



# **Accelerera Diagnostics**

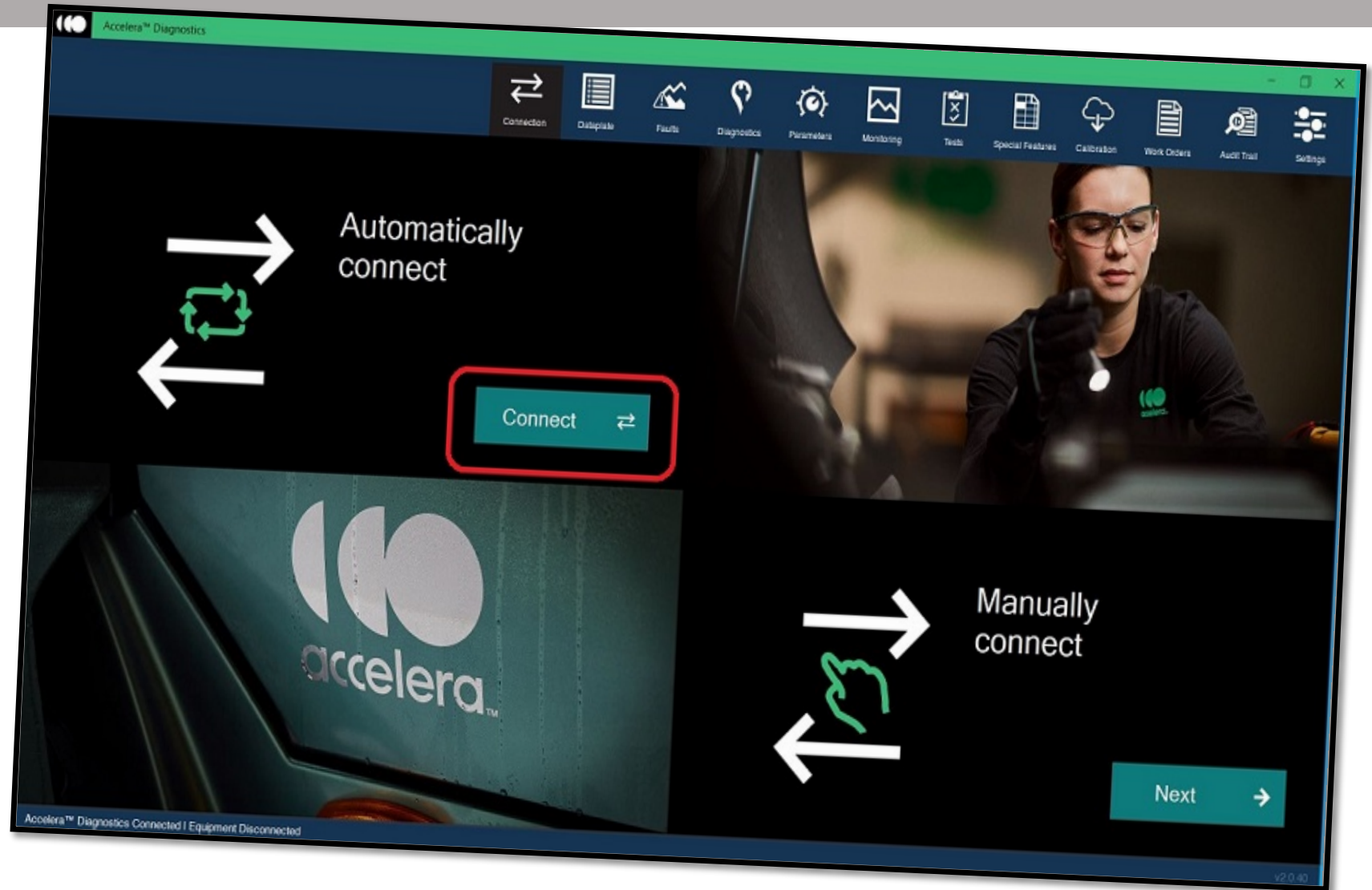
## **User Guide**

# Accelera Diagnostics

## HOME PAGE AND CONNECTION SCREEN

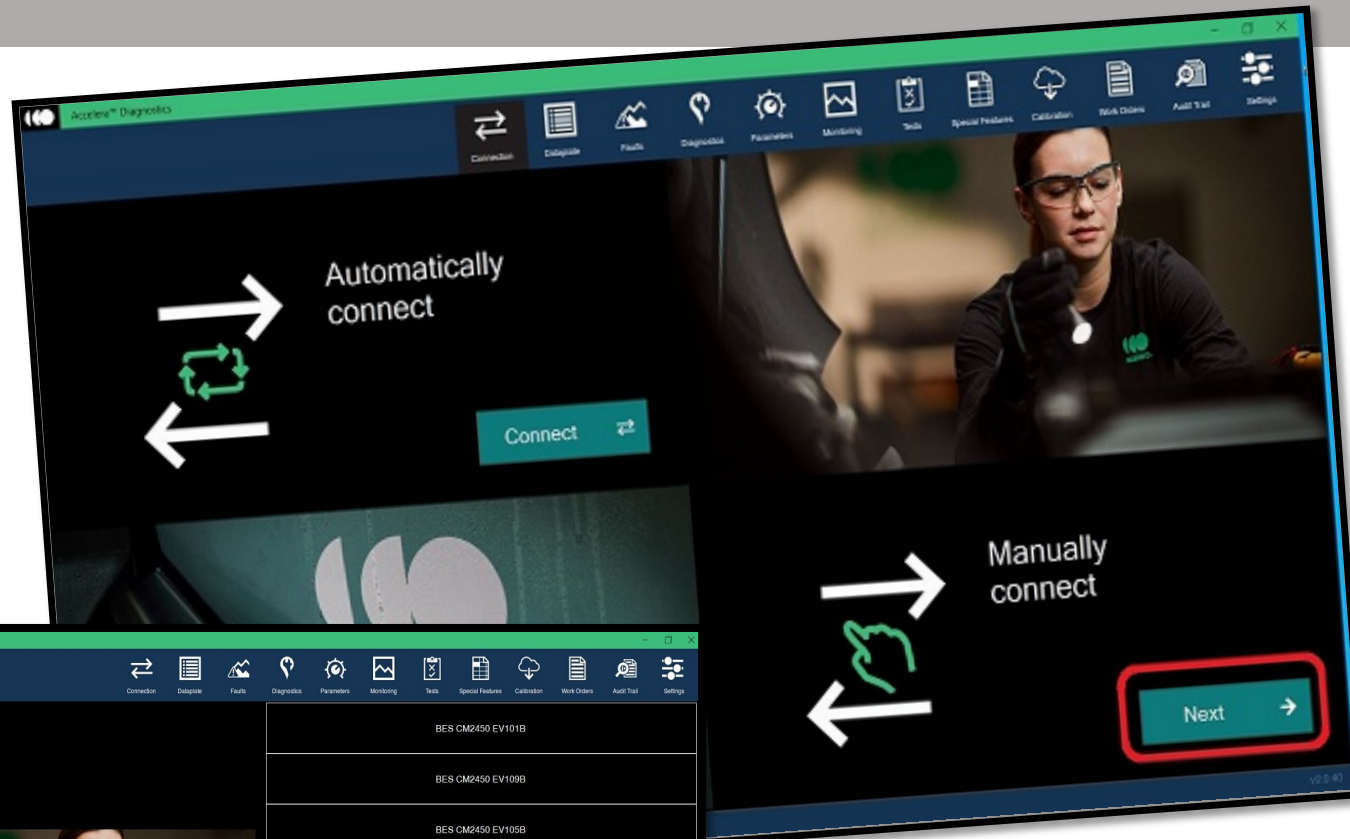
Once logged on, you will see the home page and connection options

**Automatically connect -**  
Service tool will automatically detect the vehicle type



# Accelerera Diagnostics

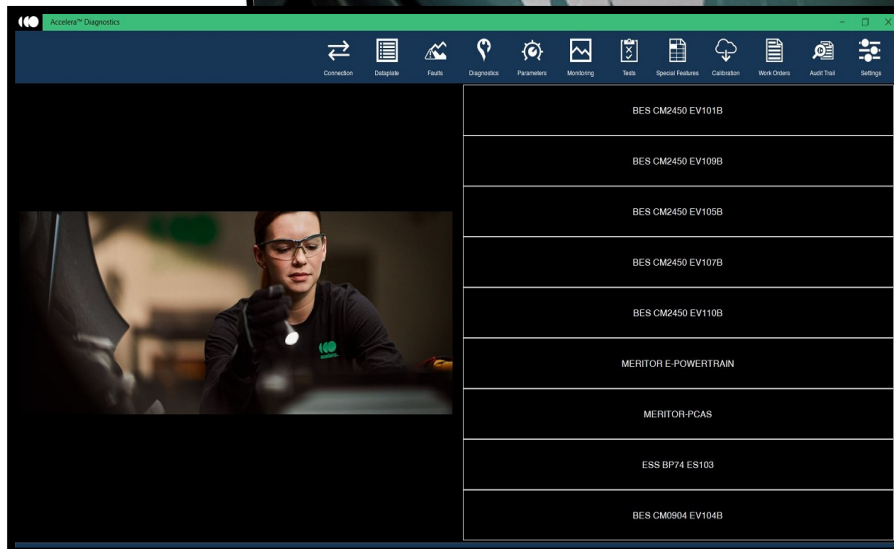
## HOME PAGE AND CONNECTION SCREEN



If the SCM doesn't automatically connect, use the Manual connect option.

### MANUALLY CONNECT

Select the correct service model name from the list populated on the screen.

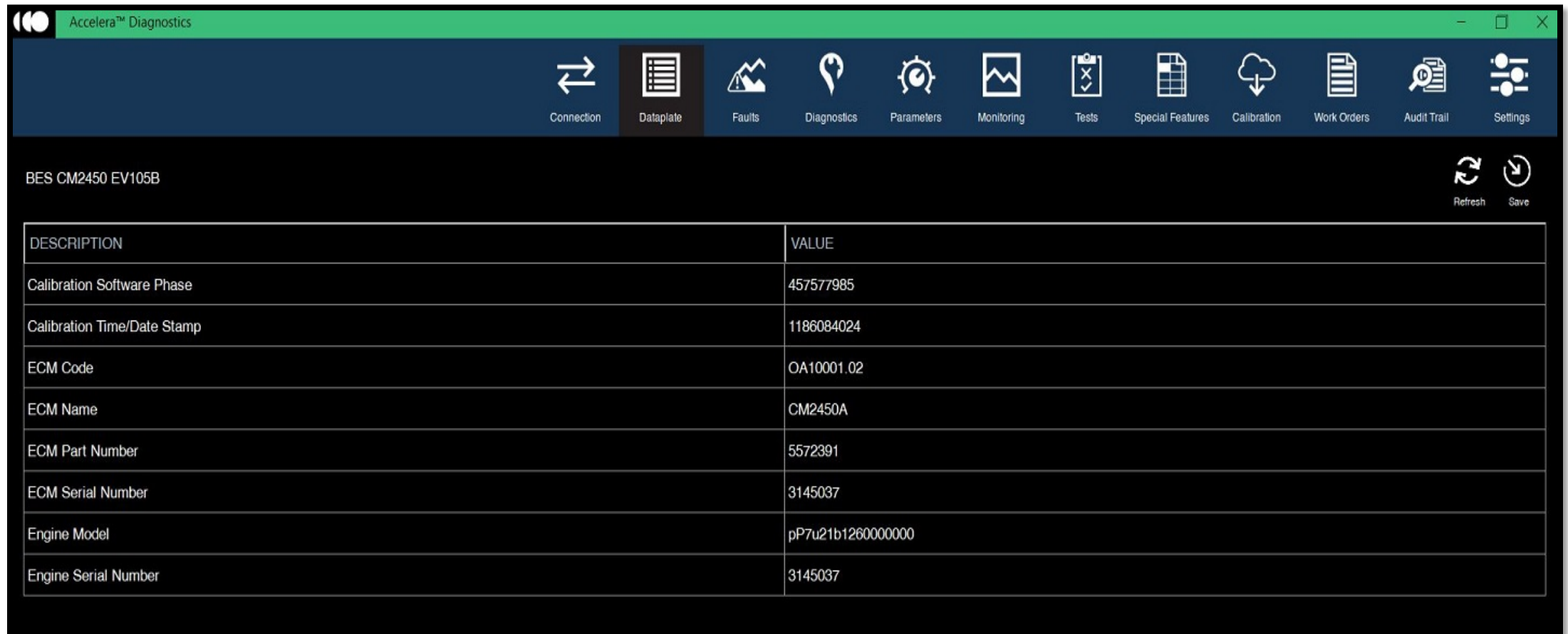


Select the service model name you want to connect to.

# Accelera Diagnostics

## DATAPLATE SCREEN

Once connected to the vehicle, you will be able read data plate information



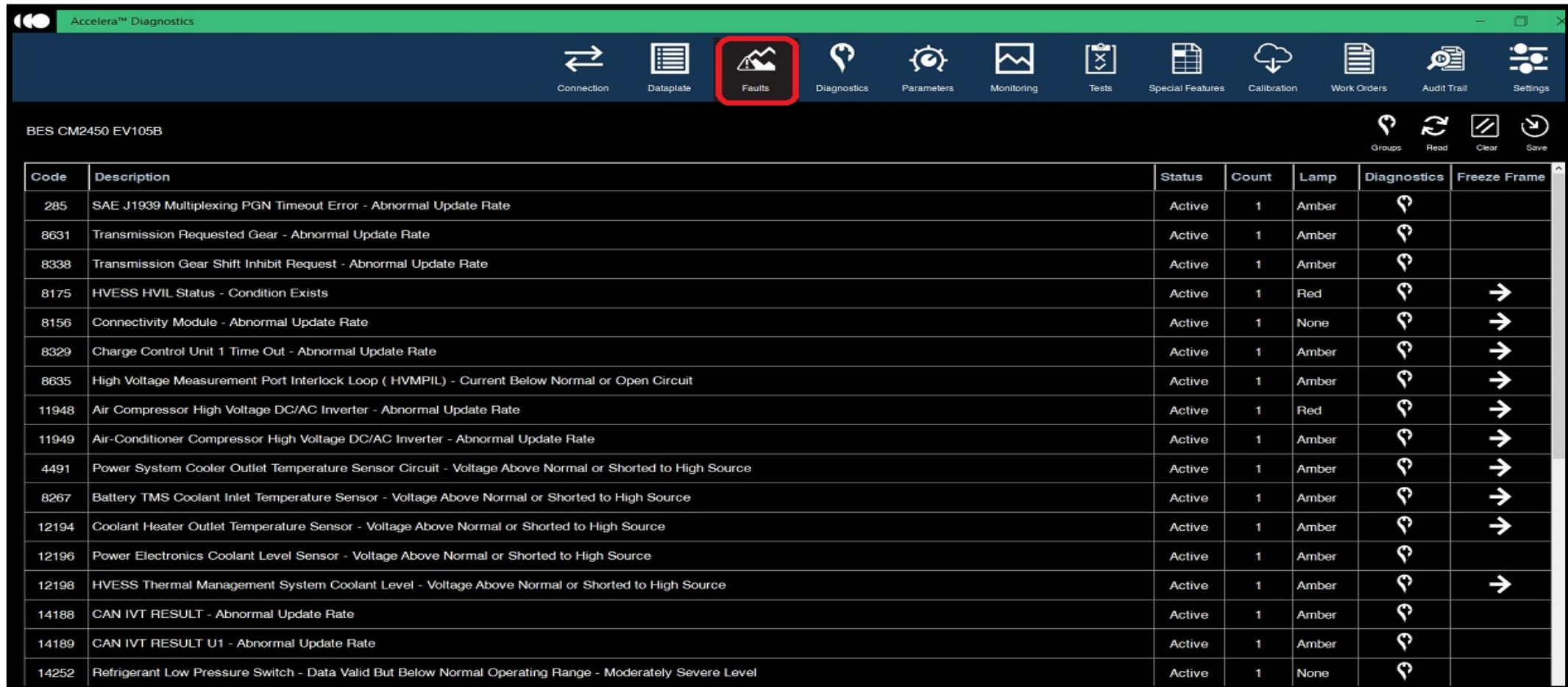
The screenshot shows the Accelera Diagnostics software interface. At the top, there is a green header bar with the Accelera logo and the text "Accelera™ Diagnostics". Below this is a dark blue navigation bar with icons for various functions: Connection, Dataplate (highlighted), Faults, Diagnostics, Parameters, Monitoring, Tests, Special Features, Calibration, Work Orders, Audit Trail, and Settings. The main content area displays the vehicle identification "BES CM2450 EV105B" and a table of data plate information. The table has two columns: "DESCRIPTION" and "VALUE". The data includes Calibration Software Phase (457577985), Calibration Time/Date Stamp (1186084024), ECM Code (OA10001.02), ECM Name (CM2450A), ECM Part Number (5572391), ECM Serial Number (3145037), Engine Model (pP7u21b1260000000), and Engine Serial Number (3145037). There are also "Refresh" and "Save" buttons in the top right corner of the data area.

DESCRIPTION	VALUE
Calibration Software Phase	457577985
Calibration Time/Date Stamp	1186084024
ECM Code	OA10001.02
ECM Name	CM2450A
ECM Part Number	5572391
ECM Serial Number	3145037
Engine Model	pP7u21b1260000000
Engine Serial Number	3145037

# Accelerera Diagnostics

## FAULTS TAB

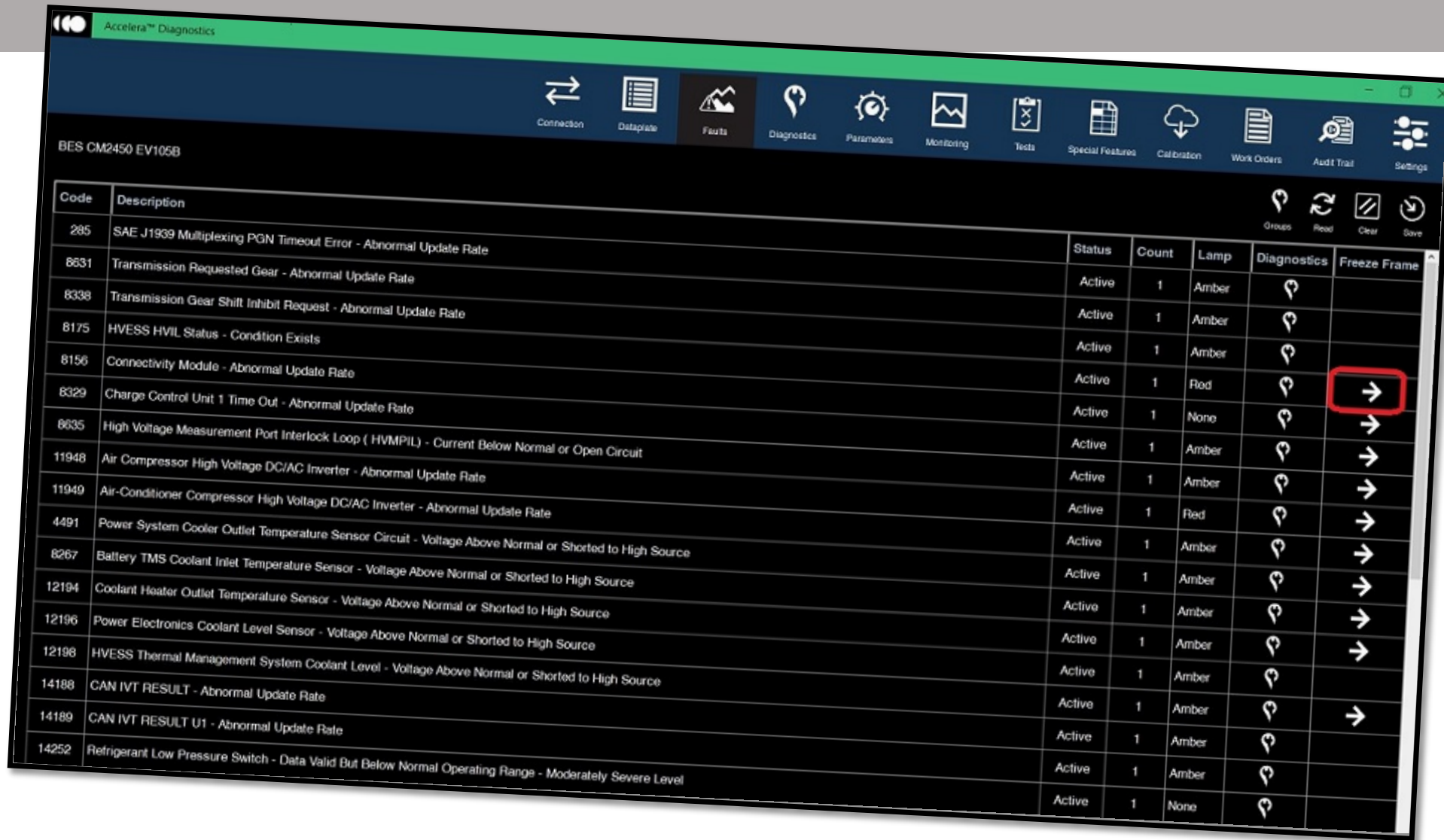
Use the Faults Tab to read fault codes, fault description, and status



Code	Description	Status	Count	Lamp	Diagnostics	Freeze Frame
285	SAE J1939 Multiplexing PGN Timeout Error - Abnormal Update Rate	Active	1	Amber		
8631	Transmission Requested Gear - Abnormal Update Rate	Active	1	Amber		
8338	Transmission Gear Shift Inhibit Request - Abnormal Update Rate	Active	1	Amber		
8175	HVESS HVIL Status - Condition Exists	Active	1	Red		
8156	Connectivity Module - Abnormal Update Rate	Active	1	None		
8329	Charge Control Unit 1 Time Out - Abnormal Update Rate	Active	1	Amber		
8635	High Voltage Measurement Port Interlock Loop ( HVMPIL) - Current Below Normal or Open Circuit	Active	1	Amber		
11948	Air Compressor High Voltage DC/AC Inverter - Abnormal Update Rate	Active	1	Red		
11949	Air-Conditioner Compressor High Voltage DC/AC Inverter - Abnormal Update Rate	Active	1	Amber		
4491	Power System Cooler Outlet Temperature Sensor Circuit - Voltage Above Normal or Shorted to High Source	Active	1	Amber		
8267	Battery TMS Coolant Inlet Temperature Sensor - Voltage Above Normal or Shorted to High Source	Active	1	Amber		
12194	Coolant Heater Outlet Temperature Sensor - Voltage Above Normal or Shorted to High Source	Active	1	Amber		
12196	Power Electronics Coolant Level Sensor - Voltage Above Normal or Shorted to High Source	Active	1	Amber		
12198	HVESS Thermal Management System Coolant Level - Voltage Above Normal or Shorted to High Source	Active	1	Amber		
14188	CAN IVT RESULT - Abnormal Update Rate	Active	1	Amber		
14189	CAN IVT RESULT U1 - Abnormal Update Rate	Active	1	Amber		
14252	Refrigerant Low Pressure Switch - Data Valid But Below Normal Operating Range - Moderately Severe Level	Active	1	None		

# Accelerera Diagnostics

## FAULTS FREEZE FRAME DATA



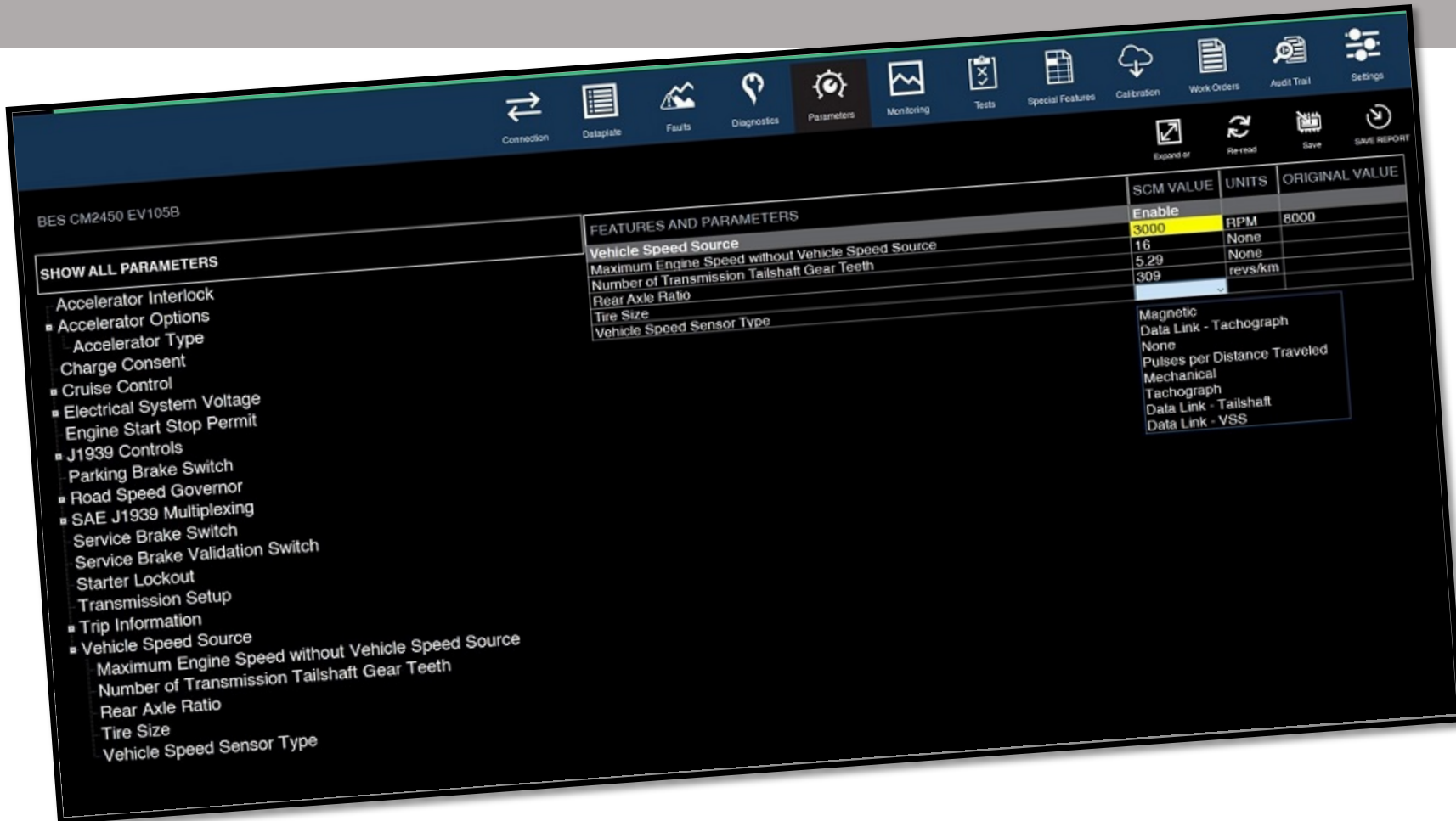
Code	Description	Status	Count	Lamp	Diagnostics	Freeze Frame
285	SAE J1939 Multiplexing PGN Timeout Error - Abnormal Update Rate					
8631	Transmission Requested Gear - Abnormal Update Rate	Active	1	Amber		
8338	Transmission Gear Shift Inhibit Request - Abnormal Update Rate	Active	1	Amber		
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8635	High Voltage Measurement Port Interlock Loop ( HVMPIL) - Current Below Normal or Open Circuit	Active	1	Amber		
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14252	Refrigerant Low Pressure Switch - Data Valid But Below Normal Operating Range - Moderately Severe Level	Active	1	Amber		
		Active	1	None		

To view more detailed information about a specific fault, click on the Arrow in the Freeze Frame box.



# Accelerera Diagnostics

## PARAMETERS TAB



The screenshot shows the 'Parameters' tab in the Accelerera Diagnostics software. The interface includes a top navigation bar with icons for Connection, Dataplate, Faults, Diagnostics, Parameters, Monitoring, Tests, Special Features, Calibration, Work Orders, Audit Trail, and Settings. Below the navigation bar, the vehicle ID 'BES CM2450 EV105B' is displayed. A left-hand sidebar lists various parameter categories, with 'Vehicle Speed Source' selected. The main area displays a table of parameters with columns for 'SCM VALUE', 'UNITS', and 'ORIGINAL VALUE'. A dropdown menu is open for the 'Vehicle Speed Source' parameter, showing options like 'Magnetic', 'Data Link - Tachograph', 'None', 'Pulses per Distance Traveled', 'Mechanical', 'Tachograph', 'Data Link - Tailshaft', and 'Data Link - VSS'.

FEATURES AND PARAMETERS	SCM VALUE	UNITS	ORIGINAL VALUE
Vehicle Speed Source	3000	RPM	8000
Maximum Engine Speed without Vehicle Speed Source	16	None	
Number of Transmission Tailshaft Gear Teeth	5.29	None	
Rear Axle Ratio	3.09	revs/km	

Depending on the module type, the calibration version and the vehicle, some parameters are editable

To edit a parameter, double click on the field, Some parameters allow you type in text, some have drop down of selectable.

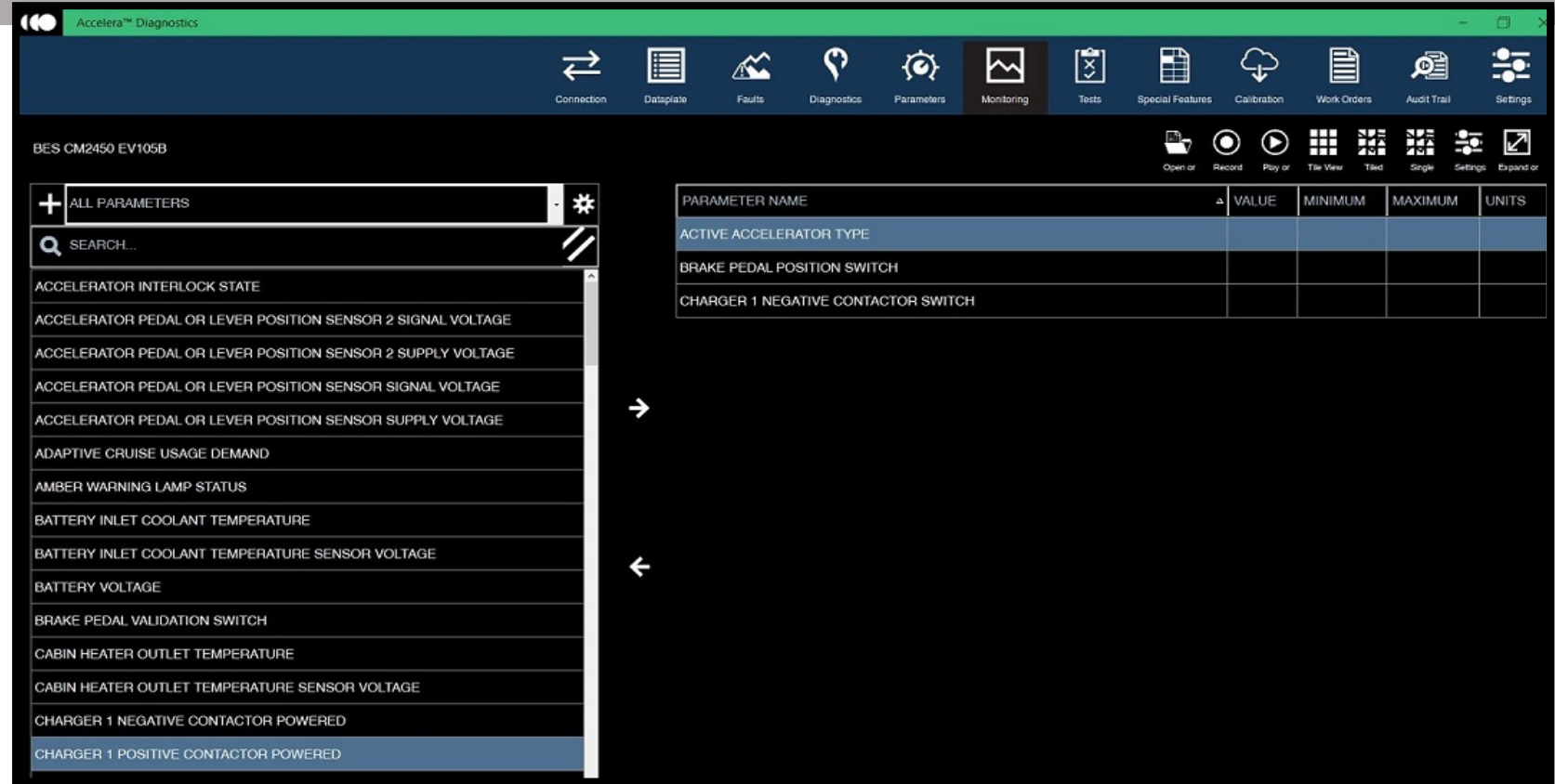


# Accelerera Diagnostics

## MONITORING TAB

Monitoring allows various inputs to be monitored while vehicle is in operation

Select which inputs to be monitored and move them from left to right, use the navigation buttons at the top right for custom configuration



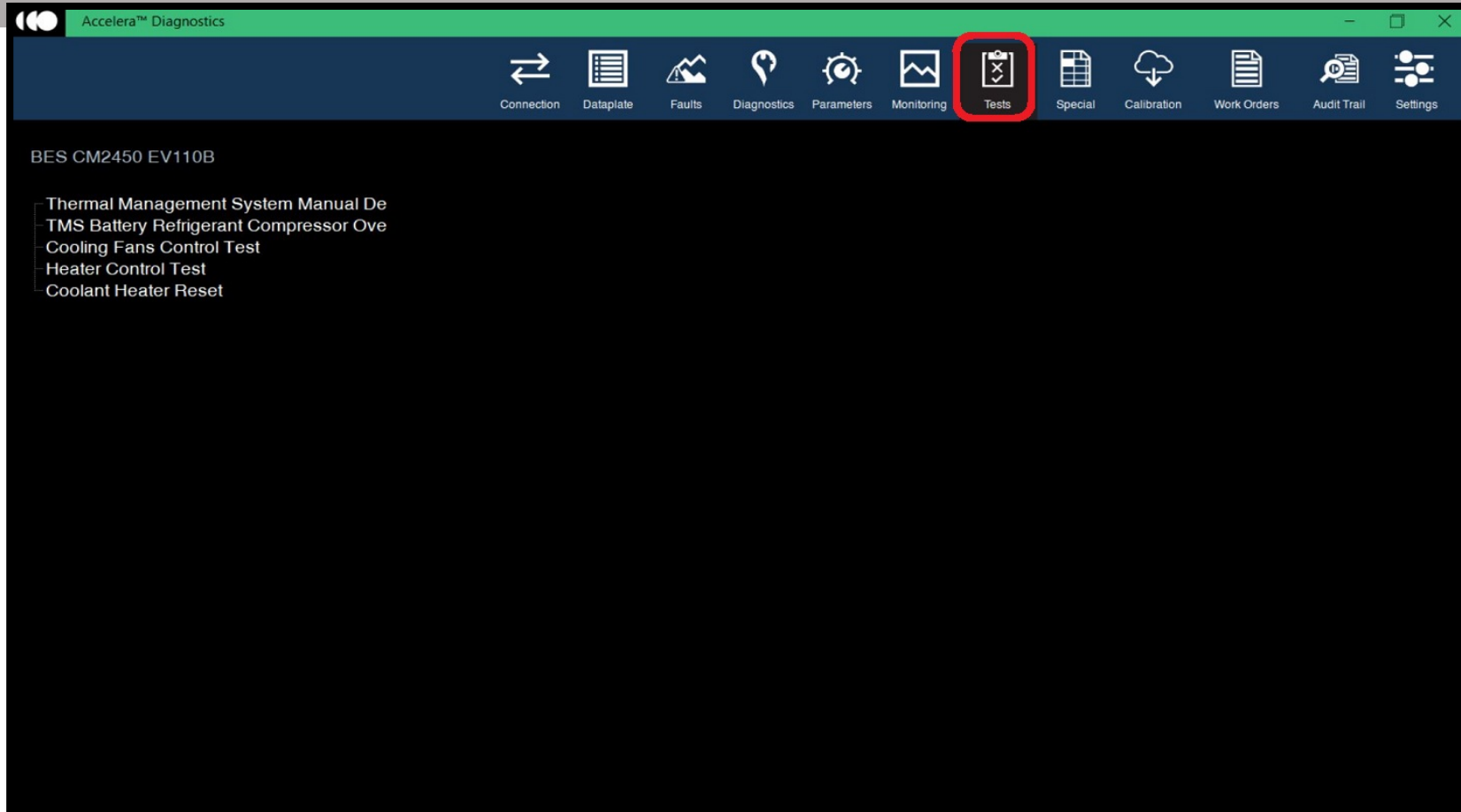
The screenshot shows the Accelerera Diagnostics Monitoring Tab interface. The interface is divided into several sections:

- Top Bar:** Contains navigation icons for Connection, Dataplate, Faults, Diagnostics, Parameters, Monitoring (active), Tests, Special Features, Calibration, Work Orders, Audit Trail, and Settings.
- Vehicle ID:** BES CM2450 EV105B
- Left Panel:** A list of parameters to be monitored. The list includes:
  - ACCELERATOR INTERLOCK STATE
  - ACCELERATOR PEDAL OR LEVER POSITION SENSOR 2 SIGNAL VOLTAGE
  - ACCELERATOR PEDAL OR LEVER POSITION SENSOR 2 SUPPLY VOLTAGE
  - ACCELERATOR PEDAL OR LEVER POSITION SENSOR SIGNAL VOLTAGE
  - ACCELERATOR PEDAL OR LEVER POSITION SENSOR SUPPLY VOLTAGE
  - ADAPTIVE CRUISE USAGE DEMAND
  - AMBER WARNING LAMP STATUS
  - BATTERY INLET COOLANT TEMPERATURE
  - BATTERY INLET COOLANT TEMPERATURE SENSOR VOLTAGE
  - BATTERY VOLTAGE
  - BRAKE PEDAL VALIDATION SWITCH
  - CABIN HEATER OUTLET TEMPERATURE
  - CABIN HEATER OUTLET TEMPERATURE SENSOR VOLTAGE
  - CHARGER 1 NEGATIVE CONTACTOR POWERED
  - CHARGER 1 POSITIVE CONTACTOR POWERED
- Right Panel:** A table showing the selected parameters. The table has columns for Parameter Name, Value, Minimum, Maximum, and Units. The selected parameters are:
 

PARAMETER NAME	VALUE	MINIMUM	MAXIMUM	UNITS
ACTIVE ACCELERATOR TYPE				
BRAKE PEDAL POSITION SWITCH				
CHARGER 1 NEGATIVE CONTACTOR SWITCH				

# Accelerera Diagnostics

## TESTS TAB



Depending on the module type, the calibration version and the vehicle, some system tests are available

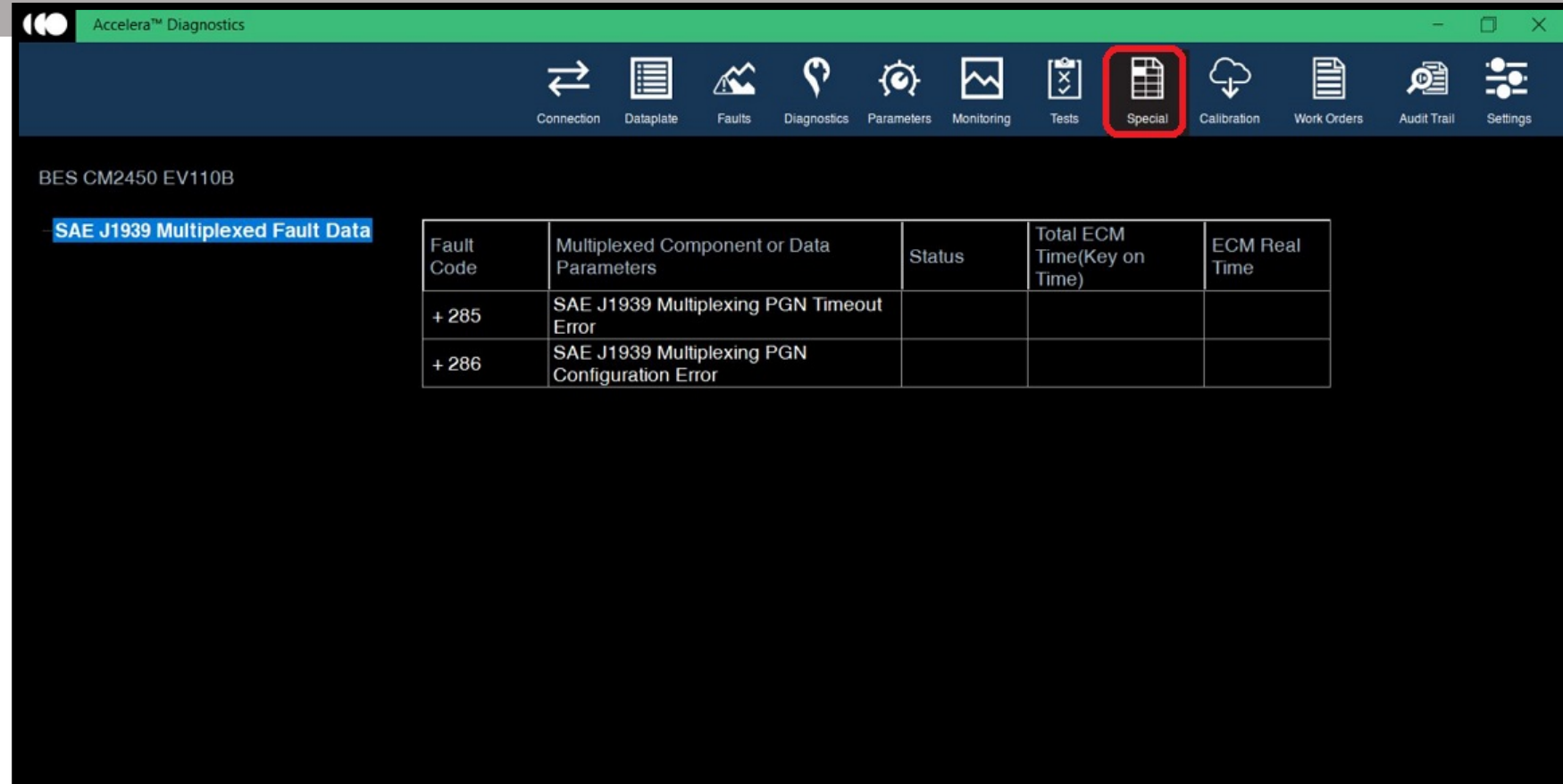
Select the test and follow the prompts and/or instructions on the screen.

# Accelerera Diagnostics

## SPECIAL FEATURES TAB

Depending on the module type, the calibration version and the vehicle, some special features are available

Select the special feature and follow the prompts and/or instructions on the screen.

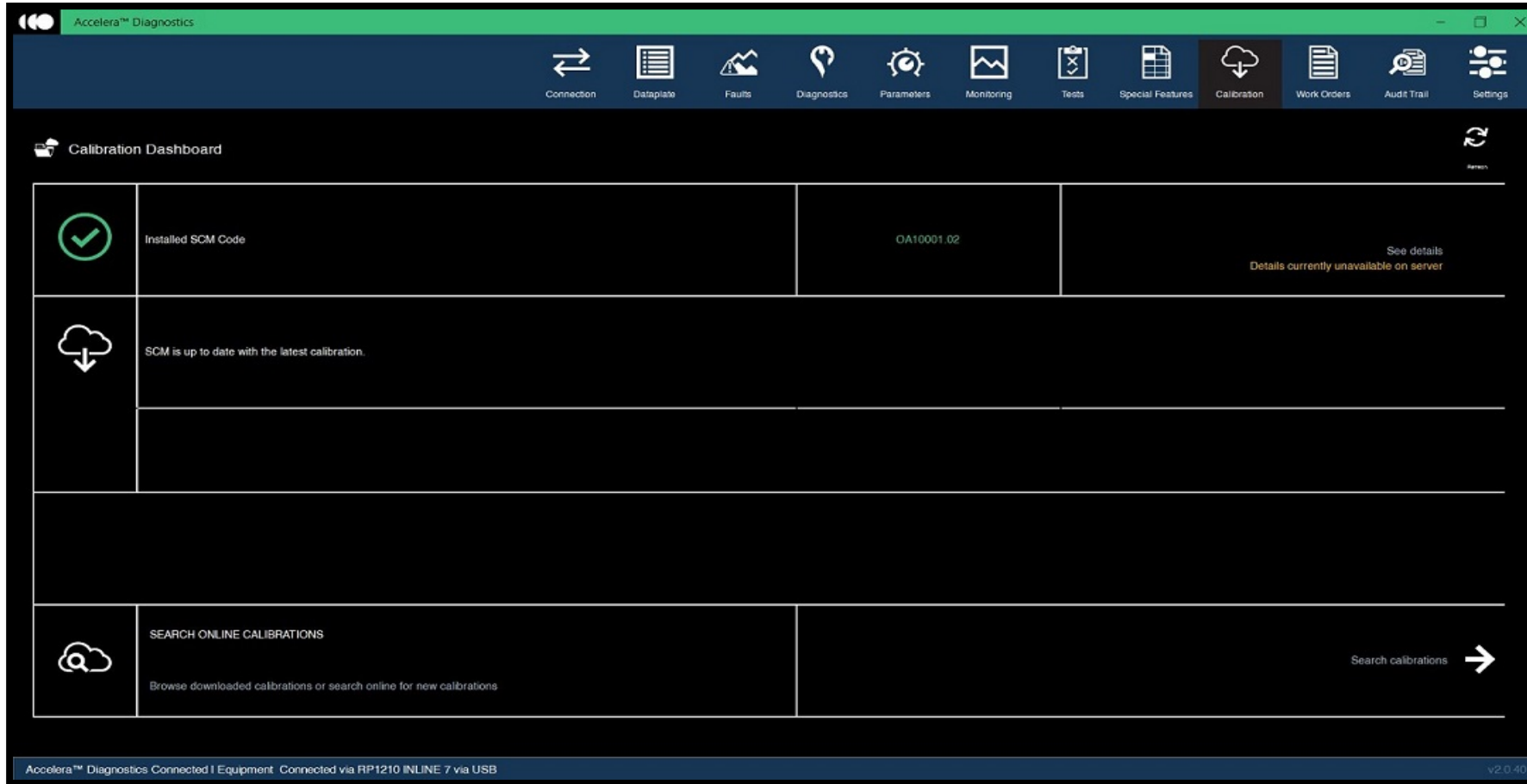


The screenshot displays the Accelerera Diagnostics software interface. The top navigation bar includes icons for Connection, Dataplate, Faults, Diagnostics, Parameters, Monitoring, Tests, Special (highlighted with a red box), Calibration, Work Orders, Audit Trail, and Settings. Below the navigation bar, the vehicle information "BES CM2450 EV110B" is shown. A blue header for the "SAE J1939 Multiplexed Fault Data" section is visible. The main content area contains a table with the following data:

Fault Code	Multiplexed Component or Data Parameters	Status	Total ECM Time(Key on Time)	ECM Real Time
+ 285	SAE J1939 Multiplexing PGN Timeout Error			
+ 286	SAE J1939 Multiplexing PGN Configuration Error			

# Accelerera Diagnostics

## CALIBRATION



The screenshot shows the Accelerera Diagnostics Calibration Dashboard. The interface includes a navigation bar with icons for Connection, Dataplate, Faults, Diagnostics, Parameters, Monitoring, Tests, Special Features, Calibration (highlighted), Work Orders, Audit Trail, and Settings. The main content area is titled "Calibration Dashboard" and features a table with the following data:

Icon	Field Name	Value	Details
✓	Installed SCM Code	0A10001.02	See details Details currently unavailable on server
☁️	SCM is up to date with the latest calibration.		
☁️	SEARCH ONLINE CALIBRATIONS		Search calibrations →

At the bottom of the dashboard, there is a status bar: "Accelerera™ Diagnostics Connected | Equipment Connected via RP1210 INLINE 7 via USB" and a version number "v2.0.40".

Use the Calibration tab to check if the module is on the most current calibration version

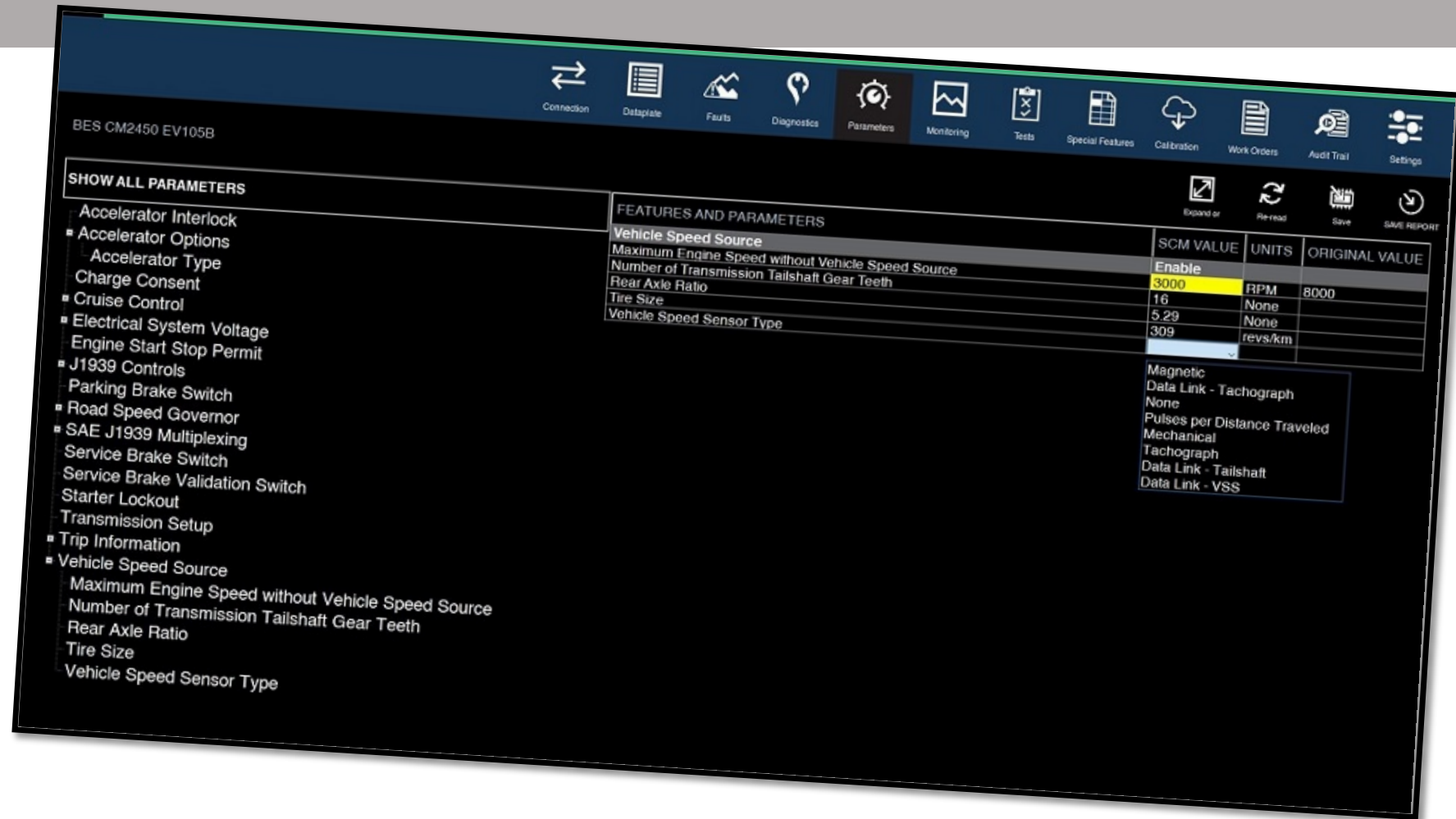
Users Can also search for calibrations on the local compute/drive or from the web.

# Accelera Diagnostics

## PARAMETERS TAB

Depending on the module type, the calibration version and the vehicle, some parameters are editable

To edit a parameter, double click on the field, Some parameters allow you type in text, some have drop down of selectable options.



BES CM2450 EV105B

SHOW ALL PARAMETERS

- Accelerator Interlock
- Accelerator Options
  - Accelerator Type
- Charge Consent
- Cruise Control
- Electrical System Voltage
- Engine Start Stop Permit
- J1939 Controls
  - Parking Brake Switch
  - Road Speed Governor
  - SAE J1939 Multiplexing
  - Service Brake Switch
  - Service Brake Validation Switch
  - Starter Lockout
  - Transmission Setup
- Trip Information
- Vehicle Speed Source
  - Maximum Engine Speed without Vehicle Speed Source
  - Number of Transmission Tailshaft Gear Teeth
  - Rear Axle Ratio
  - Tire Size
  - Vehicle Speed Sensor Type

FEATURES AND PARAMETERS

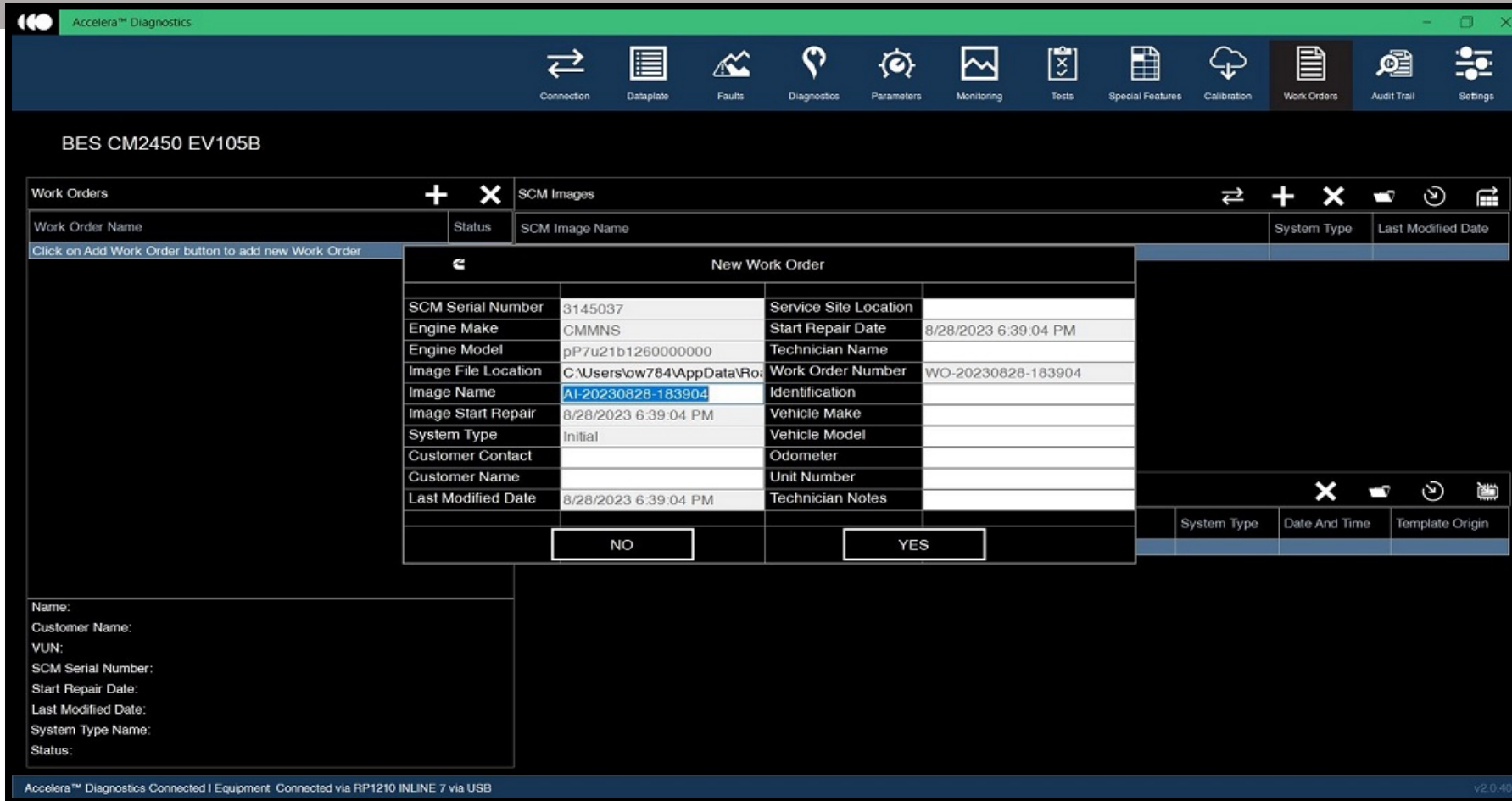
	SCM VALUE	UNITS	ORIGINAL VALUE
Vehicle Speed Source	Enable		
Maximum Engine Speed without Vehicle Speed Source	3000	RPM	8000
Number of Transmission Tailshaft Gear Teeth	16	None	
Rear Axle Ratio	5.29	None	
Tire Size	309	revs/km	
Vehicle Speed Sensor Type			

Expand or Re-read Save SAVE REPORT

Magnetic  
Data Link - Tachograph  
None  
Pulses per Distance Traveled  
Mechanical  
Tachograph  
Data Link - Tailshaft  
Data Link - VSS

# Accelerera Diagnostics

## WORK ORDERS



The screenshot shows the Accelerera Diagnostics software interface. At the top, there is a navigation bar with icons for Connection, Dataplate, Faults, Diagnostics, Parameters, Monitoring, Tests, Special Features, Calibration, Work Orders (highlighted), Audit Trail, and Settings. Below the navigation bar, the equipment identifier "BES CM2450 EV105B" is displayed. The main area is divided into two panes. The left pane shows a table of Work Orders with columns for Work Order Name, Status, SCM Image Name, System Type, and Last Modified Date. A tooltip is visible over the table, providing details for a specific work order. The right pane shows a "New Work Order" form with various input fields for creating a new work order.

Work Order Name	Status	SCM Image Name	System Type	Last Modified Date																																																
Click on Add Work Order button to add new Work Order																																																				
<table border="1"> <thead> <tr> <th colspan="4">New Work Order</th> </tr> </thead> <tbody> <tr> <td>SCM Serial Number</td> <td>3145037</td> <td>Service Site Location</td> <td></td> </tr> <tr> <td>Engine Make</td> <td>CMMNS</td> <td>Start Repair Date</td> <td>8/28/2023 6:39:04 PM</td> </tr> <tr> <td>Engine Model</td> <td>pP7u21b1260000000</td> <td>Technician Name</td> <td></td> </tr> <tr> <td>Image File Location</td> <td>C:\Users\vw784\AppData\Roaming\</td> <td>Work Order Number</td> <td>WO-20230828-183904</td> </tr> <tr> <td>Image Name</td> <td>AI-20230828-183904</td> <td>Identification</td> <td></td> </tr> <tr> <td>Image Start Repair</td> <td>8/28/2023 6:39:04 PM</td> <td>Vehicle Make</td> <td></td> </tr> <tr> <td>System Type</td> <td>Initial</td> <td>Vehicle Model</td> <td></td> </tr> <tr> <td>Customer Contact</td> <td></td> <td>Odometer</td> <td></td> </tr> <tr> <td>Customer Name</td> <td></td> <td>Unit Number</td> <td></td> </tr> <tr> <td>Last Modified Date</td> <td>8/28/2023 6:39:04 PM</td> <td>Technician Notes</td> <td></td> </tr> <tr> <td colspan="2">NO</td> <td colspan="2">YES</td> </tr> </tbody> </table>					New Work Order				SCM Serial Number	3145037	Service Site Location		Engine Make	CMMNS	Start Repair Date	8/28/2023 6:39:04 PM	Engine Model	pP7u21b1260000000	Technician Name		Image File Location	C:\Users\vw784\AppData\Roaming\	Work Order Number	WO-20230828-183904	Image Name	AI-20230828-183904	Identification		Image Start Repair	8/28/2023 6:39:04 PM	Vehicle Make		System Type	Initial	Vehicle Model		Customer Contact		Odometer		Customer Name		Unit Number		Last Modified Date	8/28/2023 6:39:04 PM	Technician Notes		NO		YES	
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Name:  
 Customer Name:  
 VUN:  
 SCM Serial Number:  
 Start Repair Date:  
 Last Modified Date:  
 System Type Name:  
 Status:

Accelerera™ Diagnostics Connected | Equipment: Connected via RP1210 INLINE 7 via USB v2.0.40

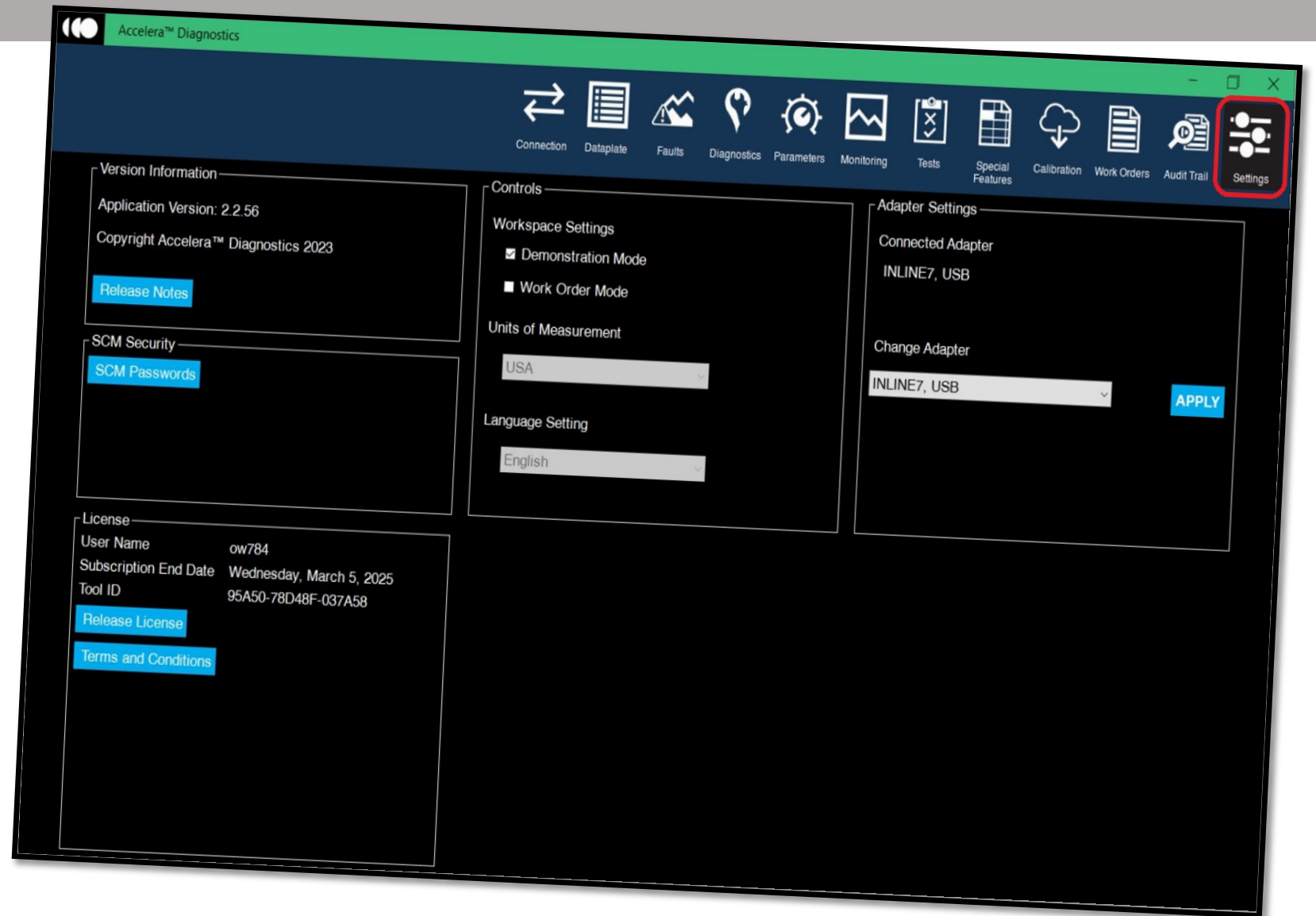
Work order allows you create a work order/before image for the module the service tool is connected to.

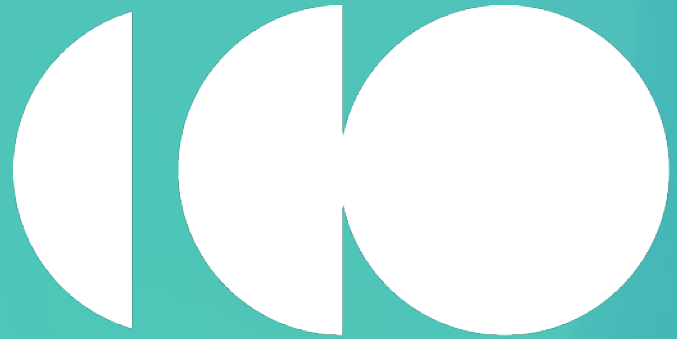
# Accelerera Diagnostics

## SETTINGS TAB

From the **Settings Tab**, you can change various options in the service tool:

- your adapter
- language preferences
- units of measure
- software version
- license activation key





accelera™

by Cummins