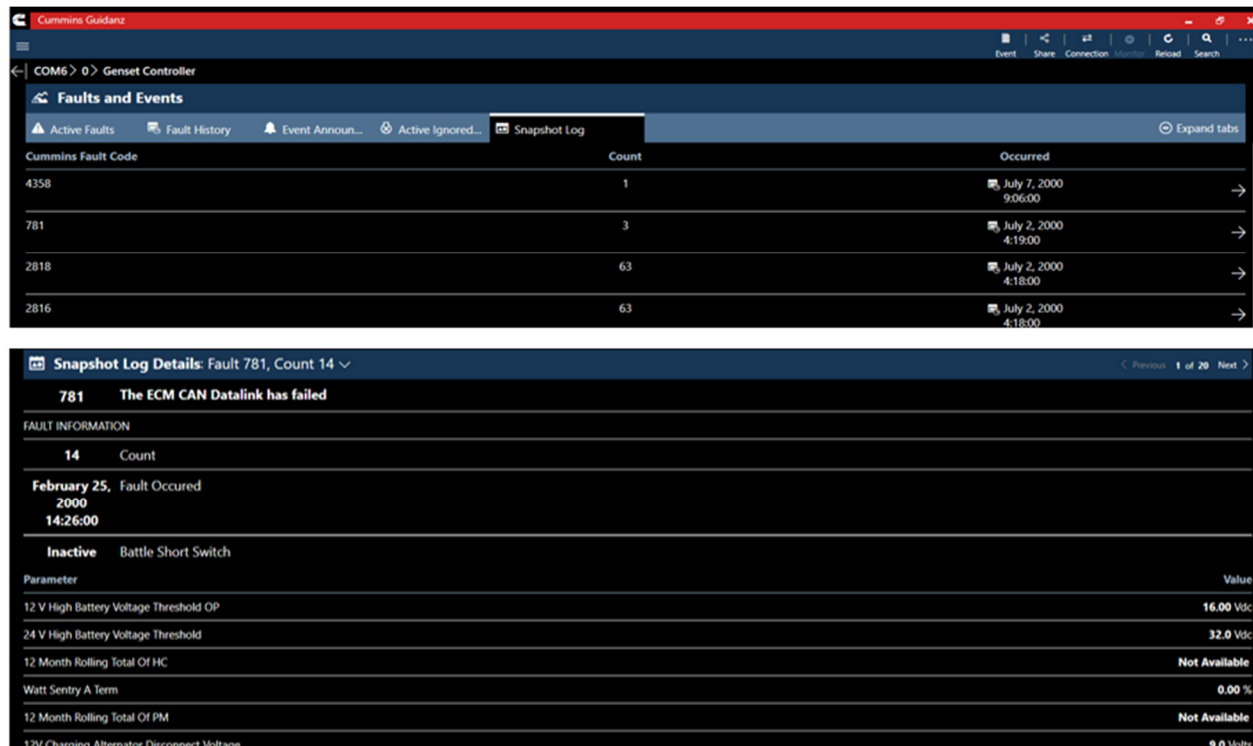


Figure 0-13 Snapshot Log

DATA MONITOR

Clicking on Data Monitor on the Device Dashboard takes the user to the Data Monitoring screen which allows the user to monitor and record parameters. Parameters are divided into pre-defined groups that



can be selected based on the Gen-set behavior being experienced. When clicking on Monitor the user can monitor all parameters supported by the controller.

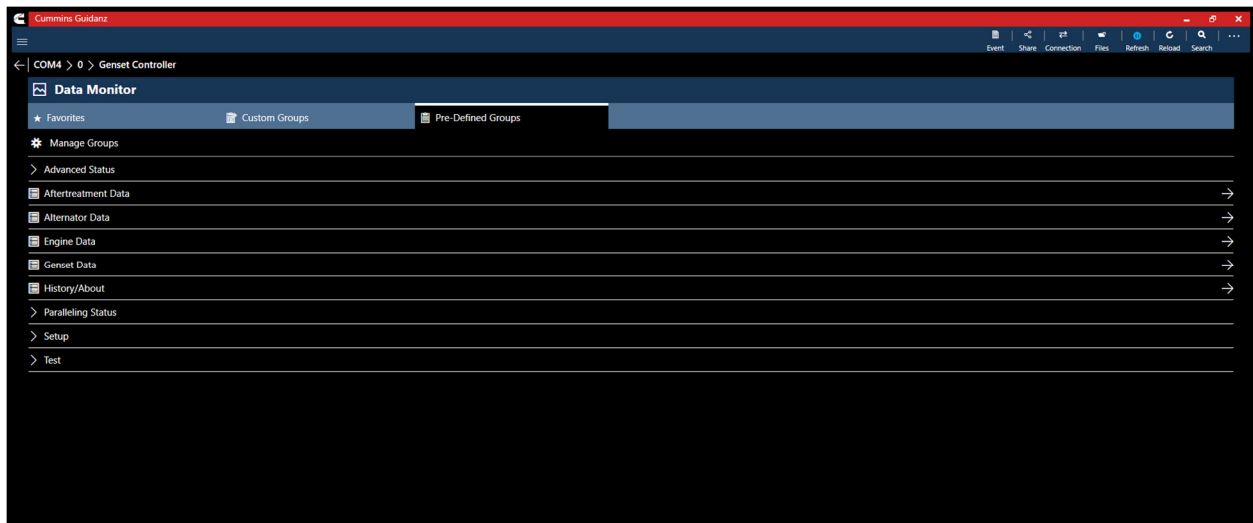


Figure 0-14 Data Monitor Pre-Defined Groups

MONITORING

Users can start and pause (Stop) the data monitoring and change the time settings. When clicking on the Sample time, the user can change the monitoring speed, and the max recording time.

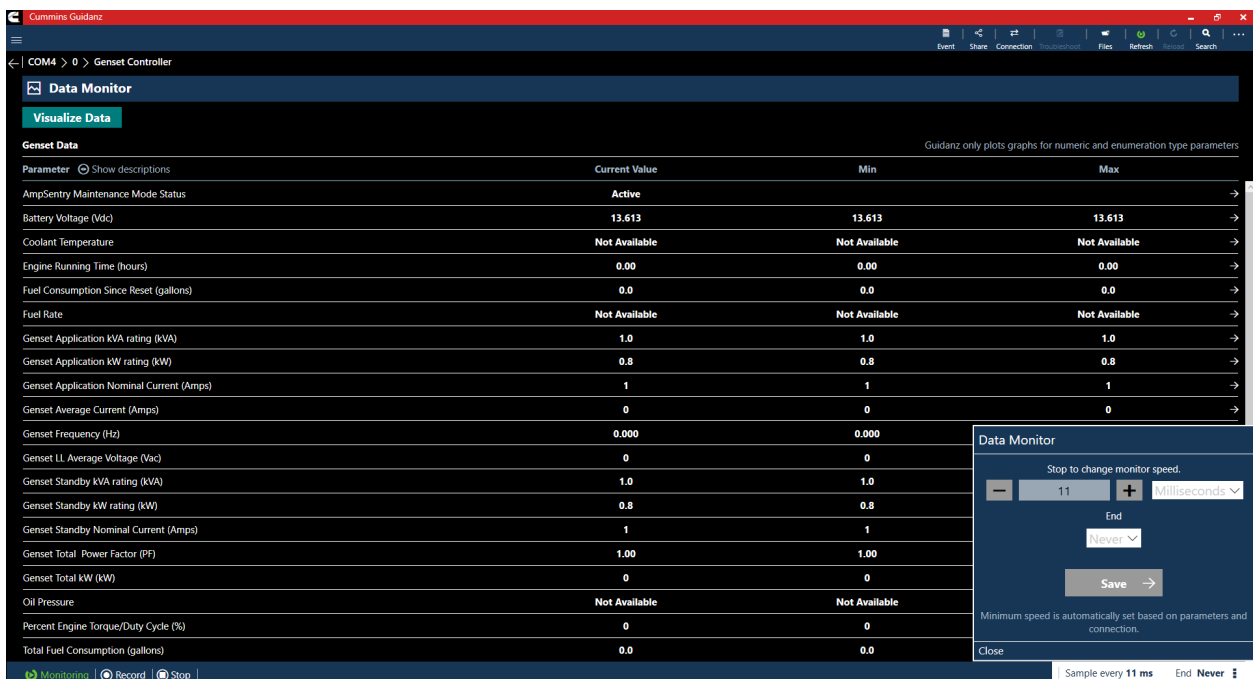


Figure 0-15 Data Monitor and Record; adjusting Monitor frequency.

RECORDING



Recording can be started by selecting the Recording icon in the control bar. While recording, each time the user clicks the Pause button or leaves the DML screen a record file created and stored.



Figure 0-16 Data Monitor; recording

GRAPHICAL MONITORING

Selecting the “Visualize Data” button, allows users to create a graphical representation of numerical and enumeration type parameters.

After selecting parameters to graph, users can use the following actions to control the graph:

1. Left click in graph to stop auto-scrolling.
2. Double click when stopped, to resume auto-scrolling.
3. Annotate any point on the graph by right- clicking.
4. Group or separate graphs with the same units by selecting the “Grouped” or “Separate” buttons.

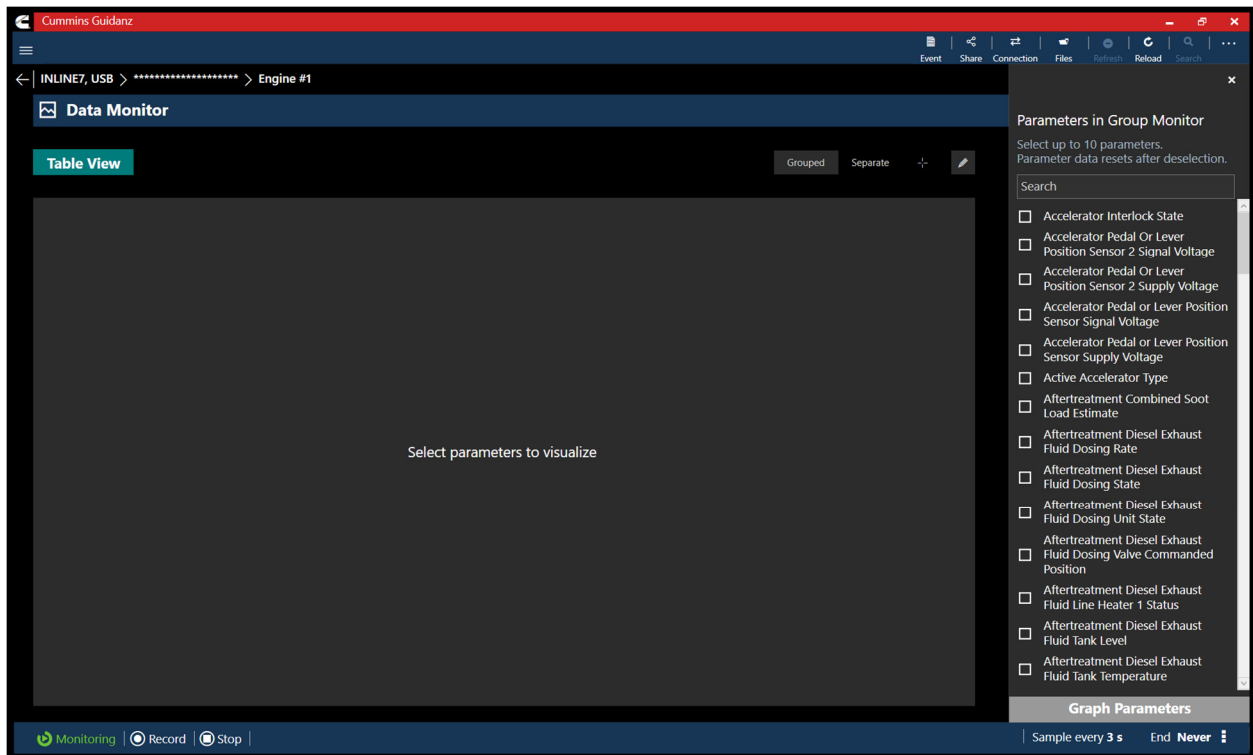


Figure 0-17 Graphical Monitoring parameter selection screen.



Figure 0-18 Graphical Monitoring Screen



CUSTOM GROUP MANAGEMENT

Custom groups can be created, imported, and saved from the “Custom Groups” tab in the Data Monitor add-in of Guidanz .

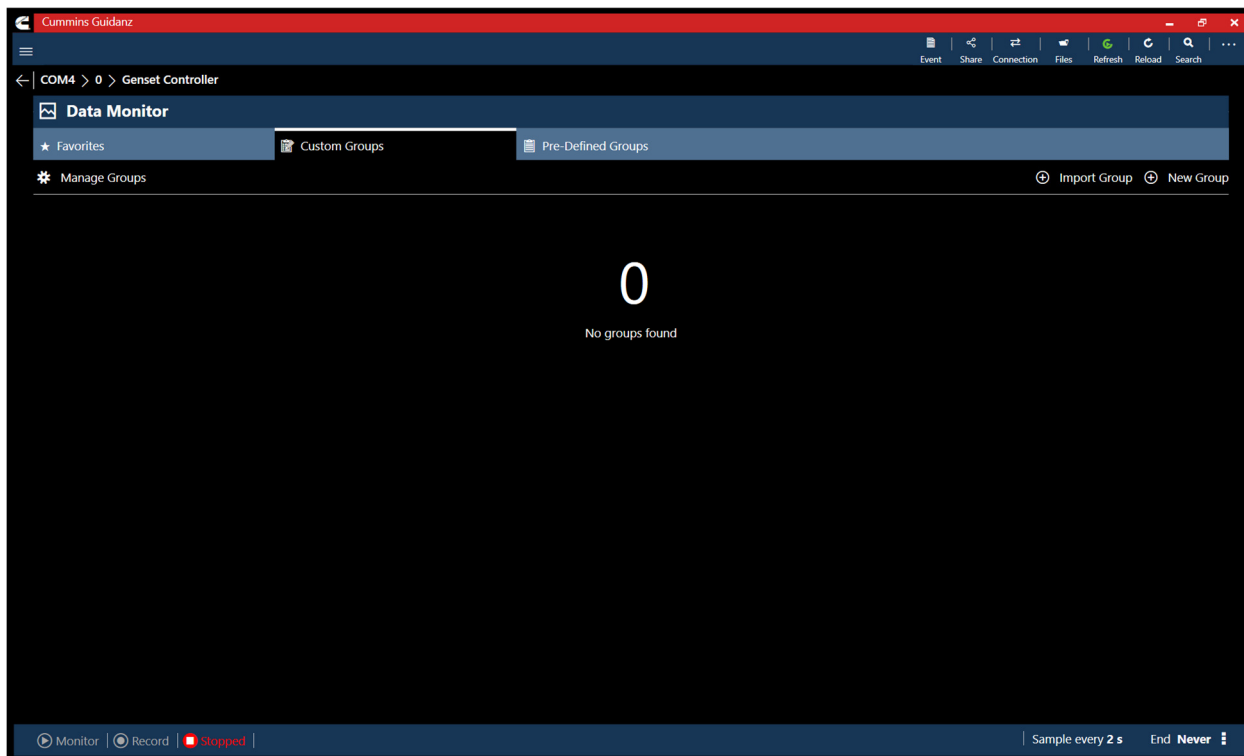


Figure 0-19 Custom Groups tab.

GROUPS

Users can select pre-defined groups with pre-defined parameters to monitor or record. A user can also create and save a new custom group with parameters selected. During the selection process the parameters grayed out are not supported by the controller. Custom groups can be added to Favorites.

CUSTOM GROUP EXPORTING



While creating a custom group, users have the option to export the group as a .TPL file or save the group to use for future monitoring sessions.

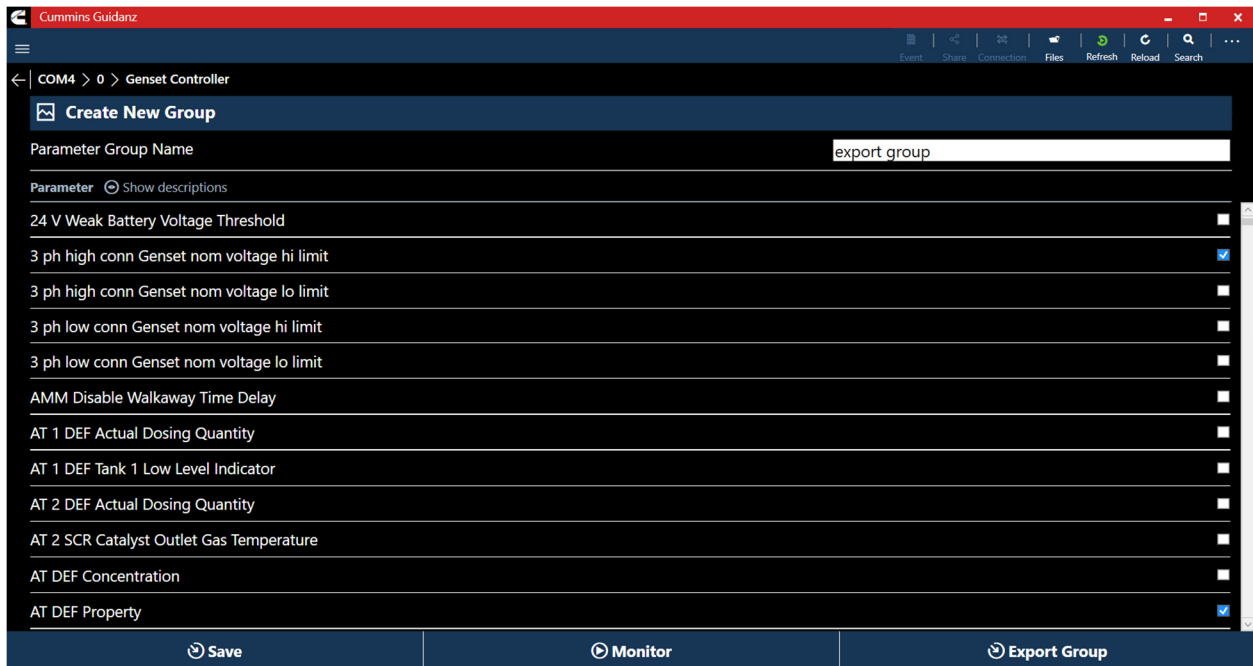


Figure 0-20 Data Monitor Creating Custom Group

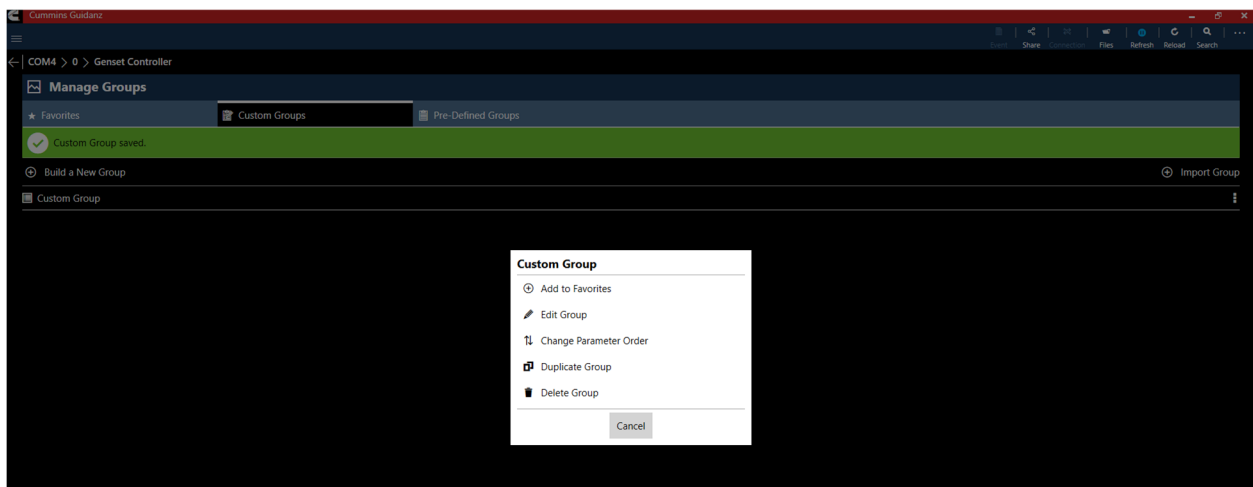


Figure 0-21 Data Monitor Adding group to Favorites.

DEVICE SETTINGS

Clicking on Device Settings on the Device Dashboard, the user is taken to the Device Settings screen where the user can see the values of each parameter. User can change parameter and sub-parameter values that are not locked by changing the value within the specified min and max values

SEARCH

User can search Device Settings for the name or unit of a parameter to quickly find a specific parameter that requires modification.

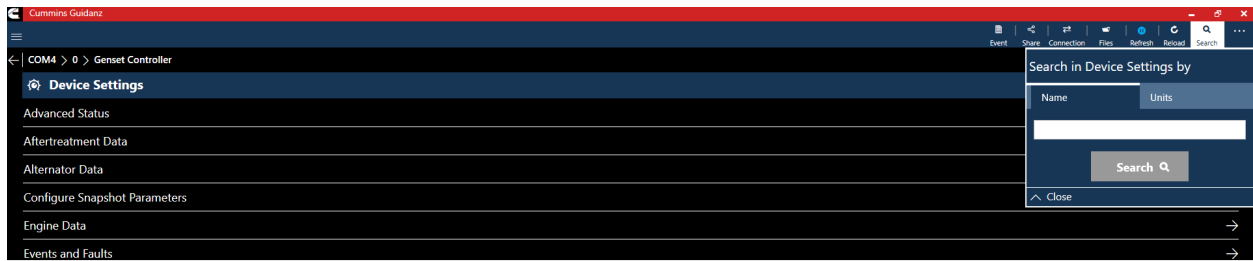


Figure 0-22 Device Settings Search by Name.

FAULT CONFIGURATION

Clicking Device Settings, Events and faults, Fault record List on the Device Dashboard allows the user to set Genset response, Snapshot creation, Dialout, and Derate % for specific fault codes.

Fault Code	Genset Response	Snapshot	Dialout	Derate % (0 - 100 Derate %)
Engine Control Module Critical Internal Failure - Bad Intelligent Device or Component				
111	Shutdown	No Snapshot	No Dialout	48
Engine Magnetic Crankshaft Speed/Position lost both of two signals - Data Erratic Intermittent or Incorrect				
115	Shutdown	Take Snapshot	No Dialout	53
Engine Magnetic Crankshaft Speed / Position Lost One of Two Signals - Abnormal Rate of Change.				
121	Warning	No Snapshot	No Dialout	0
Intake Manifold 1 Pressure Sensor Circuit - Voltage Above Normal or Shorted to High Source				
122	Shutdown	No Snapshot	No Dialout	48
Intake Manifold 1 Pressure Sensor Circuit - Voltage Below Normal, or Shorted to Low Source				
123	Shutdown	No Snapshot	No Dialout	48
Intake Manifold 1 Pressure - Data Valid but Above Normal Operational Range - Moderately Severe Level				
124	Shutdown	No Snapshot	No Dialout	48
Engine Oil Rifle Pressure 1 Sensor Circuit - Voltage Above Normal, or Shorted to High Source				
135	Derate	No Snapshot	No Dialout	48

Figure 0-23 Fault configuration screen.

FAULT SNAPSHOT PARAMETER CONFIGURATION

Clicking Device Settings, Configure Snapshot Parameters allows the user to configure the included and order of parameters in the Fault Snapshot. After selecting the parameter to replace, Guidanz will show the new parameter, and the parameter that is being replaced. User can click on View and Save changes, Save Changes to finalize the Snapshot.

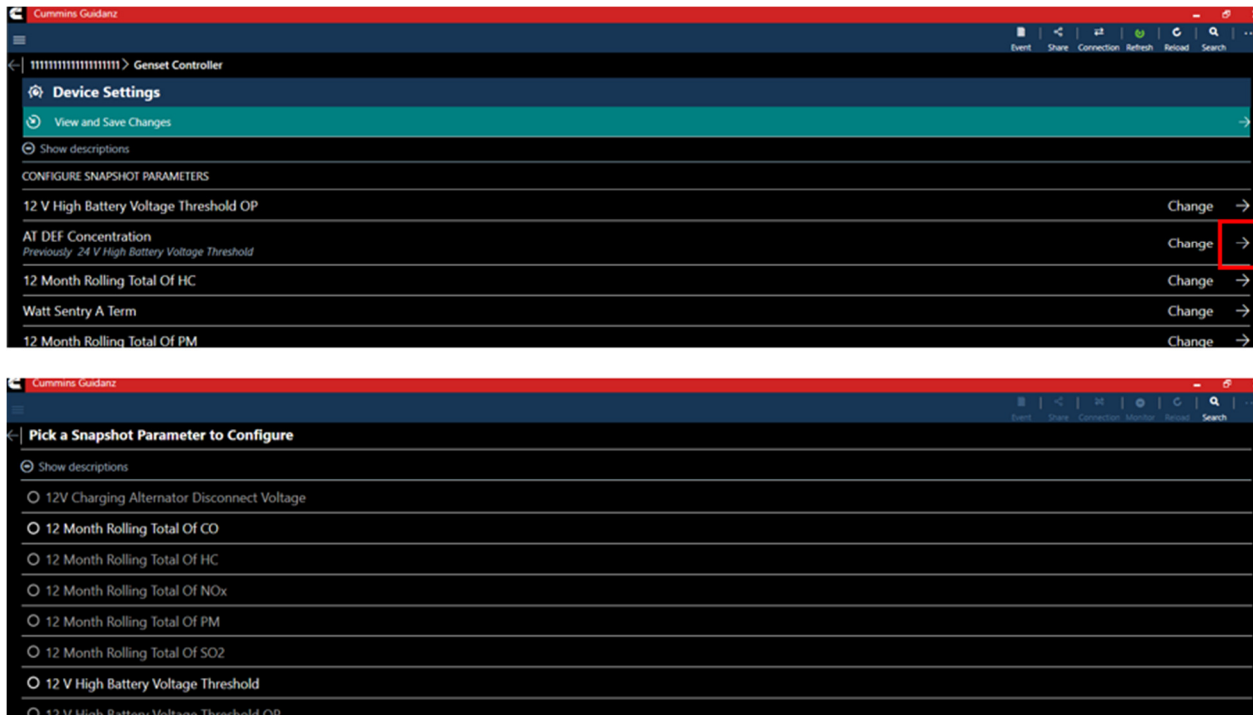


Figure 0-24 Fault configuration Screen continued.

CALIBRATE CONTROLLER

If an updated calibration is selected users can select the Download Calibration button directly from the Device Dashboard to begin the calibration process.

Selecting Calibrate Controller will allow users to see the current Calibration Firmware Version and any new Firmware Version available. Users can also browse and download calibrations through the search online option. Users can also browse and download calibrations through the search online option.

DOWNLOADING TO DEVICE

Users can use the Search Online Calibrations to select a supported controller and download the latest calibration package to their PC. After downloading, the calibration process can be started by clicking the three dot menu of the desired calibration.

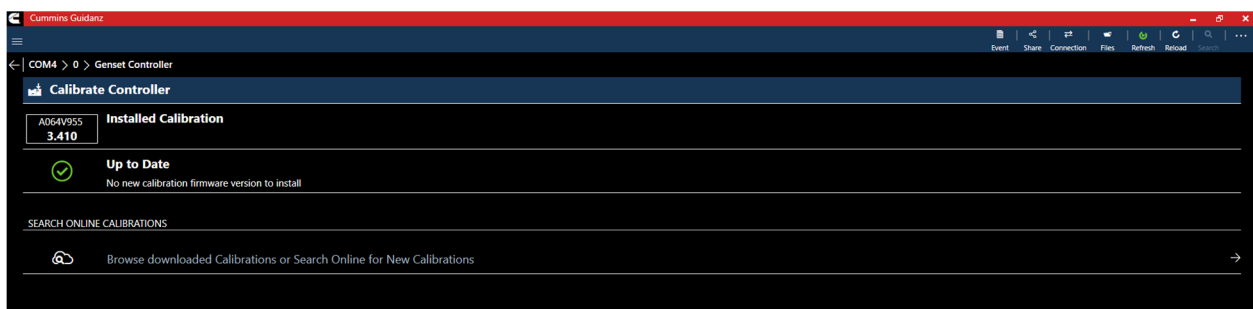


Figure 0-25 Calibration Add-in

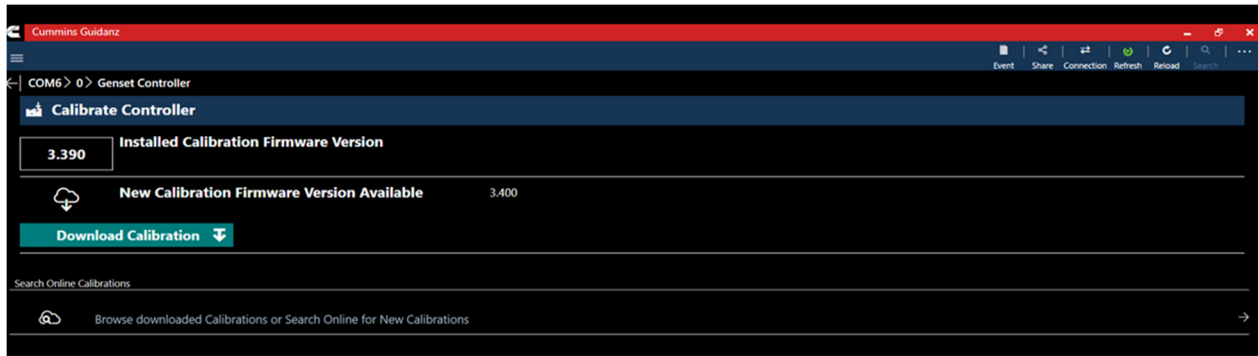


Figure 0-26 Option to download new Calibration to PC.

NOT AVAILABLE & SPECIAL CALIBRATIONS

. Calibrations that are “Special” or not available will be highlighted after downloading the calibration package to the PC.

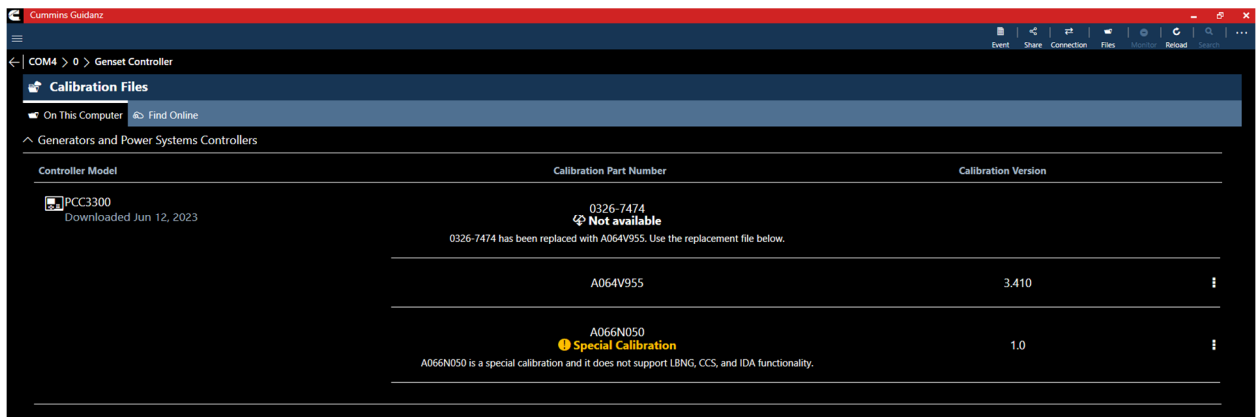


Figure 0-27 Special Calibration highlight.

DOWNLOADING TO CONTROLLER

The calibrate controller functionality is broken into several pages.

- Overview Page.
 - This page gives an overview of the process and the required instructions.

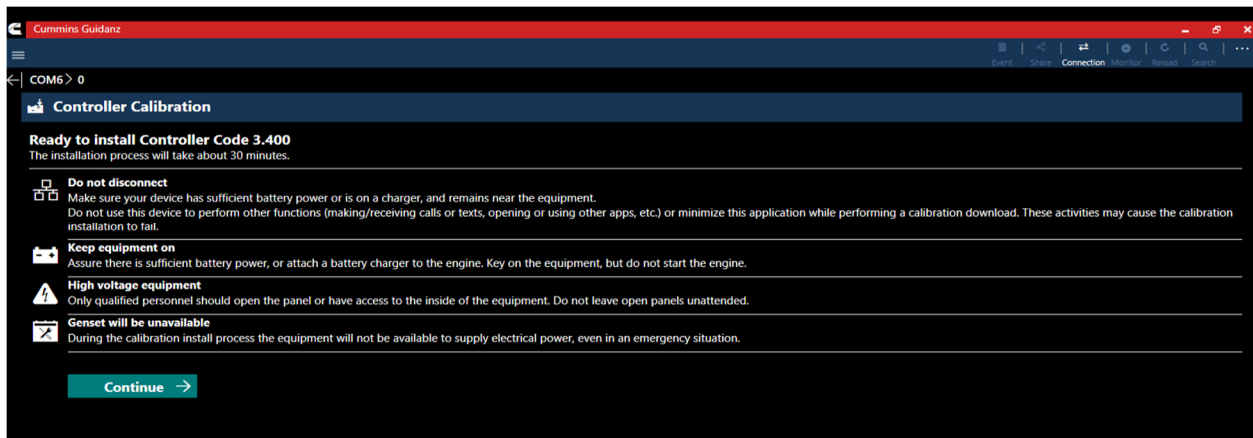


Figure 0-28 Calibration process; Overview page

- Risks, Warnings, and Save and Restore option.
 - Please read the Risks of Calibration page to ensure familiarity with the possible failure effects and remediation process.
 - Users have the option select a source of parameters to be written to the controller after the calibration is completed.
 - Users can also select specific Feature Files to write to the controller after the calibration is completed.

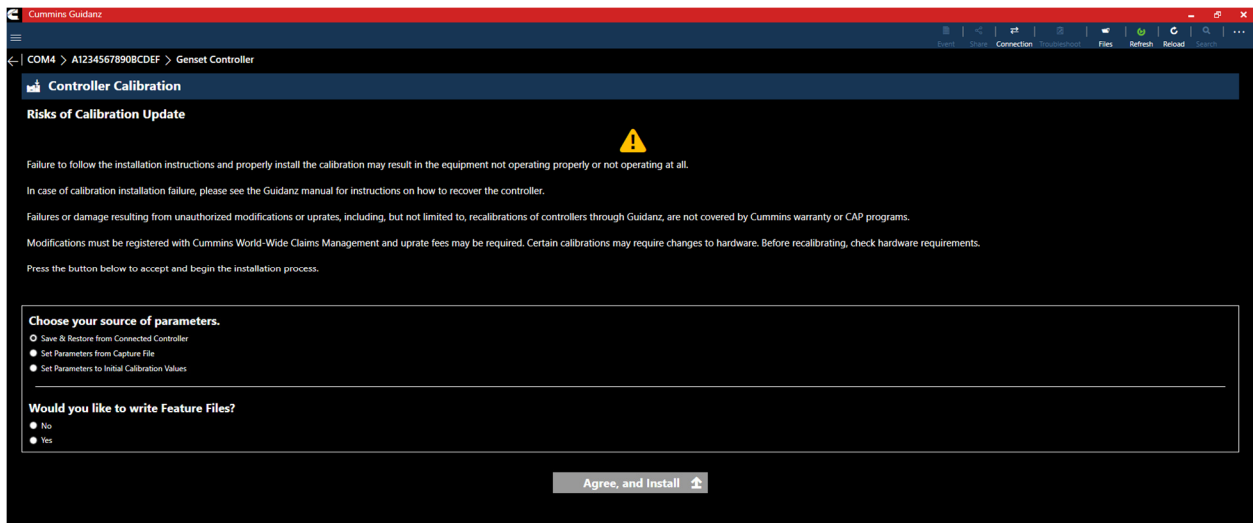


Figure 0-29 Calibration Process; Warnings and Save and Restore.

- Process confirmation.
 - Select the Begin Process button to begin the calibration transfer to the controller.

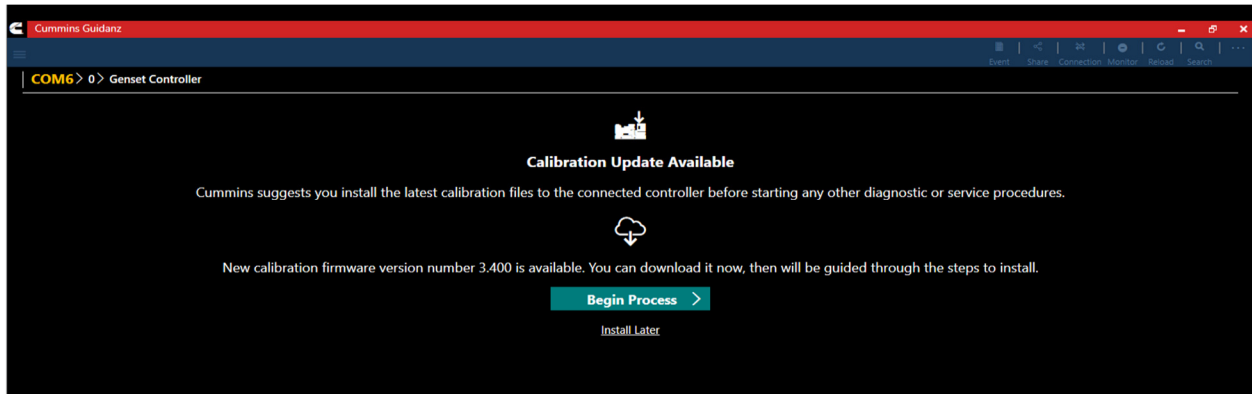


Figure 0-30 Download page.

- Download page.
 - Step 1: Saving optional parameters.
 - Step 2: Transferring base calibration to the controller.
 - Step 3: Writing optional parameters back to the controller.
 - Step 4: Finalizing the calibration process.

SAVE & RESTORE

When the Save and Restore checkbox is checked, Guidanz will attempt to write the custom parameter values back to the controller after the base calibration update process is completed.

PARAMETERS NOT RESTORED

After the calibration process is completed. Any parameter values that were not restored will be highlighted to users. These values will need to be written manually in the Device Settings add-in.

AUDIT TRAIL

Clicking on Audit Trail on the Device Dashboard the user is taken to the Audit Trail screen where the user can see the audit trail of the connected Genset.

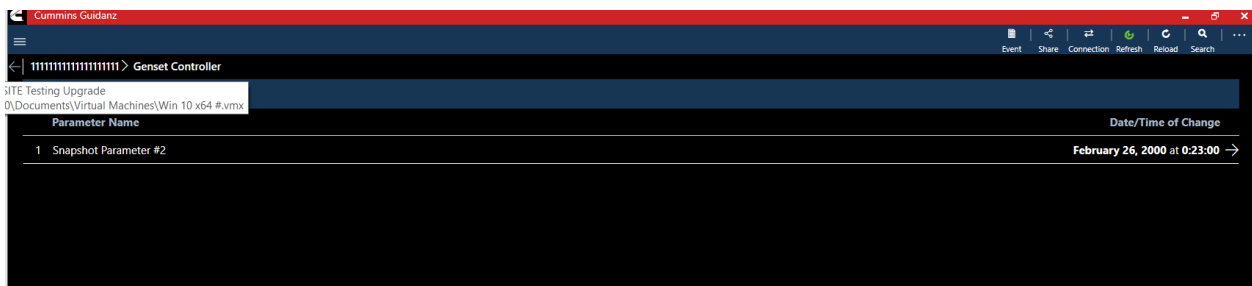


Figure 0-31 Audit Trail

AUDIT TRAIL RECORD

Clicking on one of the Audit Trail records will give detailed information on the previous value, current value, and Date/Time the change was made.



Parameter Name	Snapshot Parameter #2
Previous Value	8306 Logical Address
Current Value	5941 Logical Address
Date and Time	February 26, 2000 at 0:23:00

Figure 0-32 Audit Trail individual record details.

FEATURE FILES

Clicking on Feature Files will allow the user to view and install feature files for the connected controller.

File Name	Created	Model	Description
0326-7723.fdi	1 Nov 2019	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (VollRange 190-240/380-440V 3 P Only)
A032W261.fdi	14 May 2018	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (110.4 Standby(100 Prime)kw 3P 50Hz)
A040K000.fdi	13 Jul 2018	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (1270/1120 stdby(1120/1000 prime)kw 3p)
A040R768.fdi	13 Jul 2018	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (Engine Protection for K19,V28,K38 and K50 Prime Rating)
A052B233.fdi	16 Jul 2018	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (CT Ratio 550/1100X)
A055T813.fdi	18 Jan 2022	PCC3300	CODE-DES FEATURE COMMERCIAL COMMON (Alternator Temperature)
A067H455.fdi	28 Jun 2021	PCC3300	CODE-DES FEATURE PCC3300 (ITA Pump Configuration)

Figure 0-33 Feature files

VIEWING PARAMETER VALUES

Selecting the Reveal arrow for a Feature file will display all parameters and values.

WRITING TO CONTROLLER

Selecting one or more of the Feature File checkboxes will enable the Write to Controller on the Feature File screen.

CAPTURE FILES

Selecting Capture files while connected to a controller, will display all compatible capture files. When not connected to a controller, all Capture files on the PC will be displayed.

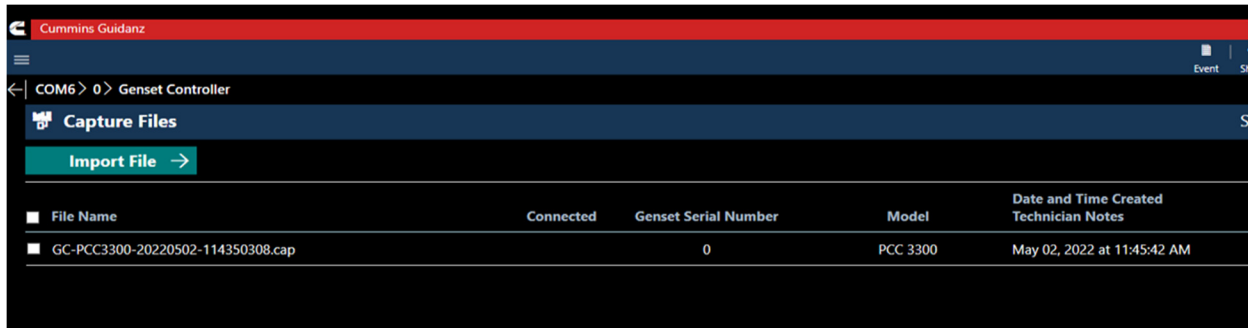


Figure 0-34 Capture Files add-in with Import File button.

IMPORTING A CAPTURE FILE

Selecting Import File will allow users to navigate and select Capture files located on the local PC and load them into Guidanz Diagnostic Toolkit.

Note: Any capture file can be imported, but when connected to a controller, only compatible files will be displayed.

EXPORTING A CAPTURE FILE

Users can export a capture file to CSV by selecting the three-dot menu for any capture file in the Captures Files add-in. After the export is completed, Guidanz will display the location and file name of the created CSV file.

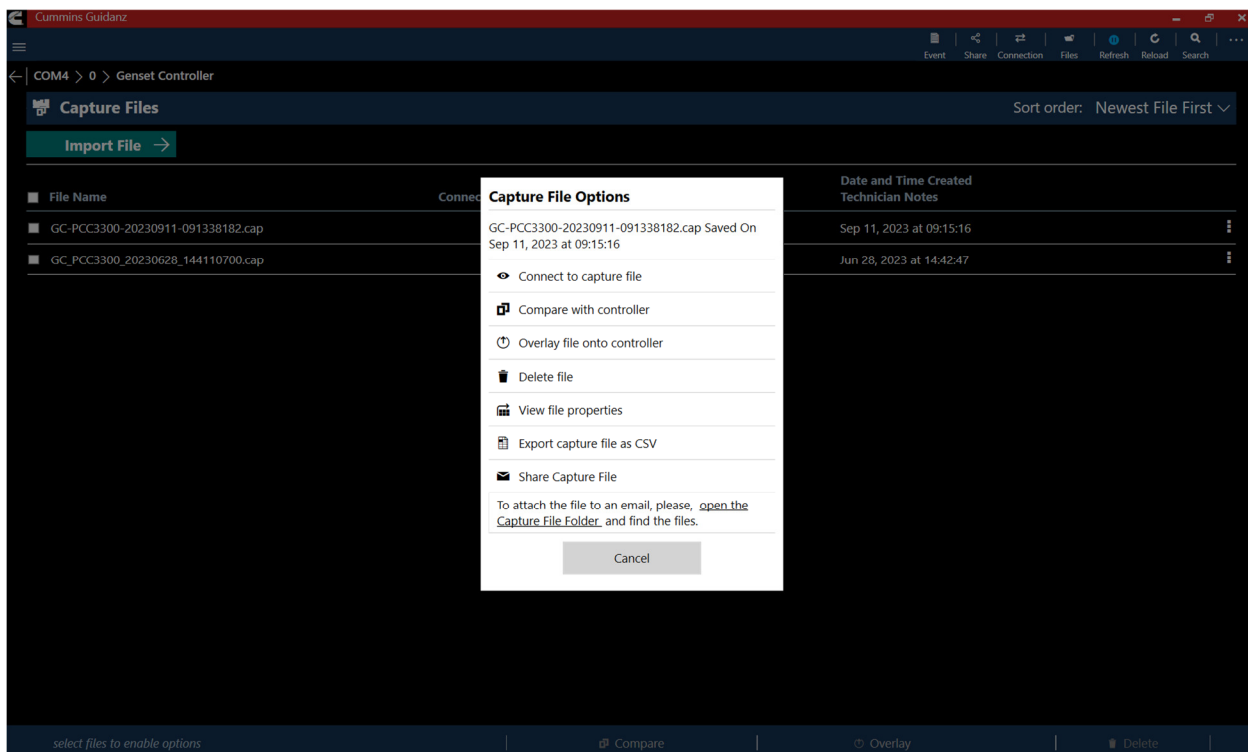


Figure 0-35 Capture File export.

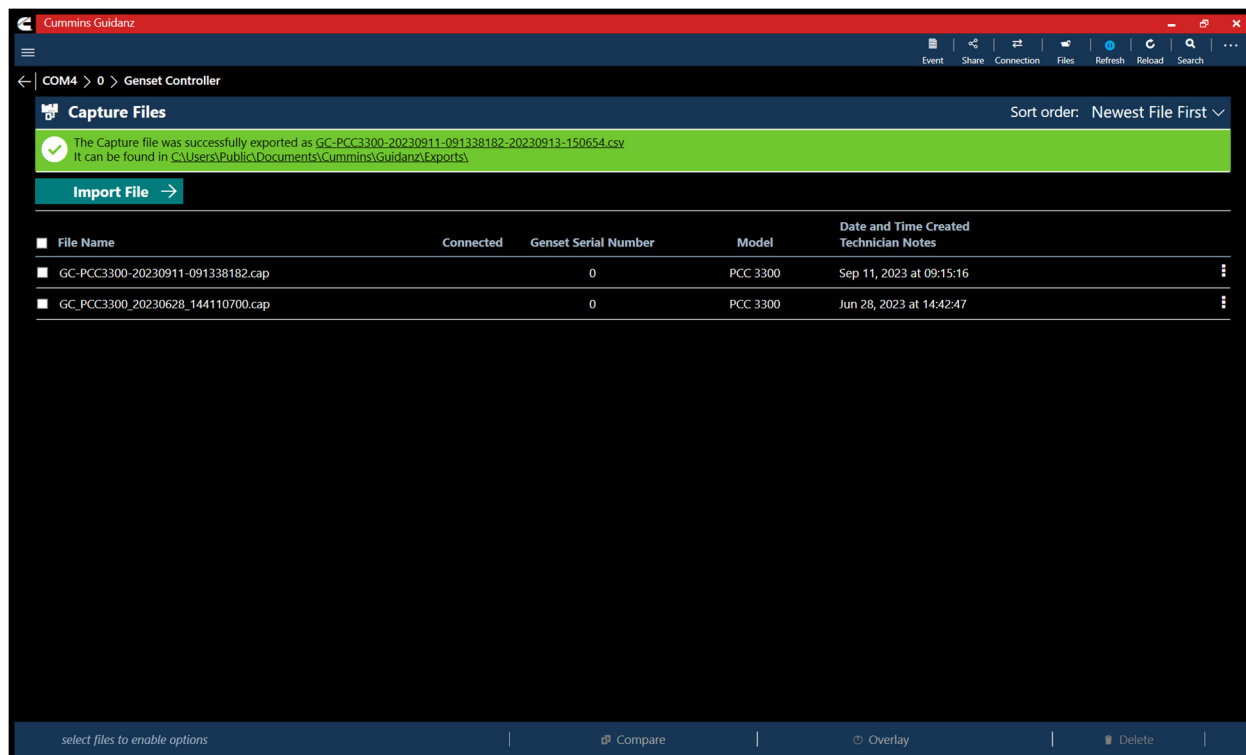


Figure 0-36 Capture file export success.

CAPTURE FILE OVERLAYING

Guidanz Diagnostic Toolkit – PC Application allows users to overlay all or only specific parameters from a capture file to a connected controller. Clicking the 3 dot controls while on the Capture File page and selecting Overlay file into controller will open the screen that will allow you select any or all parameters that you wish to be overlayed.

After selecting the Features and parameters to overlay, select the Continue button. Any Parameter not able to be written to the controller will display after the Overlay process.

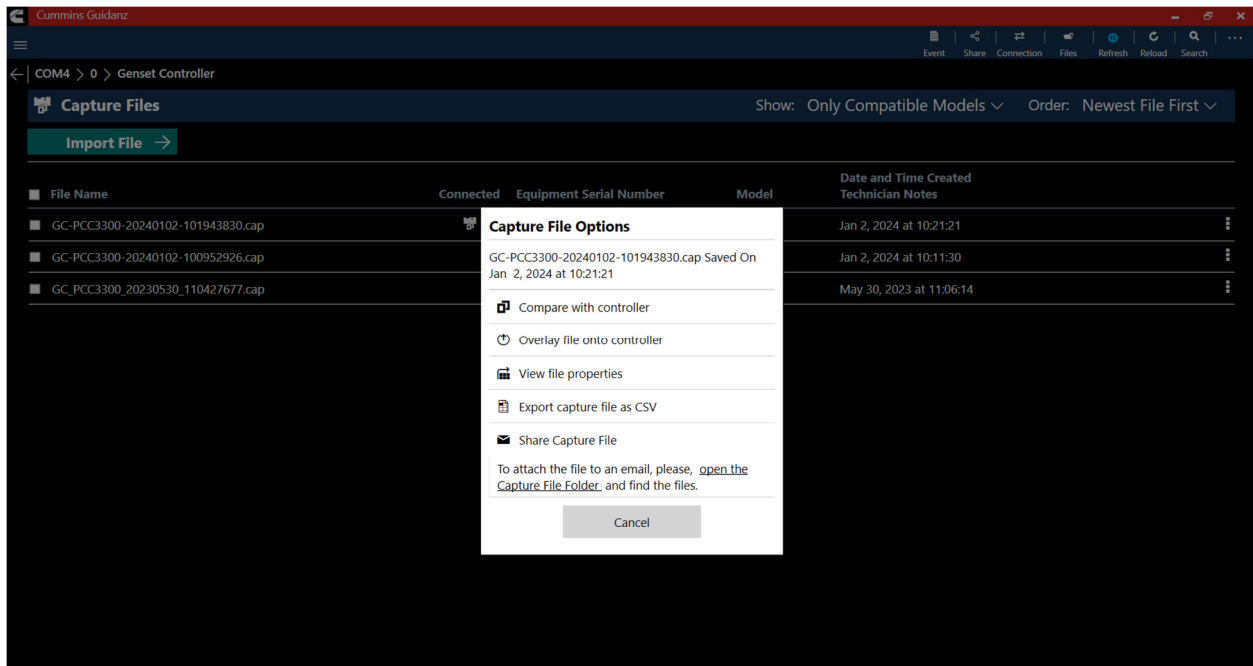
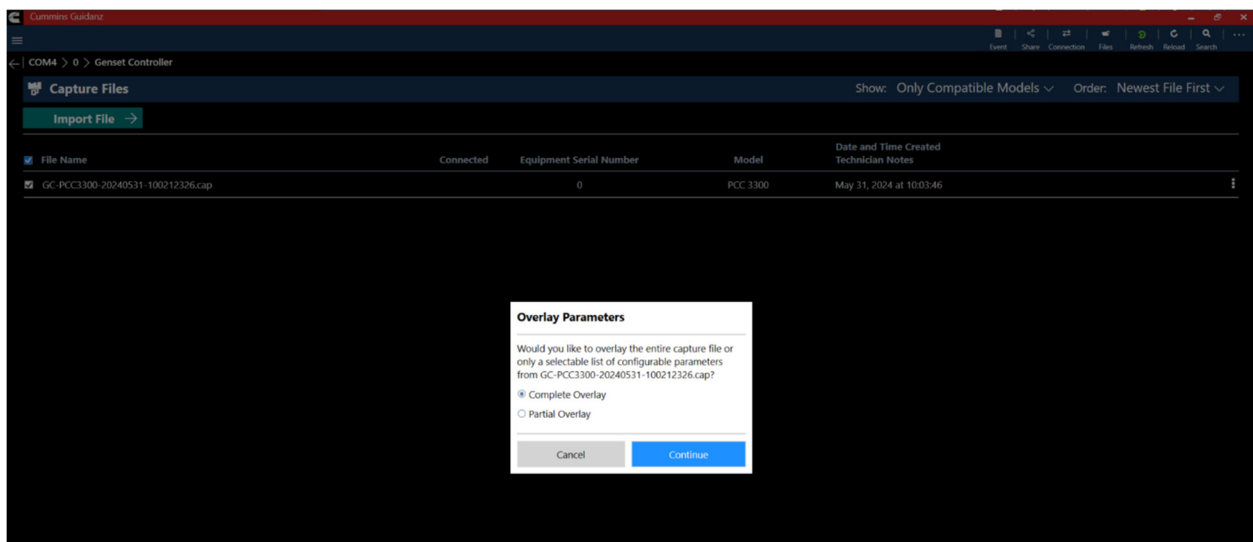


Figure 0-37 Capture File Overlay selection screen.

After selecting Overlay, users have the option of writing all parameters to the controller or selecting individual configurable parameters to write.



Selecting the Partial Overlay radio button will open a screen listing all of the configurable parameters in the capture file that can be written. Users can select and de-select specific parameters and groups with the checkboxes.



Any parameters that fail to write, will be highlighted to the user after the process has completed.

Parameter	Range	Controller	Capture File
Backup Start Disconnect/Configurable Input #33 Function Pointer		Default	failed ! Default
Coolant Level/Configurable Input #5 Function Pointer		Default	failed ! Default
Daylight Savings Start Hour	2 - 19	2	out of range ! 1
Fault Reset/Configurable Input #10 Function Pointer		Default	failed ! Default
Gas Fuel Type		Natural Gas	failed ! Natural Gas
High Alternator Temperature 1 Shutdown Threshold	100 - 1000 degF	301 degF	out of range ! 1 degF
Load Time (Hrs)	0.00 - 65535.00 Hours	0.00 Hours	failed ! 0.00 Hours
Low Fuel/Configurable Input #6 Function Pointer		Default	failed ! Default
Overload Shutdown threshold	70.00 - 655.35	Not Available	out of range ! Not Available
Pretube Cycle Time	0.1 - 1000.0 hours	6553.2 hours	out of range ! 6553.2 hours

Figure 0-38 Capture file Overlay; failed parameters.

CONNECTING TO A CAPTURE FILE

Clicking the 3 dot controls while on the Capture File page will give users the option to connect to the selected capture file. Once connected, users can view the parameter values within the file. Users can connect to multiple capture files and controllers simultaneously. The current active connection can be switched by selecting “Connection” from the toolbar.

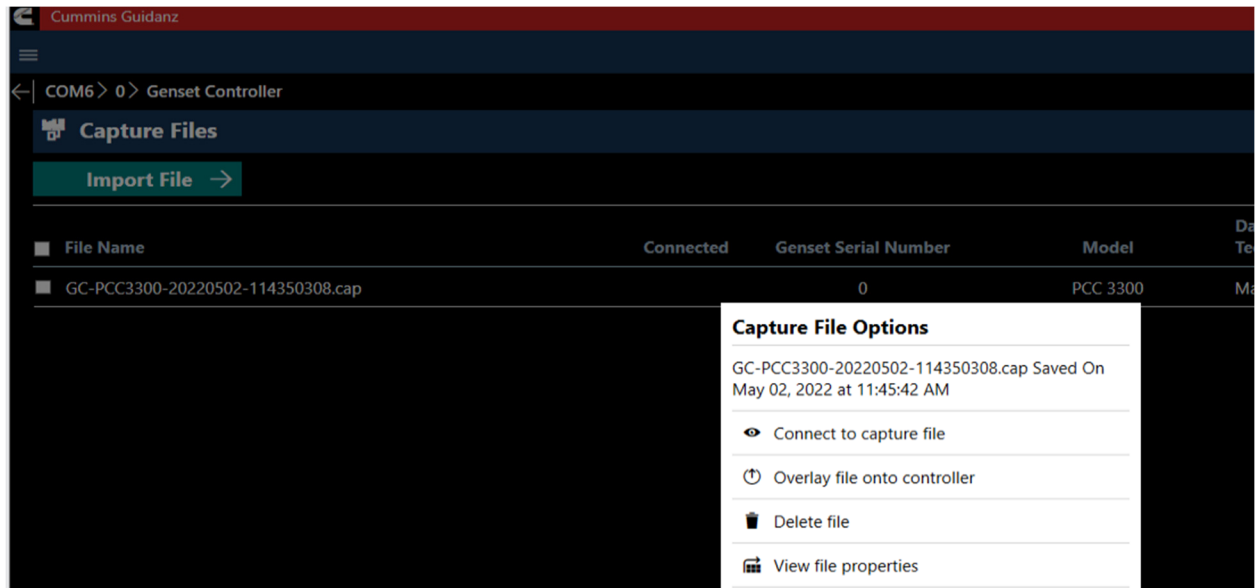


Figure 0-39 Capture file connection.

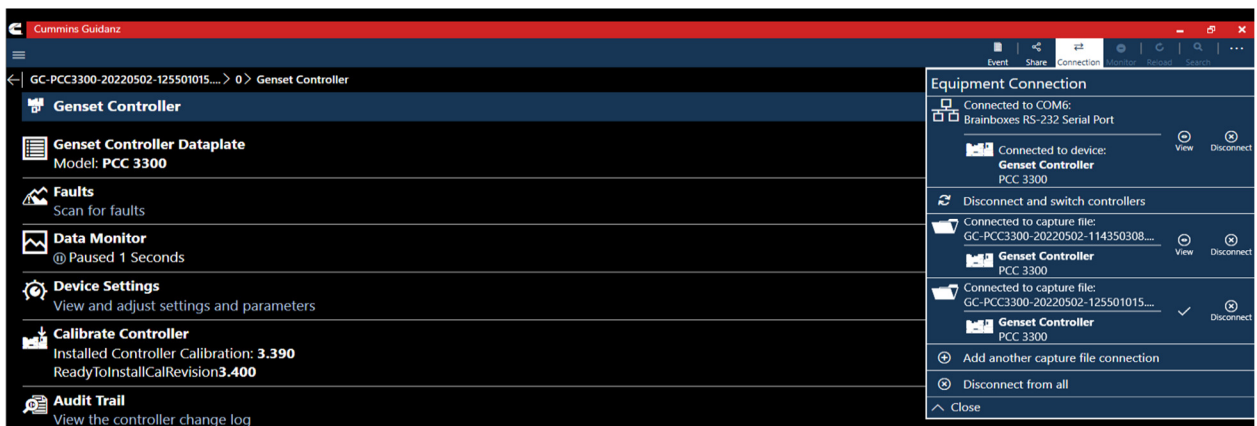


Figure 0-40 Connection Flyout

CAPTURE FILE COMPARISON

Users can perform a Capture File comparison either between two Capture files or between a live controller and a capture file. From the Capture File add-in, select two Capture files to enable the Compare button.

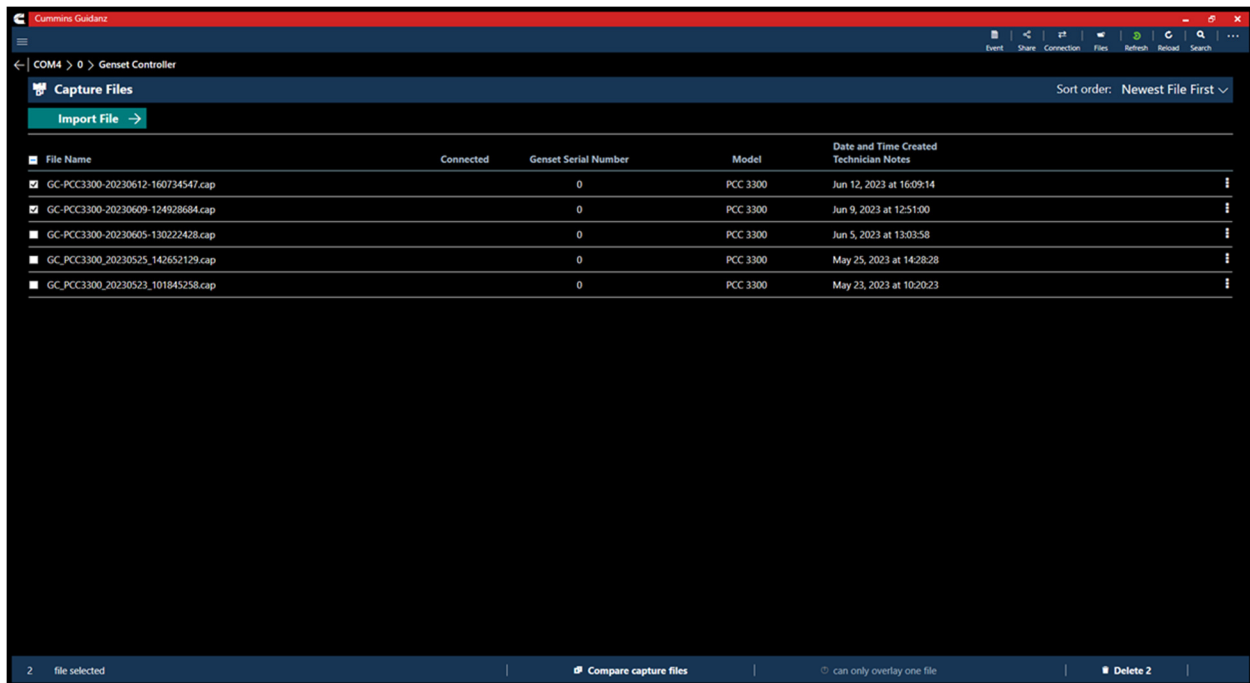


Figure 0-41 Capture File compare.

CAPTURE FILE COMPARISON OUTPUT

After the comparison process is completed, the Output screen will be displayed. Standard parameters will be compared directly on the output page. Users have the option to Highlight Differences, Show Same, different or all parameters; and sort the order of the parameters. Data Tables and XY Tables can be exported to CSV for comparison. Selecting to CSV will export the comparison to a zipped file with both CSV's.



Parameter Name	GC-PCC3300-20230911-091338182.cap	PCC 3300
50Hz kW Load Profile	Create CSV report to view datatable parameters	Export to CSV
60Hz kW Load Profile	Create CSV report to view datatable parameters	Export to CSV
Acceleration Ramp Time (seconds)	Parameter unavailable	15.0
Active DM1 Fault List	Create CSV report to view datatable parameters	Export to CSV
Active Ignored Engine Shutdown Faults Table	Create CSV report to view datatable parameters	Export to CSV
Active PCCnet AUX101 Device 0 Modules	Parameter unavailable	0
Active PCCnet AUX101 Device 1 Modules	Parameter unavailable	0
Active PCCnet HMI113 Annunciators	Parameter unavailable	0
Active PCCnet HMI220 Operator Panels	Parameter unavailable	0
Active PCCnet HMI320 Operator Panels	Parameter unavailable	0
Active Shutdown Faults List	Create CSV report to view datatable parameters	Export to CSV
Active Transition Timer (seconds)	Parameter unavailable	0.0

Figure 0-42 Capture file Comparison output

CAPTURE FILE/CONTROLLER COMPARISON

Guidanz can compare a currently connected Controller to a capture file. To begin the comparison process, navigate to the Capture File add-in while connected to a controller, and select any capture files checkbox to enable the Compare to Controller button.

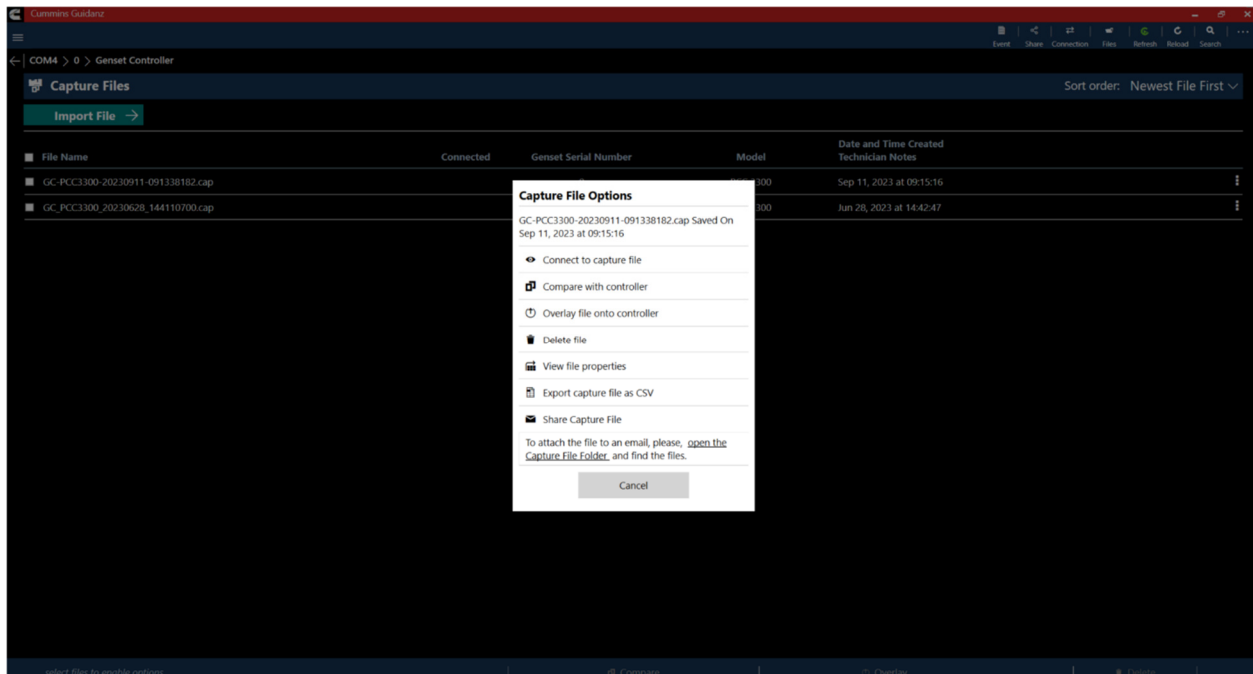


Figure 0-43 Controller to Capture file Compare.

CAPTURE FILE/CONTROLLER COMPARISON OUTPUT

After the comparison process is completed, the Output screen will be displayed. Standard parameters will be compared directly on the output page. Users have the option to Highlight Differences, Show Same, different or all parameters; and sort the order of the parameters. Data Tables and XY Tables can be exported to CSV for comparison. Selecting to CSV will export the comparison to a zipped file with both CSV's.



Parameter Name	GC-PCC3300-20230612-160734547.cap	GC-PCC3300-20230609-124928684.cap
12 V High Battery Voltage Threshold (Vdc)	16.0	16.0
12 V Low Battery Voltage Running Threshold (Vdc)	12.0	12.0
12 V Low Battery Voltage Stopped Threshold (Vdc)	12.0	12.0
12 V Weak Battery Voltage Threshold (Vdc)	8.0	8.0
24 V High Battery Voltage Threshold (Vdc)	32.0	32.0
24 V Low Battery Voltage Running Threshold (Vdc)	24.0	24.0
24 V Low Battery Voltage Stopped Threshold (Vdc)	24.0	24.0
24 V Weak Battery Voltage Threshold (Vdc)	14.4	14.4
3 ph high conn Genset nom voltage hi limit (Vac)	32767	32767
3 ph high conn Genset nom voltage lo limit (Vac)	22500	22500
3 ph low conn Genset nom voltage hi limit (Vac)	22499	22499
3 ph low conn Genset nom voltage lo limit (Vac)	1	1
50Hz kW Load Profile	Create CSV report to view datatable parameters	Export to CSV
60Hz kW Load Profile	Create CSV report to view datatable parameters	Export to CSV

Figure 0-44 Capture file compare output.

COMMISSIONING

The Commissioning pages allows users to change multiple settings at one time in an easier to read format than Device Settings. Commissioning should be used when bringing a new Gen-set online.

Currently Guidanz Diagnostic Toolkit – PC Application supports OEM and IO commissioning. To access the Commissioning add-in select Commissioning from the Device Dashboard, and then select the sub feature begin the process.

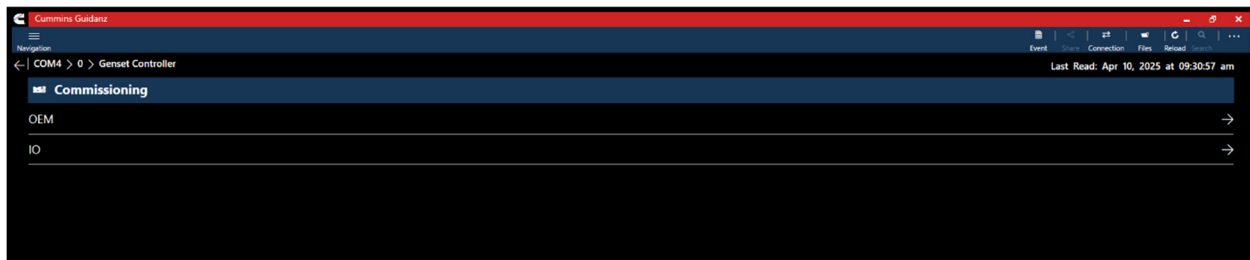


Figure 0-45 Commissioning Feature selection

To begin the commissioning process, users should enable setup mode in the top right corner of the screen.

After enabling, use the left pane to navigate to the parameters required to change, or alternatively scroll through the parameters in the right pane.

After all the required changes are made, select Review changes at the bottom of the screen. If all the changes are in order, select Save changes on the next screen.



After saving, remember to disable Setup mode before exiting the commissioning page.

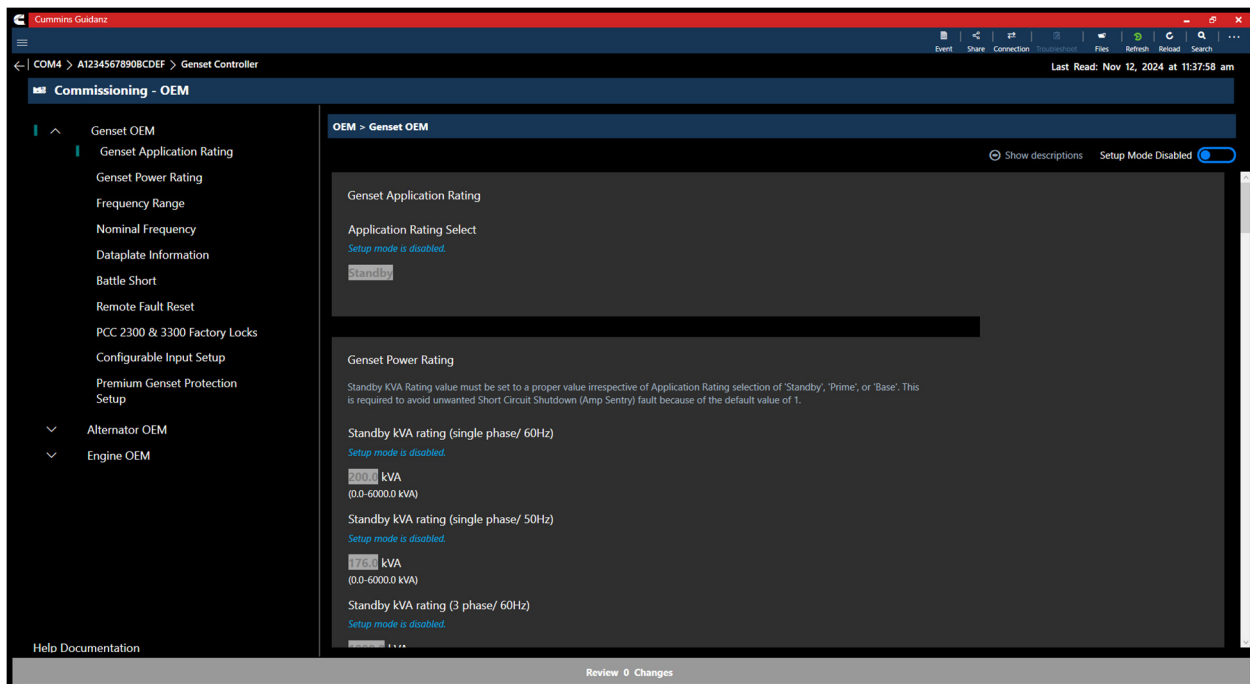


Figure 0-46 Commissioning OEM Screen

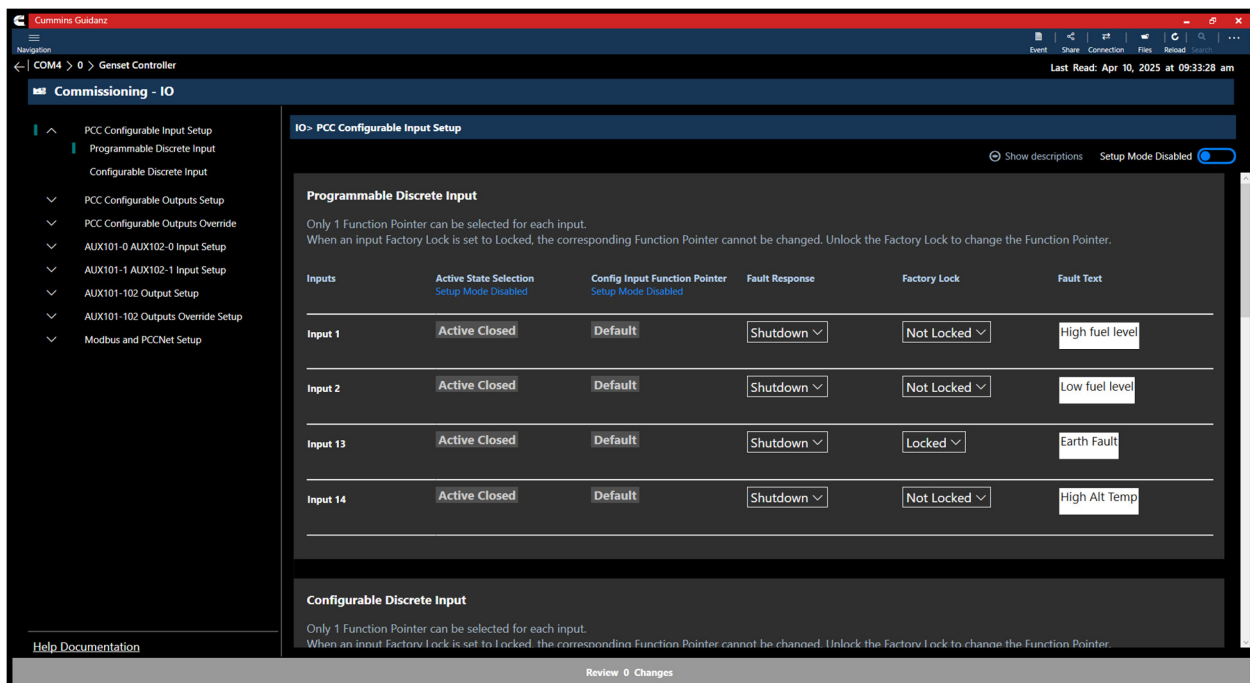


Figure 0-47 Commissioning IO Screen

SCAN FAULTS



Selecting Scan Faults from Dashboard will open the [Connecting to Controller page](#). After selecting the correct COM port, the user is taken directly to the Faults and Events page, skipping the Intake process. This allows users to quickly view the current active faults on the controller. Selecting the back arrow will navigate to the [Equipment summary](#) page.

CALIBRATION FILES

Selecting Calibration Files will open the calibration Files add-in, and display the current calibration files downloaded to the PC. Selecting the [Find Online](#) tab allows users to download the latest Incal package for the Genset Controller selected in the Dropdown.

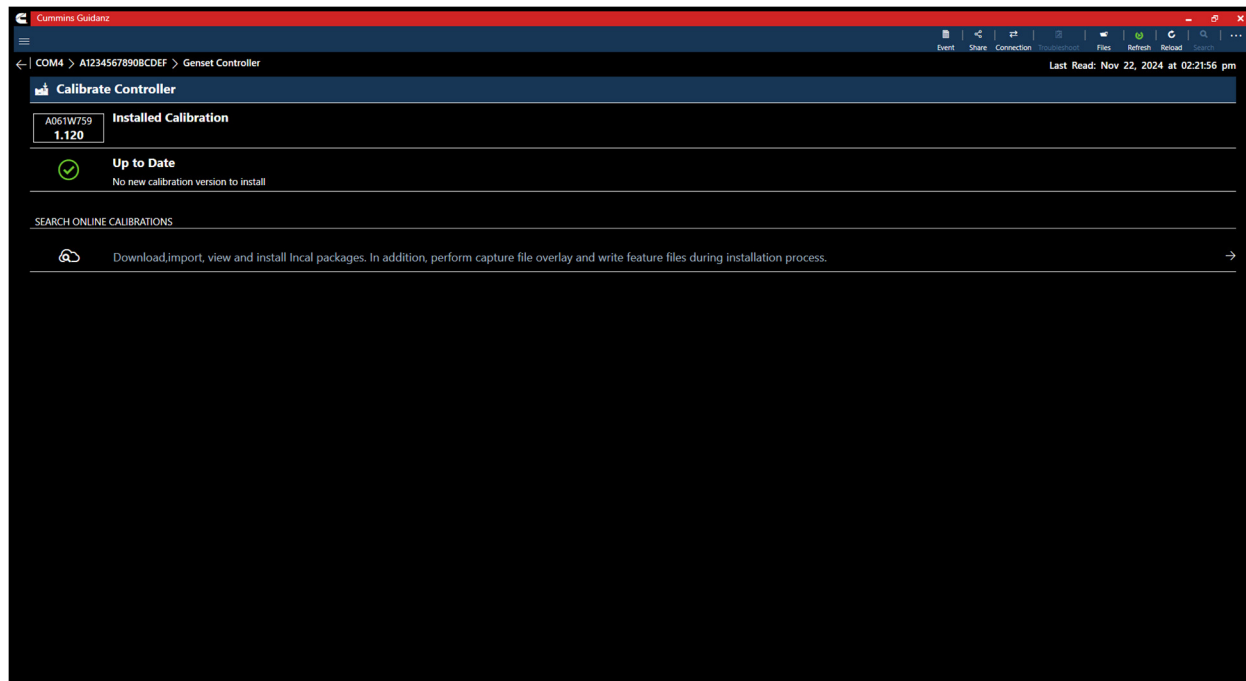


Figure 0-48 Calibrate Controller page while connected.

MY CALIBRATIONS

The My calibrations tab allows users to see calibrations already downloaded or imported to the PC.

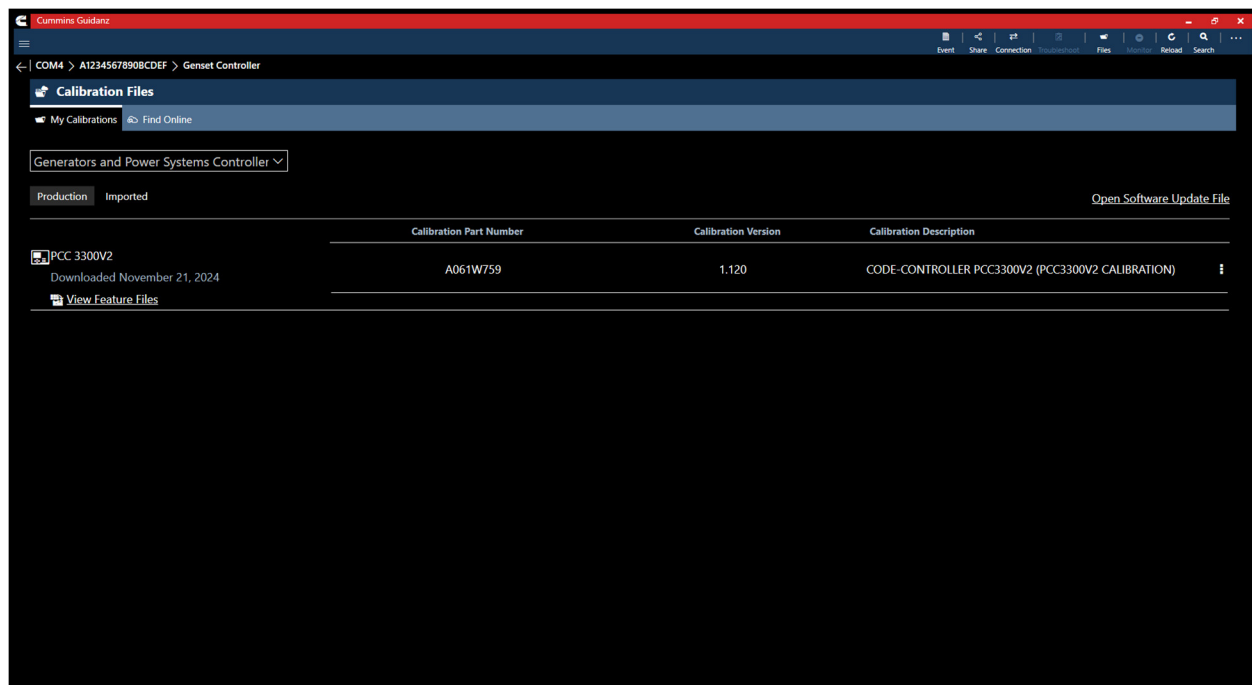


Figure 0-49 My Calibrations Page

INCAL IMPORT

Selecting the Imported from the My Calibrations page will display imported calibrations, and allow the user to import additional INCAL packages. Note that INCAL packages must be in the .zip format to import

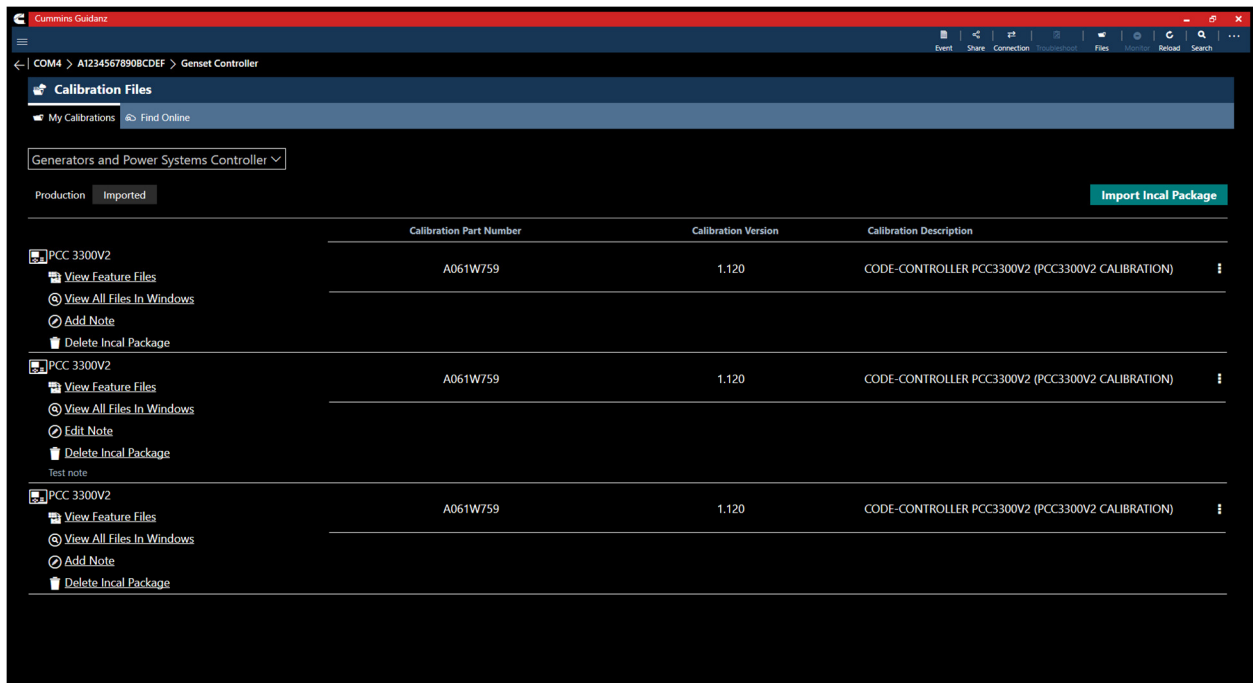


Figure 0-50 Import INCAL

FIND ONLINE

Selecting the Find Online page allows Technicians to download the latest production calibration packages directly from the Cummins servers.

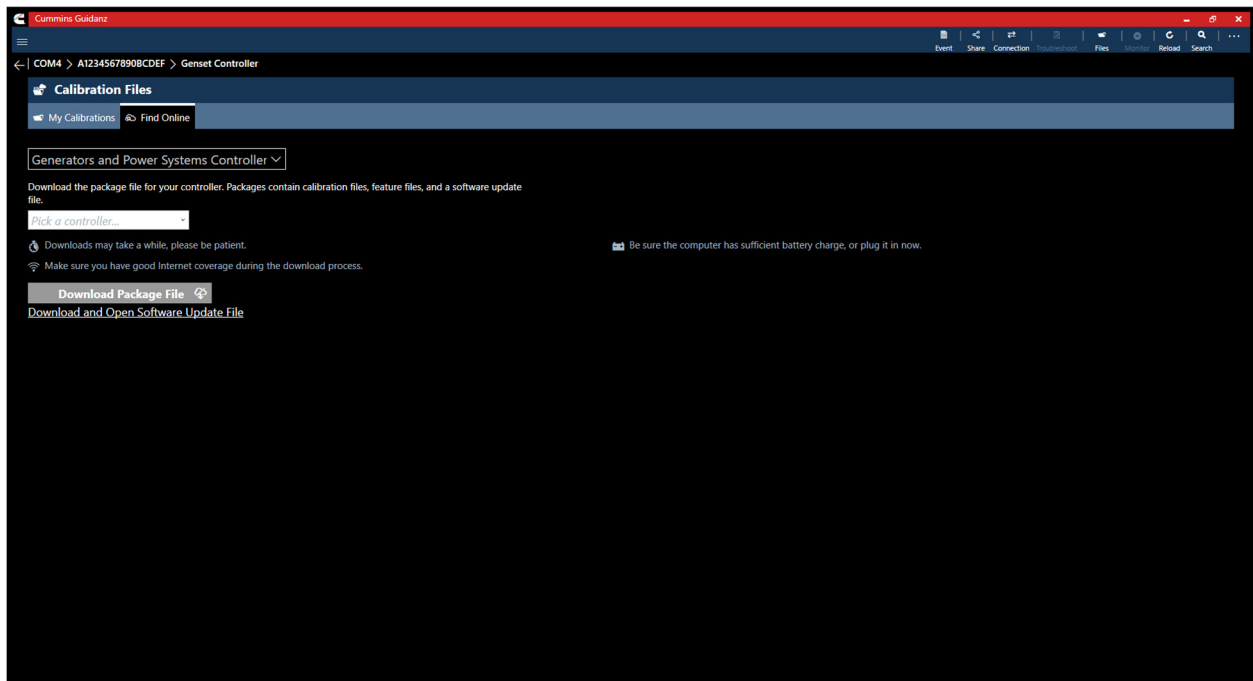


Figure 0-51 Find Online Tab



SIMULATOR MODE

Selecting Simulator Mode from the Home Screen allows users to connect to PowerGen simulators for training purposes. The Simulator uses Synthetic data from Capture files to recreate the PowerGen connection experience. Analyze Equipment, History and Templates, and Scan Faults are available while in Simulator mode. Selecting Analyze Equipment allows the user to select the type of simulator they would like to connect too. All other connection options are disabled in Simulator mode. After selecting the Simulator type, users can choose to simulate with a Factory Sample or User Imported Capture file.

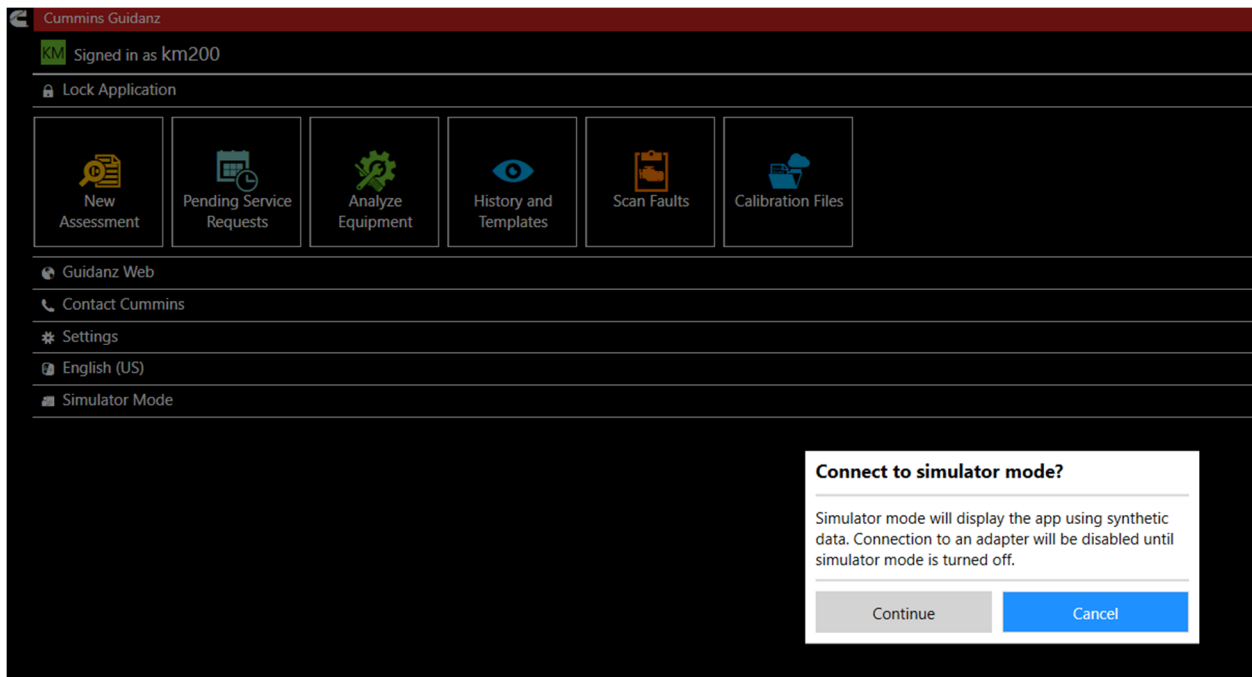


Figure 0-52 Starting Simulator mode.

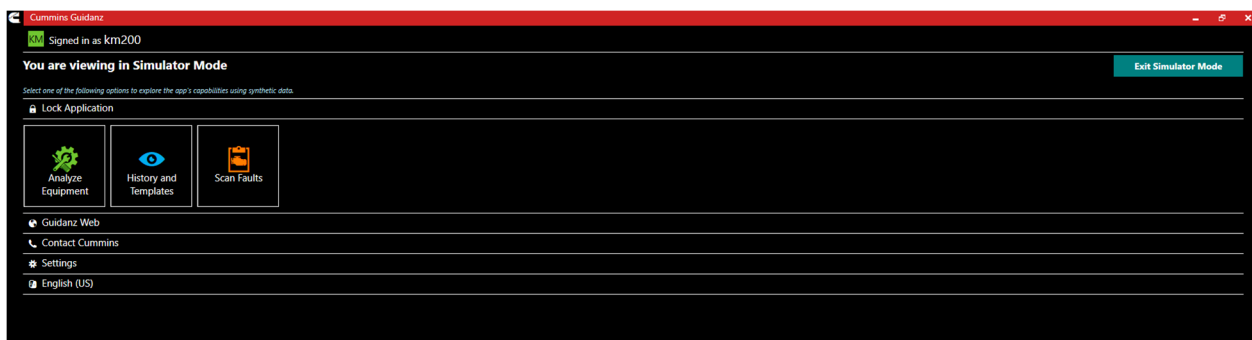


Figure 0-53 Simulator Dashboard.

After completing the Intake process, users can navigate and simulate the following areas of Guidanz:

Tool Area	Functionality
Dataplate	View



Faults	View, Reset (note that the reset process will complete, but the faults will remain visible)
Data Monitor	Monitor, Record
Device Settings	Adjust (note that changes performed during the connection will reset upon disconnect.)
Audit Trail	View

Users can exit Simulator mode by selecting the “Exit Simulator Mode” button.

GUEST/REGISTERED USERS

ANALYZE EQUIPMENT

CONNECTING TO EQUIPMENT

When Analyze Equipment or Scan Faults is selected, the tool will offer a list of supported adapters to connect to the controller. After connection, Analyze Equipment will take users to the Device Dashboard. After connection Scan Faults will take users directly to the Active faults page.

The Guidanz PC Application will look for and offer a list of available COM ports for connection.

*Note: Brain box only official supported Serial to USB adapter

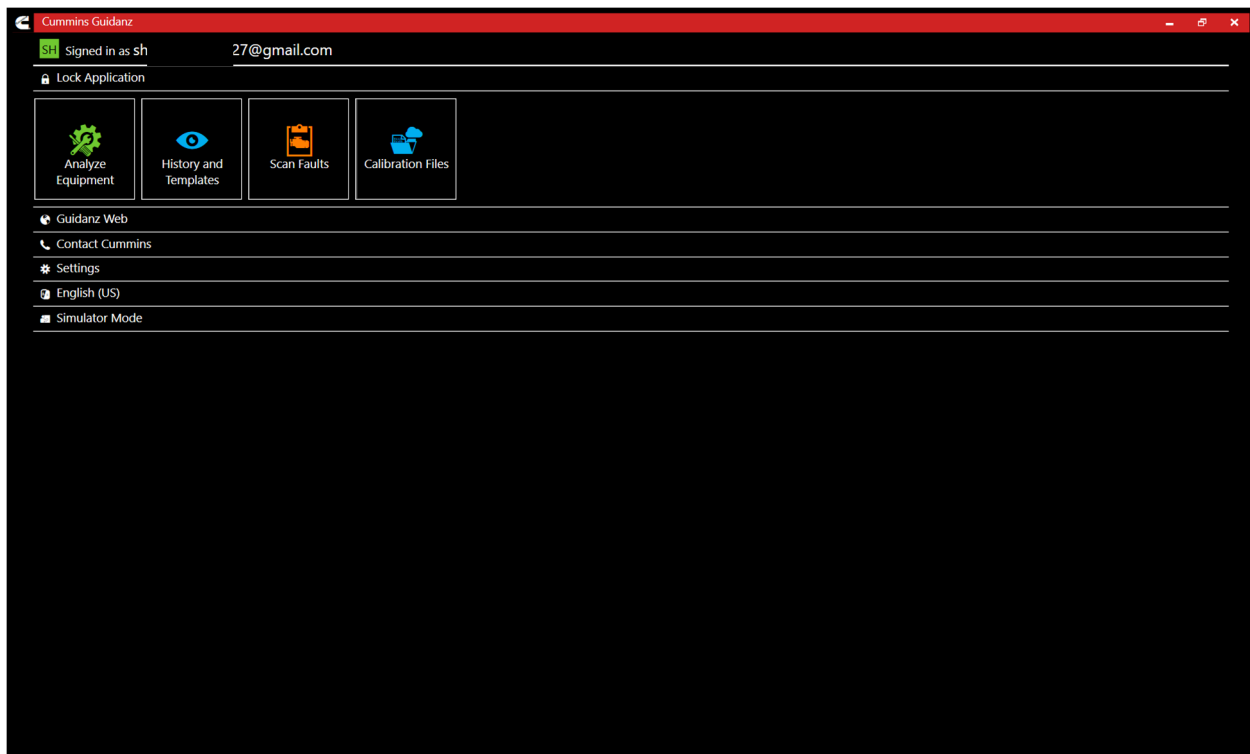


Figure 0-54 Registered User Home Screen



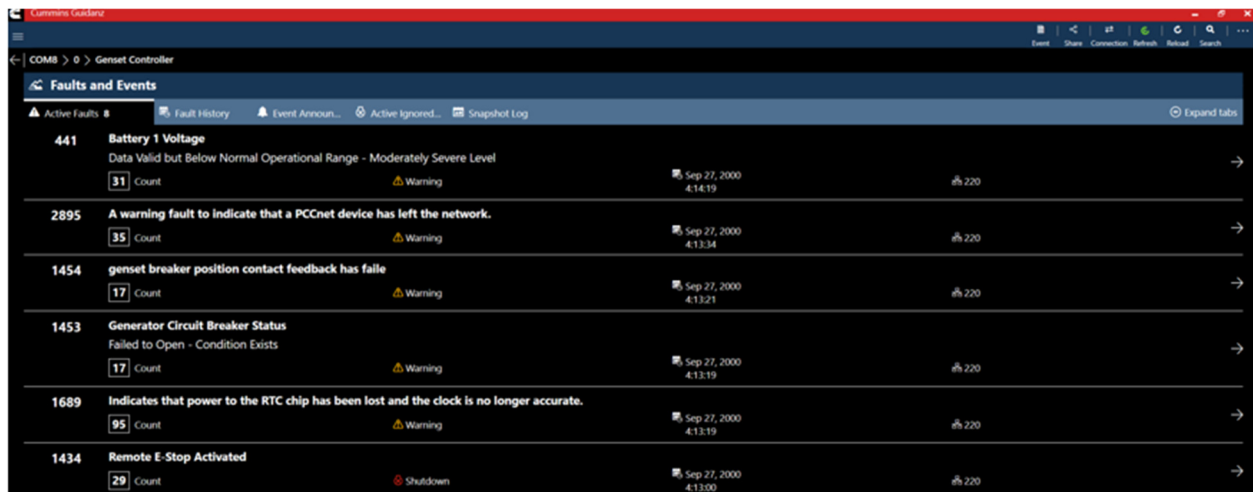
DEVICE DASHBOARD

FAULTS

Selecting Faults on the Device Dashboard displays the Faults and Events add-in.

ACTIVE FAULTS

By default, the Faults and Events add-in will open on the active faults tab. This tab gives the fault number, description, type, and number of occurrences of the current active faults.



Faults and Events						
Active Faults						
441	Battery 1 Voltage	Data Valid but Below Normal Operational Range - Moderately Severe Level	31 Count	Warning	Sep 27, 2000 4:14:19	↻
2895	A warning fault to indicate that a PCCnet device has left the network.		35 Count	Warning	Sep 27, 2000 4:13:34	↻
1454	genset breaker position contact feedback has failed		17 Count	Warning	Sep 27, 2000 4:13:21	↻
1453	Generator Circuit Breaker Status		17 Count	Warning	Sep 27, 2000 4:13:19	↻
1689	Indicates that power to the RTC chip has been lost and the clock is no longer accurate.		95 Count	Warning	Sep 27, 2000 4:13:19	↻
1434	Remote E-Stop Activated		29 Count	Shutdown	Sep 27, 2000 4:13:00	↻

Figure 0-55 Active Faults

FAULT DETAILS

Clicking on an individual Cummins fault code displays the Fault Details, and the fault snapshot, if supported.



The screenshot shows the 'Active Faults Details' for fault 781, 'The ECM CAN Datalink has failed'. The interface includes a navigation bar with 'COM4' and 'Genset Controller'. The fault details are as follows:

Parameter	Value
Controller Mode	Stop Emergency
Battery Voltage	13.717 Vdc
Genset Run Sequence State	Stop
Genset Run Command	Emergency Stop
Genset Run Type	Emergency Remote Start
Coolant Temperature	Not Available
Oil Pressure	Not Available
Aftercooler Temperature	Not Available
Intake Manifold Pressure 1	Not Available
Genset % Application Total kW	0.0 %
Genset L1 Power Factor	1.00 PF
Genset L2 Power Factor	1.00 PF
Genset L3 Power Factor	1.00 PF
Genset Total KVA	0 KVA
Genset Total KVAR	0 KVAR

Figure 0-56 Active Fault Snapshot

FAULT HISTORY

Clicking on the Fault History tab allows users to view active and inactive faults.

The screenshot shows the 'Faults and Events' history. The 'Fault History' tab is selected. The table lists various faults with their IDs, descriptions, counts, occurrence times, and source addresses.

Fault ID	Description	Count	Time	Source
441	Battery 1 Voltage Data Valid but Below Normal Operational Range - Moderately Severe Level	1	Sep 21, 2001 8:01:51	220
2545	Unable to establish communications with engine.	1	Sep 21, 2001 8:01:33	220
781	The ECM CAN Datalink has failed	1	Sep 21, 2001 8:01:33	220
2895	A warning fault to indicate that a PCCnet device has left the network.	1	Sep 21, 2001 8:01:05	220
4358	Run Command issued in Setup Mode	1	Sep 21, 2001 8:00:59	220
427	The J1939 CAN datalink has lost some important messages	1	Sep 21, 2001 8:00:53	220
1689	Indicates that power to the RTC chip has been lost and the clock is no longer accurate.	2	Sep 21, 2001 8:00:49	220
6487	Nominal Voltage Setup Out of Range Condition Exists	2	Sep 21, 2001 8:00:00	220

Figure 0-57 Fault History



EVENT ANNOUNCEMENT'S

Clicking on the Event Announcement's tab allows users to acknowledge individual or all announcements.

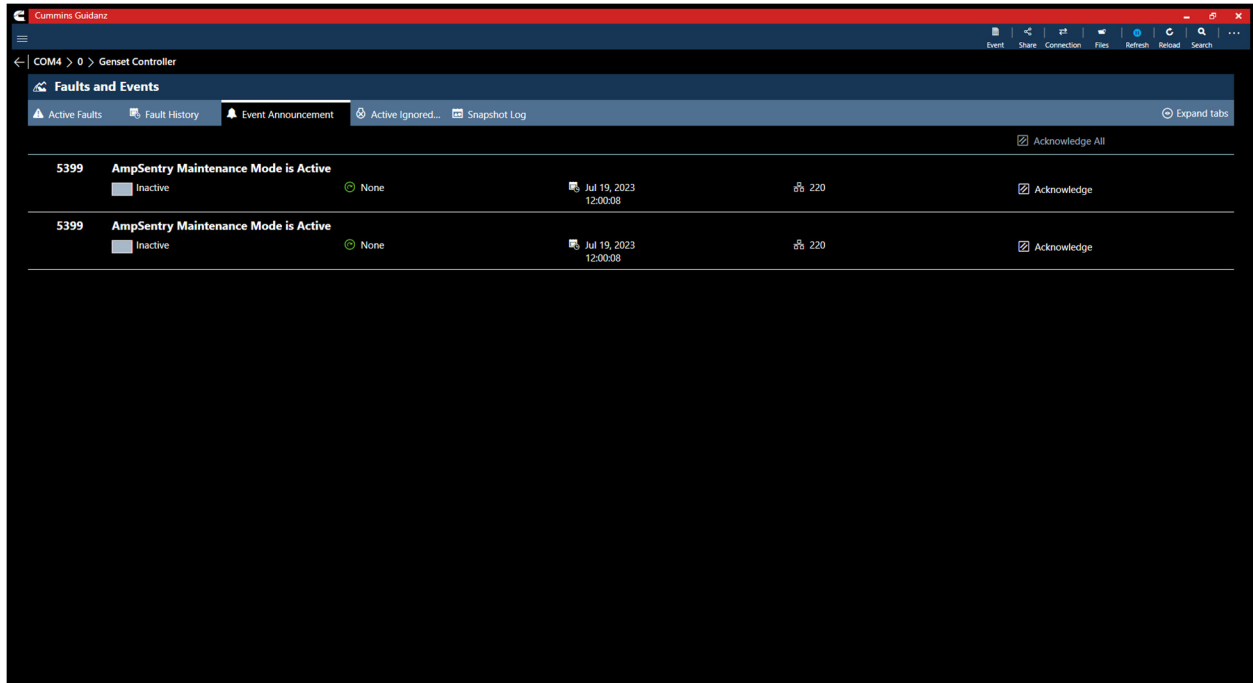


Figure 0-58 PowerGen Event Announcements

ACTIVE IGNORED ENGINE SHUTDOWN FAULTS

Clicking on the Active Ignored Engine Shutdown tab allows the user to view the current ignored shutdown events.

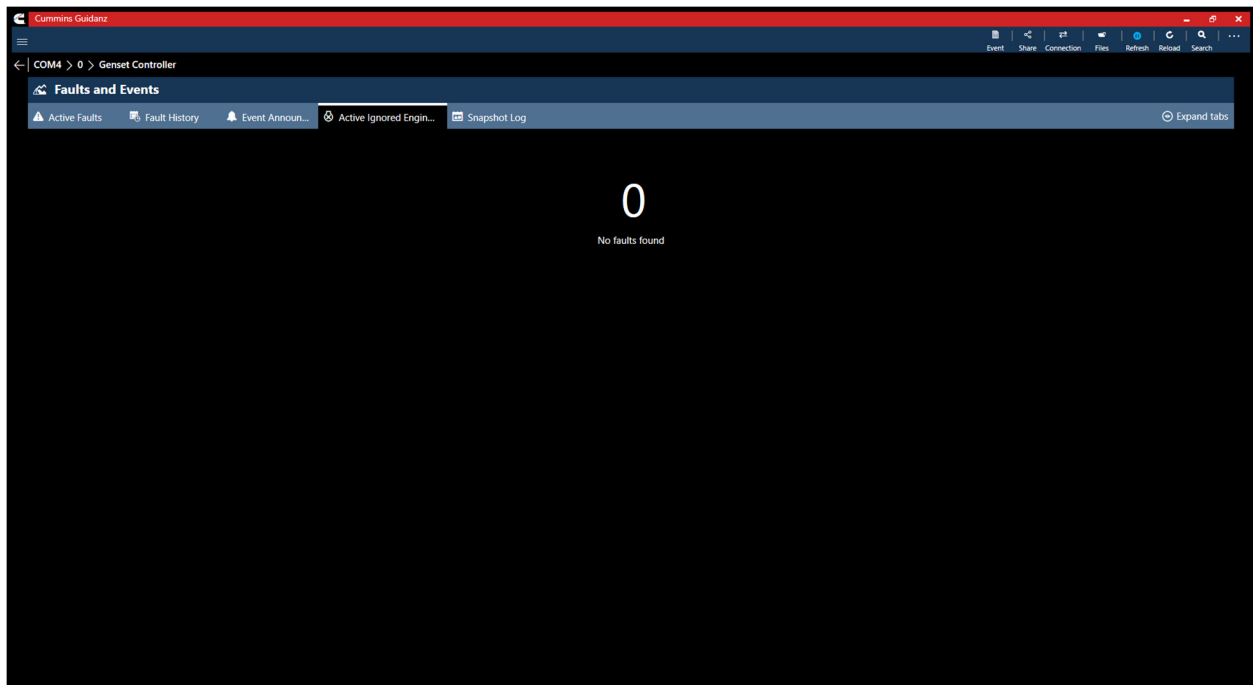


Figure 0-59 PowerGen Active Ignored Engine Shutdown

MAINTENANCE ALARM STATUS

Click on the Maintenance Alarm Status tab allows the user to view the current active maintenance alarms.

- Note that this feature is not supported on the PCC3300 V1 controller.



Figure 0-60 Maintenance Alarms

SNAPSHOT LOG

Clicking on the Snapshot Log allows users to view snapshot logs and number of occurrences for all faults enabled with a snapshot.



The screenshot displays the Cummins Guidanz interface. The top section, 'Faults and Events', shows a table of fault codes and their occurrence counts. The bottom section, 'Snapshot Log Details: Fault 781, Count 14', provides a detailed view of the selected fault, including its description, occurrence date and time, and a list of parameters with their current values.

Cummins Fault Code	Count	Occurred
4358	1	July 7, 2000 9:06:00
781	3	July 2, 2000 4:19:00
2818	63	July 2, 2000 4:18:00
2816	63	July 2, 2000 4:18:00

781 The ECM CAN Datalink has failed	
FAULT INFORMATION	
14	Count
February 25, Fault Occurred 2000 14:26:00	
Inactive	Battle Short Switch
Parameter	Value
12 V High Battery Voltage Threshold OP	16.00 Vdc
24 V High Battery Voltage Threshold	32.0 Vdc
12 Month Rolling Total Of HC	Not Available
Watt Sentry A Term	0.00 %
12 Month Rolling Total Of PM	Not Available
12V Charging Alternator Disconnect Voltage	9.0 Volts

Figure 0-61 Snapshot Log

CALIBRATE CONTROLLER

Registered users can view the current installed calibration on a connected controller and know if there is a revision update available (Internet connection required.)

QUESTIONS OR ISSUES

PREREQUISITES

REGISTRATION

- Cummins employee or distributor: You need a valid username and password. If you do not have a valid username and password, you can "[register here](#)".
- Cummins certified dealer: Please contact your local Cummins distributor to obtain appropriate access to Guidanz Diagnostic Toolkit

SUBSCRIPTION

- Contact your local distributor, under the Software Licensing section below, to register your service location to use Cummins Guidanz Diagnostic Toolkit - Immediate Assessment feature in the US, EU, or Canada. Non-Distributor employees please contact Cummins Care.

DATALINK ADAPTERS / Power System Cables



Product Type	Product	Required Adapter/Cable	Source
Engine/ Programmable Data- Link Devices	Engine, Turbochargers, Dosers, etc	RP1210A Complaint adapter (Inline 7, Cummins USB link 3, etc)	INLINE
Power Gen PCC, HMI, AUX	PCC3300v1/2	0541-1199	https://store.cummins.com
	PCC3400, HME420/480/481	USB-A to USB-B Calbe – USB 2.0 compatible	Available through Answers.cummins.com for Cummins CGD computers. Triplite PN u040-006 or equivalent is recommended for dealers

NON-SUPPORTED ENGINE PROGRAMS

The Guidanz Diagnostic Toolkit PC Application supports all Cummins J1939 compliant engines. Engines made prior to 2007, or those that use J1708 protocol are not supported.

Table 1 Non-supported Engine programs

Engine Program	ECM		Engine Program	ECM
480C-E	CM552		ISM	CM570
B5.9G	CM420		ISM - CM870	CM870
C Gas Plus/B Gas Plus	CM556		ISM - CM875	CM875
C8.3G	CM420		ISM - Fuel Control Module - CM570	CM570
CELECT	ECM-B		KTA19, G855 CM558 G Drive	CM558
CELECT Plus	ECM-C		L Gas Plus	CM556
CELECT Plus Industrial	ECM-C		L10G	CM420
Centinel	CM400		PIM	CM550
CENTRY	CM400		QSB5.9/44, 5.9/30, 4.5/30, 3.9/30	CM550
Gas Compression GTA3.9/5.9/8.3GC, KTA19/38GC - SSM558/CM556/CM2 358	CM556		QSC8.3/QSL9	CM554
	SSM558			CM500
ISB	CM550		QSK19/23/45/60/78	CM500



ISB - CM850	CM850		QSK19G/38G/60G, QSV81/91 - CM700/SSM558/CM2358	CM700, SSM558
ISB Daimler Chrysler	CM551			CM2358
ISBe (4 and 6 Cylinder)	CM800		QSM11	CM570
ISBe2/3 - CM850	CM850		QST30	CM552
ISBe4 (4 and 6 cylinder)	CM850		QST30 - Power Gen	CM552
ISC / Transit Bus ISL8.3 - CM850	CM850		QSX15	CM570
ISC/ISL	CM554		Signature/ISX	CM570
ISL8.9 - CM850	CM850		Signature/ISX - CM870	CM870
ISLe4 (6 cylinder)	CM850		K19, K38, & K50 Century	CM2940

CONTACT CUMMINS

<https://www.cummins.com/support/digital-products-and-services-support>