

DAIMLER

DiagnosticLink 8.10 Service Diagnostics & Tools

Daimler Trucks



BHARATBENZ

DiagnosticLink 8.10 supported software packages

- **MY2019 Heavy Duty (HD) software (DD13/DD15/DD16):**

- MCM21T – m6.7.0.2
- ACM21T – e7.59.2.0
- CPC04T – R42_00_000a
- TCM01T – NAMT150700
- CPC302T – R31.33.00

- **MY2019 Medium Duty (MD) software (DD5/DD8):**

- MCM21T – m12.02.02.02
- ACM21T – e13.54.02.00
- CPC04T – R42_00_000a

DiagnosticLink 8.10 supported software packages (continued)

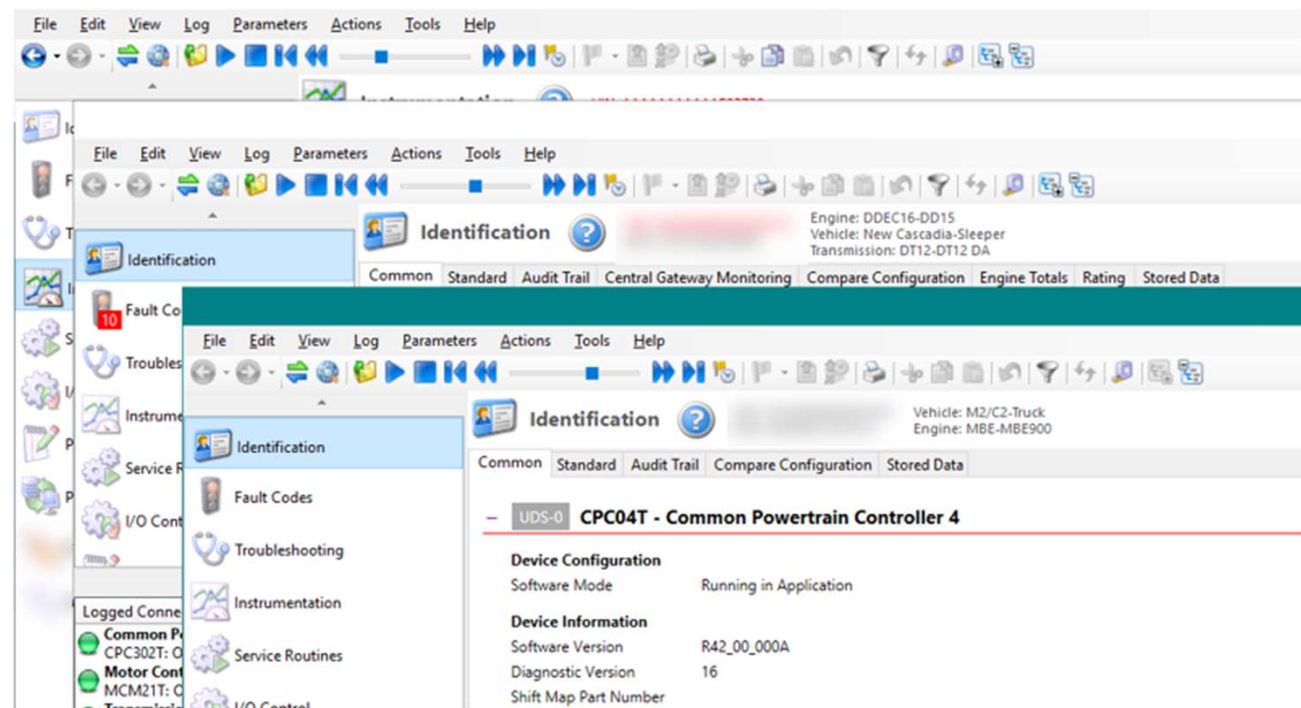
- **MY2019 MD software (ECONIC):**
 - MCM21T – m12.02.02.02 (DD5/DD8)
 - ACM21T – e13.54.02.00
 - CPC302T – R31.83.02
- **MY2019 HD software (Euro V) (DD13/DD16):**
 - MCM21T – m12.12.0.3
 - ACM21T – e7.59.2.0
 - CPC04T – R42_00_000a
 - TCM01T – NAMT150700
 - CPC302T – R31.33.00
- **MY2019 MD software (Euro V) (MBE900 – MR2 Project):**
 - MR201T – V30
 - CPC04T – R42_00_000a

Additional panel support included

- **New Cascadia 43JYST Pre-series Vehicle Project Launch**
 - New diagnostic panels included:
 - HSV Calibration Panel
 - APS3 Service Calibration Panel
 - Side Radar Left Calibration Panel
 - ICC5 Auto Config Diagnostic Routine

Ability to review multiple log files at one time

- Multiple instances of DiagnosticLink can now be launched to view multiple log files.



Hadley Smart Valve dynamic ride height adjustment

- Allow user to manually adjust the height of the truck equipped with HSV.

Dynamic Ride Height Adjustment?×

Relative Level Front Axle Left	mm	Relative Level Front Axle Right	mm	Front Axle Status
	-2.9		-0.9	Stationary
Relative Level Rear Axle Left	mm	Relative Level Rear Axle Right	mm	Rear Axle Status
	-1.7		-1.7	Stationary
Secondary Air Pressure	kPa	Ignition Switch	Parking Brake	
	224.000000	On	On	

System Faults

Channel	Name	Number	Mode
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System	Move To				Jog	
Front Axle	Raised	Standard	Aero	Lowered	Up	Down
Rear Axle	Raised	Standard	Aero	Lowered	Up	Down
Both Axles	Raised	Standard	Aero	Lowered	Up	Down

Save Current Position As:

RaisedStandardAeroLowered

Close

Hadley Smart Valve dynamic ride height calibration

- Allows user to calibrate the HSV.

Dynamic Ride Height Calibration

Relative Level Front Axle Leftmm

Relative Level Front Axle Rightmm

Front Axle Status

0.4

-0.2

Stationary

Relative Level Rear Axle Leftmm

Relative Level Rear Axle Rightmm

Rear Axle Status

-2.1

-2.1

Stationary

Secondary Air Pressurepsi

Engine Speedrpm

Parking Brake

76.5799288

599.6


On

BEFORE YOU START:

☐ Confirm that the Truck is placed on calibration stand.

☐ Confirm that the you have a Full Set of Calibration Blocks.

☐ Confirm that no one is working on or near the truck

 Confirm that truck is on calibration stand.

Start Calibration

Apply

Close

The Synchronize ACM and MCM panel can be used to clear MU faults set in ACM when the SR096 service has been activated

- Marries ACM/MCM for Euro V HDEP engines.
- Because the panel clears non-erasable faults, the following conditions must be met:
 - ACM/MCM VINs must match.
 - Either ACM or MCM must have been programmed using DiagnosticLink.
 - Server connection is required.

Synchronize ACM and MCM

ACM Needs Synchronization MCM Needs Synchronization

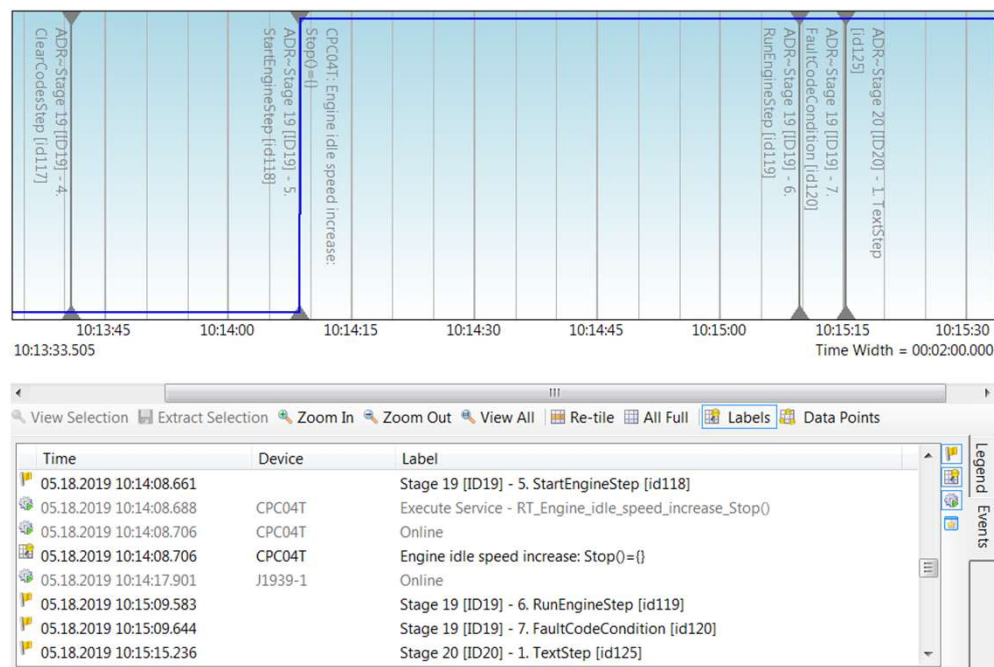
Yes No

Ready Synchronize

Time	Label
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Close

Follow an ADF from a logfile



Advanced Diagnostics Finishing troubleshooting SPN 4334 FMI 4

Diagnosis Flowchart

Stage 19

Displayed text
Reconnect all connections and reinstall the side fairings if removed.
Click "Next" to verify the repair.

Request ignition on
Turned the ignition on

Cleared Code
Started the engine

Request start engine
at idle for 60 seconds

Ran the engine
at idle for 60 seconds

Checked for other active code
Code: (4334/4) active
Match: Yes

Automatic Diagnostic Time
0 hours and 4 minutes

Integrated Diagnostic Time
0 hours and 1 minute

Stage 20

Displayed text
The procedure did not resolve the concern. Click "Next" to exit the / leave feedback on the final report.

- When navigating an ADF, each activity is now stored as a label with the .DrumrollLog file.
- This could be used - in conjunction with .TroubleshootingReport files - for deep-dive diagnosis of the troubleshooting state.

MR2 ECU requires ignition key on off step as part of the programming sequence

- As MR2 is a carry over ECU from Europe, there is an expectation that certain actions to commit parameters will require an ignition key cycle.
- After programming the ECU, DiagnosticLink will now guide the technician to turn the ignition off, and then back on again.
- This is needed to ensure that parameters are correctly stored in the ECU

The screenshot shows the 'Program Device' window in DiagnosticLink. The window title is 'Program Device' with a help icon. The breadcrumb path is 'Gather Data > Select Operation > Program Device'. Below this, it states 'The following data will be programmed'.

Name	Target Data
Operation	Replace Device Settings with Server Configurat
Device	MR201T
Unit	3AKBCYF31KDKW9997 (926984U1256973)
Software	30C
Data Set	A0274488840-002 (OM926LA.V/35-01)
Settings	
Engine Serial Number	1256973
Vehicle Identification N	F31KDKW9997

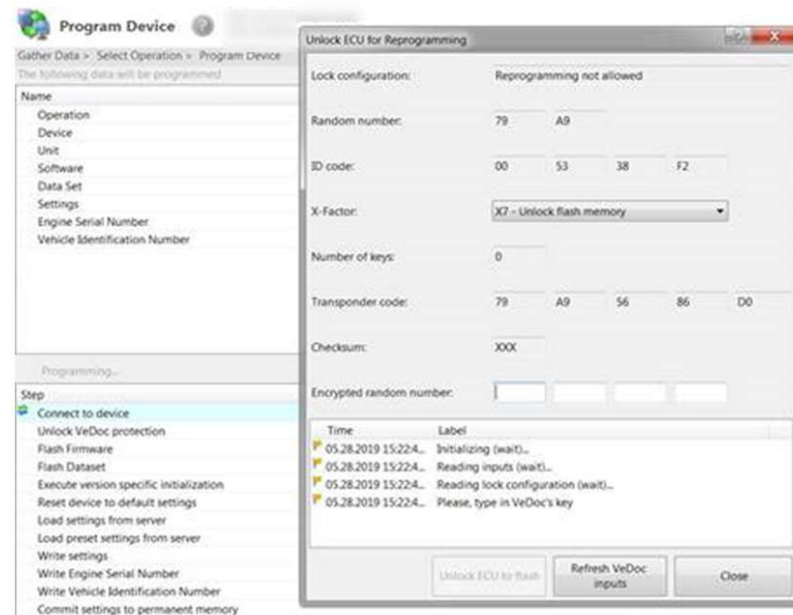
Below the table, there is a 'Programming...' section with a progress bar and a list of steps:

Step	Result
✓ Connect to device	Complete
✓ Unlock VeDoc protection	Complete
✓ Flash Firmware	n/a - using existing firmware
✓ Flash Dataset	Complete
✓ Execute version specific initialization	n/a
✓ Reset device to default settings	n/a

Overlaid on the window is a 'Cycle Ignition' dialog box with a red 'X' button. The dialog box contains the text 'Turn ignition on!' and a green progress bar.

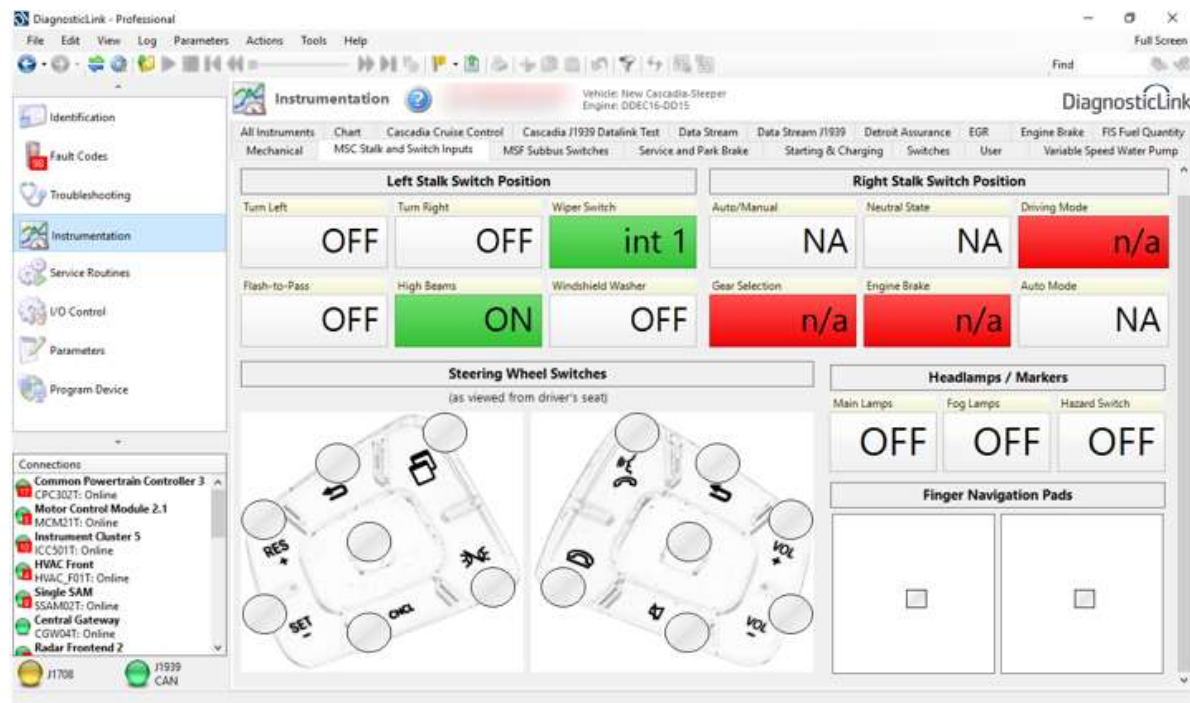
Manual mode to program MR2 ECU if internet is not available.

- A server connection is required to at the time of programming an MR2 ECU.
- If an internet connection is not available, the manual entry dialog can be enabled for use by navigating to **Tools > Options > Server** and by checking the option 'Use the manual unlock dialog..' and click **OK**.
- While connected to the MR2, click the Actions panel and select 'Unlock ECU for Reprogramming'





New MSC Stalk and Switch Inputs panel for New Cascadia 43JYST

- A new version of the MSC Stalk and Switch Inputs panel was built for 43JYST (new HMI)
- It supports the new steering wheel switches and the status of the touch sensitive X/Y finger navigation pads
- The Finger Navigation Pad status areas will dynamically update to show the current touch position.



MSF switch descriptions added for ECONIC

- The complete set of MSF switch descriptions for the ECONIC vehicle

 **Instrumentation**  Vehicle: Econic-Waste

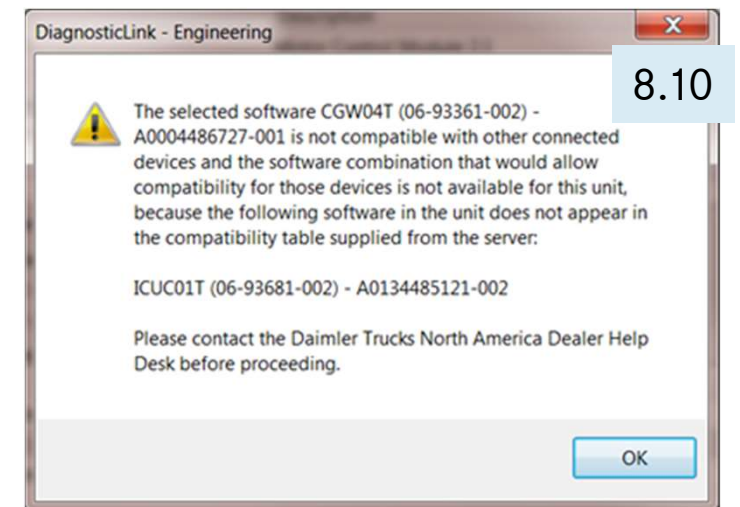
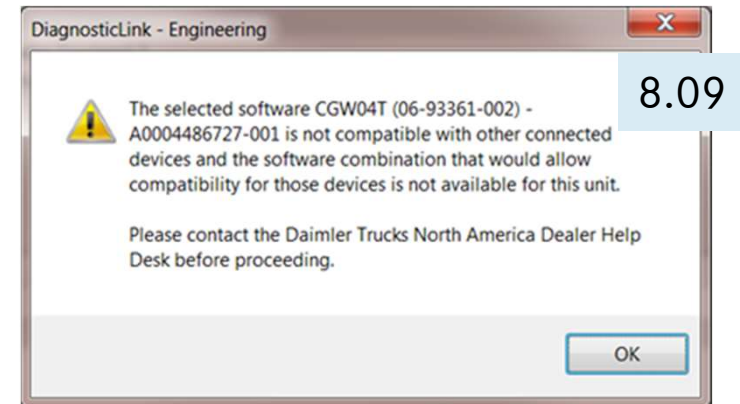
All Instruments | Chart | Data Stream J1939 | Detroit Assurance | Lane Departure Warning | MSC Stalk and Switch Inputs | **MSF Subbus Switches** | User

NOTE: Hardwired switches will not display a switch position.

Switch ID	Description	Position
003	Backup Alarm Dual Volume	not pressed
017	Normal level I/II	not pressed
018	Stop Normal level	not pressed
027	Horn Select Switch	not pressed
030	Utility Lamp	not pressed
035	Front Dome Lamp (dash)	not pressed
036	Reading Lamps Driver (Upper) / Night light (Lower)	not pressed
041	Operating speed switch	not pressed
042	Power takeoff 1	not pressed
055	DPF Regeneration Auto	not pressed
073	Lighting Check	not pressed
080	Front Dome Lamp	not pressed
145	Override / Engine Shutdown	not pressed
173	Open/close co-driver window	not pressed
177	Automated Hazard Light	not pressed
182	Hill Holder / Halt Brake	not pressed
205	Difflock Inter Axle / Step 1	not pressed
206	Difflock Rear Axle / Step 2	not pressed
209	Park brake 4 wheel drive	not pressed
222	Beacon	not pressed
236	Spot Light	not pressed
252	LDW Off / ABA Off	not pressed
485	Air conditioning switch	hardwired

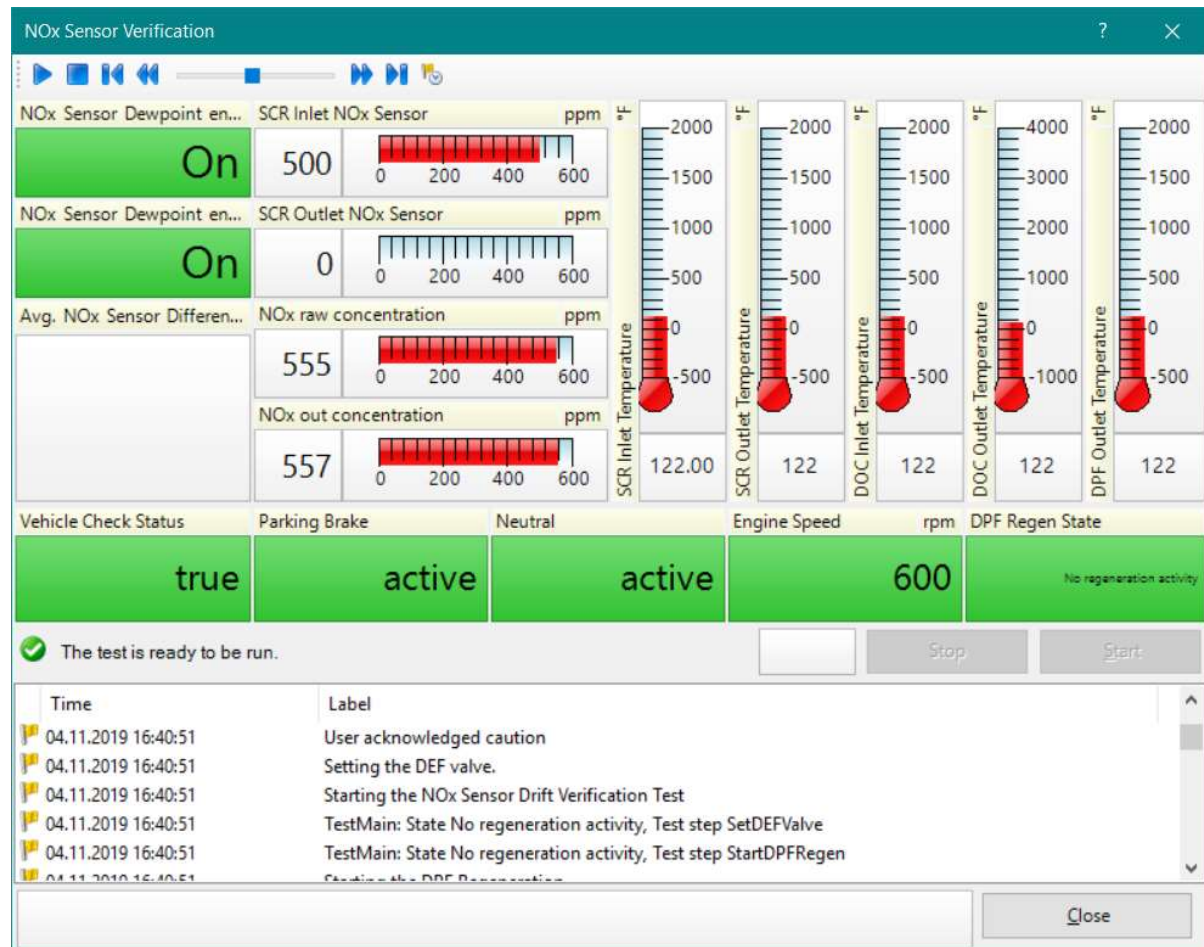
Compatibility hint context is misleading

- When the user attempts to program an ECU using “Program Device”, the warning dialog text “*The selected software is not compatible with other connected devices and the software combination that would allow compatibility for those devices is not available for this unit*” will now include the real reason why that compatibility is not available.
- Here we see that in 8.09 CGW04T (the ECU to be programmed) is the only ECU called out in the warning dialog.
- But in 8.10, the actual ECU with the problematic documentation (ICUC01T) is specifically called out as such.
- This additional detail is hoped to make it easier to provide accurate documentation in the chassis-side compatibility table.



NOx Sensor Verification Test Panel Update

- The previous version of the panel was not always able to detect when a NOx sensor needed to be replaced.
- The test now performs one complete High Idle Regeneration before the NOx sensors are sampled and compared.
- The minimum time that the test runs will be the time required to perform a High Idle Regeneration, and a second regeneration if the NOx sensors were not ready to be tested by the end of the first HIR.
- The test will take longer, on average, to be performed than before but the results should be more reliable.



Side Radar *Left* Calibration panel

- The panel is based on the Side Radar *Right* Calibration panel.

Side Radar Left Calibration

Side Radar Left Calibration

This procedure is used to calibrate the Side Radar unit. This is a dynamic calibration requiring a test drive of 15-20 minutes on a road with regular traffic.

Engine Speedrpm <no instrument>

0.0

Start engine

Time

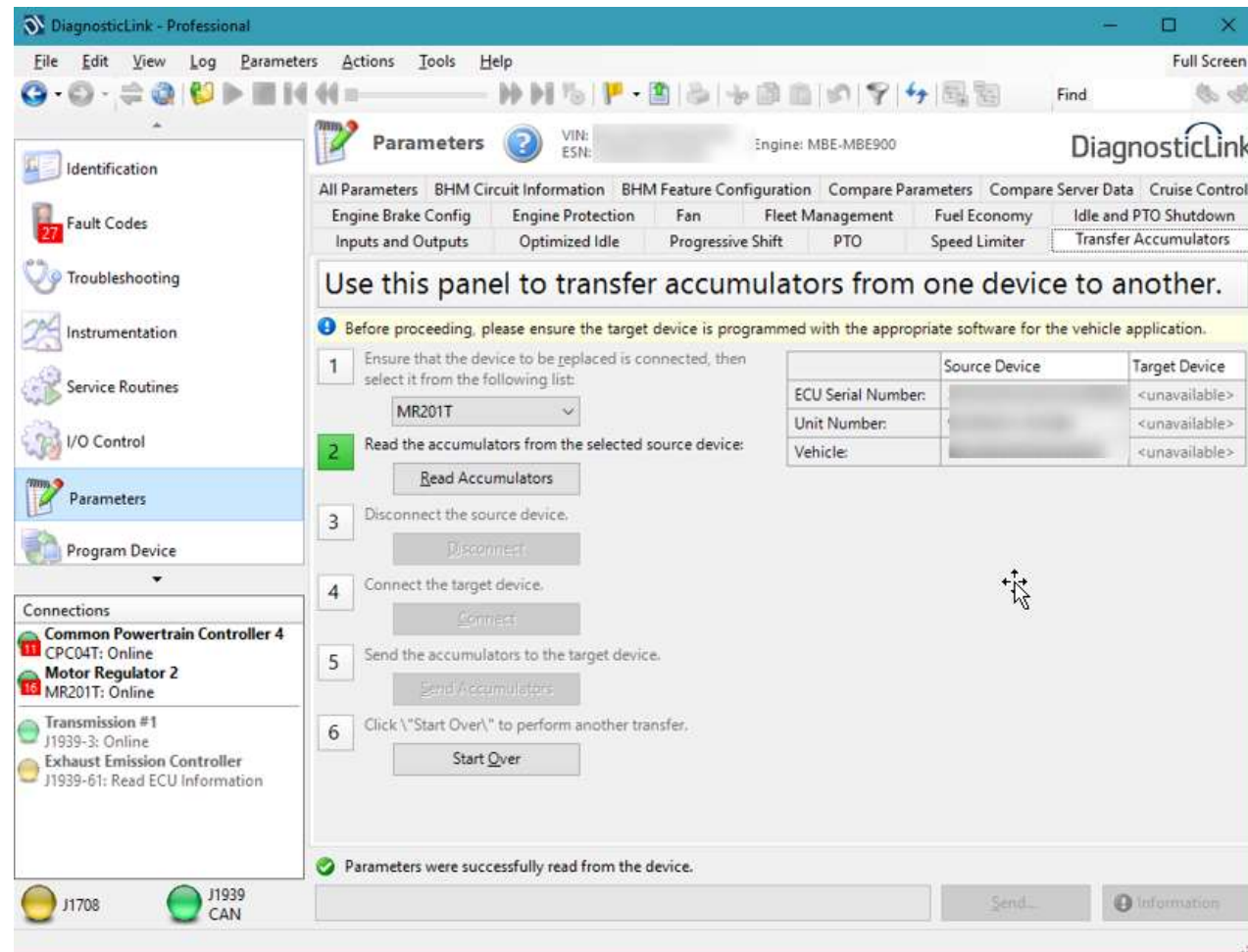
Label

SRRL-Calibration: Procedure cannot start: Engine Speed is not valid

Start

Euro V MR2 Update Transfer Accumulators panel

- Updated the Transfer Accumulators panel to support the MR2.



Log File Fault History Refresh web page view

- Whenever the VIN is null, a blank page will be displayed.

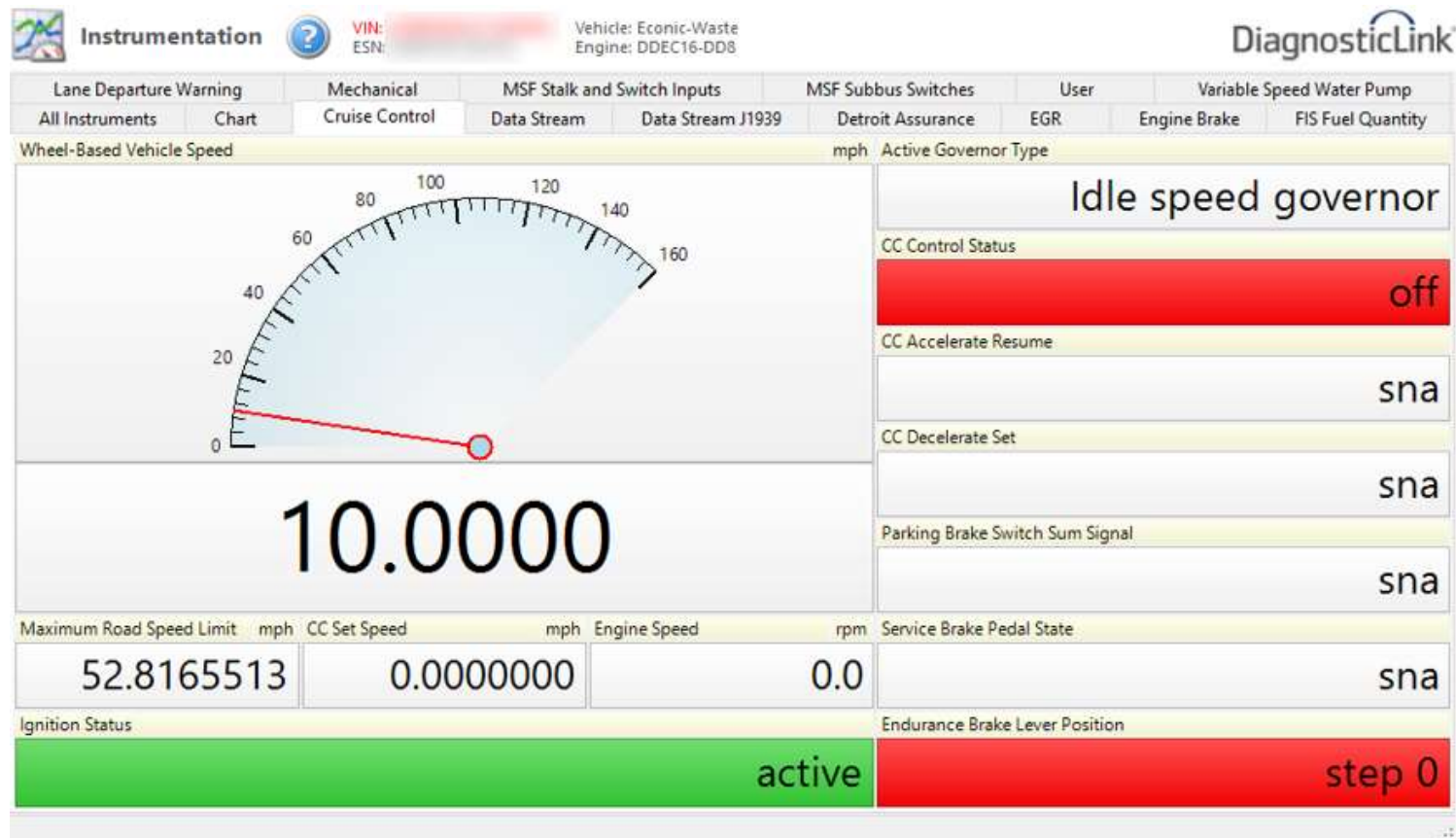
The screenshot displays the DiagnosticLink web application interface. The main window shows the 'Fault Codes' section with a 'Fault Code History' table. The table has columns for SPN, FMI, Fault Description, and Log Timestamp. The data is as follows:

SPN	FMI	Fault Description	Log Timestamp
524236	9	ECU DCMD timeout	05-15-2019 14:48:3
524011	19	ECU EBS data error	05-15-2019 14:48:3
524000	19	ECU CPC data error	05-15-2019 14:48:3
523021	31	DTC_CAMERA_FailureWarningDeviceRight	05-15-2019 14:48:3
523020	31	DTC_CAMERA_FailureWarningDeviceLeft	05-15-2019 14:48:3

The sidebar on the left contains navigation options: Identification, Fault Codes (selected), Troubleshooting, Instrumentation, Service Routines, I/O Control, and Parameters. The top navigation bar includes File, Edit, View, Log, Parameters, Actions, Tools, and Help. The bottom status bar shows the log time as 1/23/2019 2:38:15 PM.

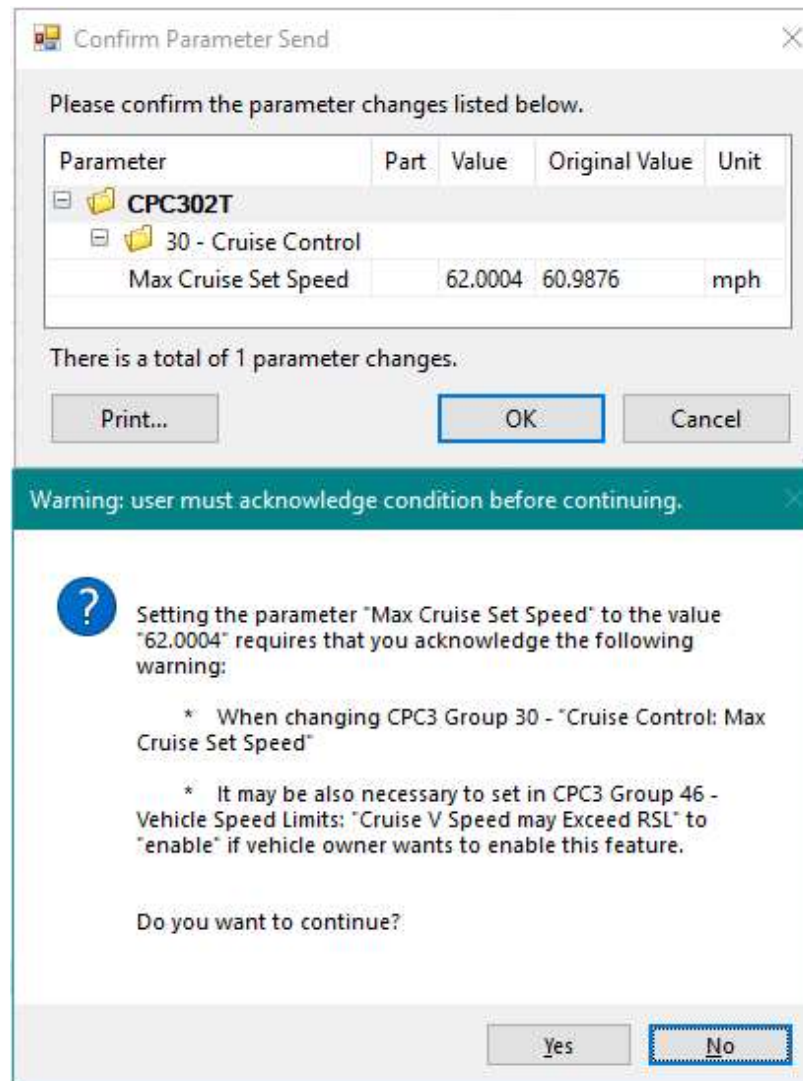
ECONIC Instrument Panel Support - Cruise Control panel updates

- Endurance Brake Position (replaces Engine Brake)
- Ignition Status (replaces Clutch Open)



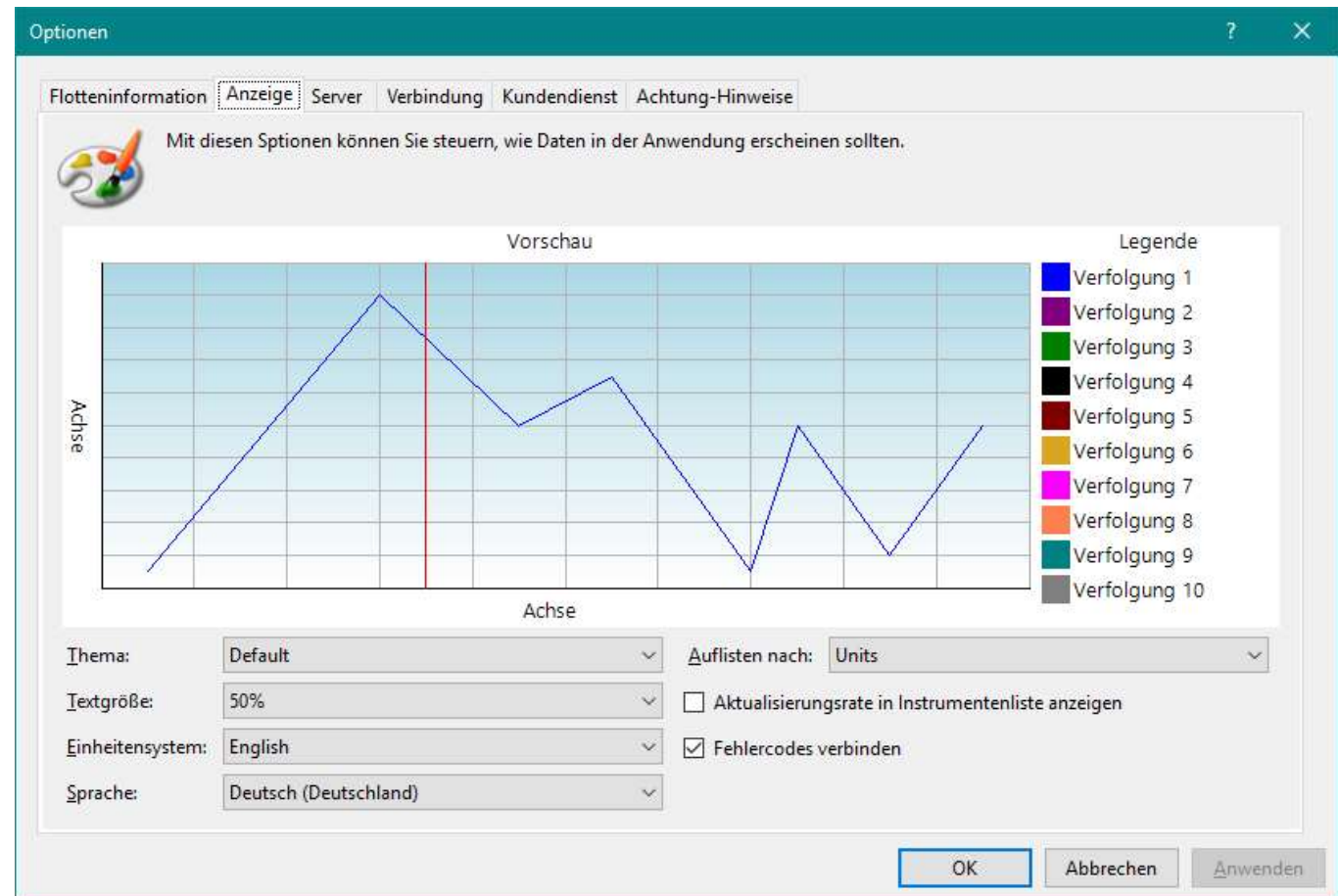
CPC3 message display update

- Warning message now displays when changing CPC3 Group 30 - Cruise Control: Max Cruise Set Speed



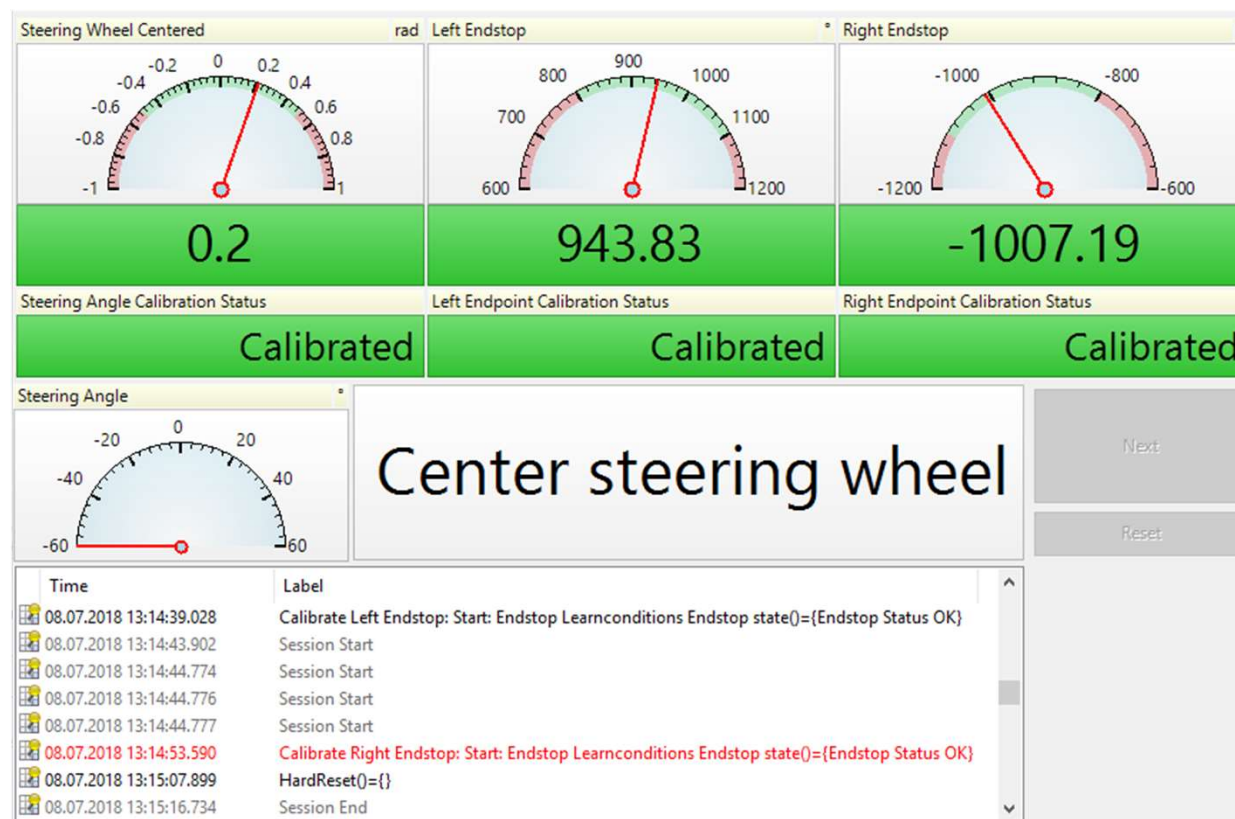
German language pack support included in DiagnosticLink 8.10

- English to German translations now available with the exception of text in CBF files.
- Requires separate install of German Language Pack



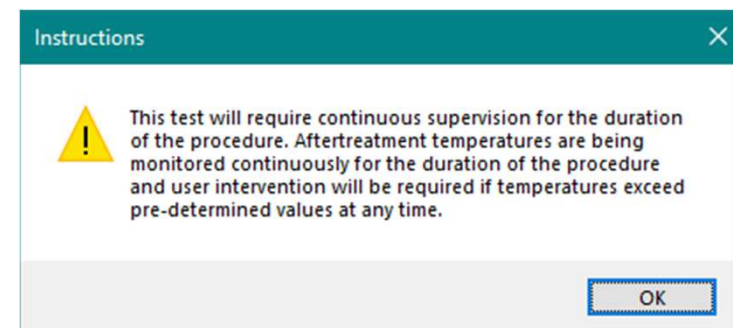
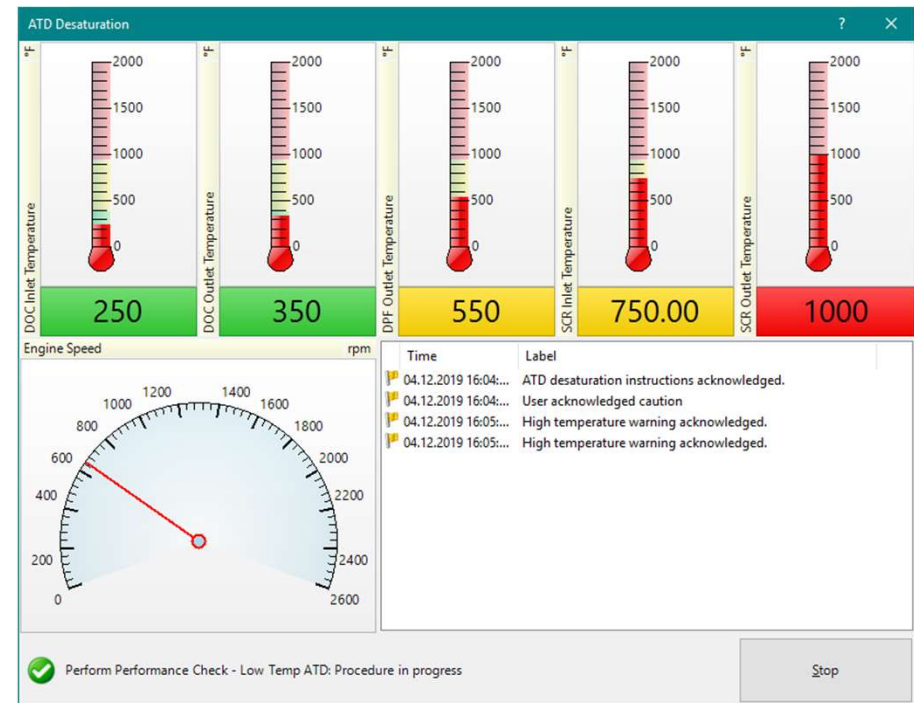
APS3 Service Endstop Calibration

- This panel is used to calibrate the center and end stop positions of the APS3 system
- Calibration is reset at the beginning of the process and if any errors are encountered to ensure a partial calibration is not stored



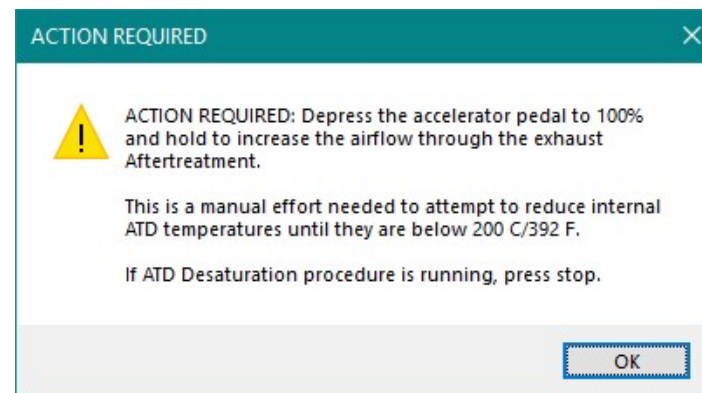
ATD Desaturation Panel

- New panel displaying relevant temperature signals:
 - DOC Inlet Temperature
 - DOC Outlet Temperature
 - DPF Outlet Temperature
 - SCR Inlet Temperature
 - SCR Outlet Temperature
- Temperatures show warning color (yellow) at 200°C and fault color (red) at 500°C.
- Engine must be running (>0 rpm) and all temperatures must be below fault condition (500°C) to allow routine to be started.
- Instructions are shown at start of test, informing user they must continuously monitor routine
- All dialogs and warnings shown are recorded when the user acknowledges them and a log entry is created.



ATD Desaturation Panel (cont.)

- At 500°C a popup is shown with instructions to press the accelerator pedal and increase airflow. It also instructs the user to stop the procedure.
- This popup if dismissed will be shown again every 5 seconds until temperatures drop below 500°C.
- Panel cannot be closed while the routine is running or the temperatures are above 500°C.
- Maximum temperatures reached during routine are recorded and sent as event data to Reservoir with information about the connected device.



```
<event apid="mschum01" time="20190412160542960" engine="" vehicle="3AKJHLDR3JSJR4883" device="A
<eventinfos>
  <eventinfo name="DT_AS007_DOC_Inlet_Temperature">250</eventinfo>
  <eventinfo name="DT_AS008_DOC_Outlet_Temperature">350</eventinfo>
  <eventinfo name="DT_AS009_DPF_Outlet_Temperature">550</eventinfo>
  <eventinfo name="DT_AS018_SCR_Inlet_Temperature">750</eventinfo>
  <eventinfo name="DT_AS019_SCR_Outlet_Temperature">1000</eventinfo>
</eventinfos>
<deviceidentities>
  <deviceidentity qualifier="DiagnosisVariant">acm_0x0236</deviceidentity>
  <deviceidentity qualifier="CO_SoftwareVersion">7.58.2.0</deviceidentity>
  <deviceidentity qualifier="CO_DiagnosisVersion">54</deviceidentity>
  <deviceidentity qualifier="CO_FcuSerialNumber">D5D33401</deviceidentity>
  <deviceidentity qualifier="CO_HardwarePartNumber">0004463754001</deviceidentity>
  <deviceidentity qualifier="CO_SoftwarePartNumber">0174488954001</deviceidentity>
  <deviceidentity qualifier="CO_VIN">3AKJHLDR3JSJR4883</deviceidentity>
  <deviceidentity qualifier="CO_FuelmapPartNumber">0194484354003</deviceidentity>
  <deviceidentity qualifier="CO_CertificationNumber">
</deviceidentity>
  <deviceidentity qualifier="CO_SoftwareMode">Running in Application</deviceidentity>
  <deviceidentity qualifier="CO_ApplicationCode">06N04C1621</deviceidentity>
  <deviceidentity qualifier="CO_ApplicationCodePartNumber">A0514473854_007</deviceidentity>
  <deviceidentity qualifier="CO_CALID">27w202N1M1601003</deviceidentity>
  <deviceidentity qualifier="CO_CVN">094872CF</deviceidentity>
  <deviceidentity qualifier="CO_CALID_ENGINE_NOX">
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  <deviceidentity qualifier="CO_CALID_PM_SENSOR">
</deviceidentity>
  <deviceidentity qualifier="CO_CVN_PM_SENSOR">00000000</deviceidentity>
</deviceidentities>
</event>
```


M2 DD8 engine Actions/ Variable Camshaft Phaser (VCP)

- Updated the panel to have “Read Actual VCP Position” Instrument taken out.

Variable Camshaft Phaser (VCP)

Engine Speed	rpm	Ignition Status	Vehicle Speed	mph
0		On	50.0	

Time	Label
------	-------

VCP Test Routine: Procedure cannot start: AAS: Vehicle Speed is not valid

Start Close

VIN and ESN added to the engine/vehicle identification bar

- VIN and ESN are now displayed in the identification bar
- Users can right click on either fields and copy the values to their clipboard
- VIN / ESN will be displayed in red when connected to different ECUs with different VINs / ESNs
- If the user hovers over a red VIN and ESN, a tool tip will appear and show the notification, that a VIN/ESN Inconsistency was detected

