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CAT

Cat ET Overview – Updated 2018

ET

- What is Cat ET

- Demo

What Is Cat ET?

- Cat ET is a software based service tool which gives the service technician the capability to communicate and work with the electronic controls on Caterpillar products

- Connects to the Product's Data Link(s)

- Functions
    - Display Status Parameters
    - View Active Diagnostic Codes
    - View and Clear Logged Diagnostic Codes
    - Manipulate ECM Configuration
    - Record Machine Information over a period of time
    - Diagnostic Tests and Calibrations
    - Retrieve Machine Totals

Cat ET

- Cat ET releases three time a year

  - February, June, October

- Cat ET may have additional releases as needed

Required Hardware

538-5051 - Communications Adapter 3 Group

478-0235 Communication Adapter

370-4617 USB Cable

457-6114 Data Link Cable

PC/Laptop		Machine/Engine
USB		Service connector

Communications Adapter 3

- Three Data Links: ATA (J1708), Cat Data Link (CDL), J1939 (CAN)

- Up to 4 times faster flash with J1939

- Flash memory

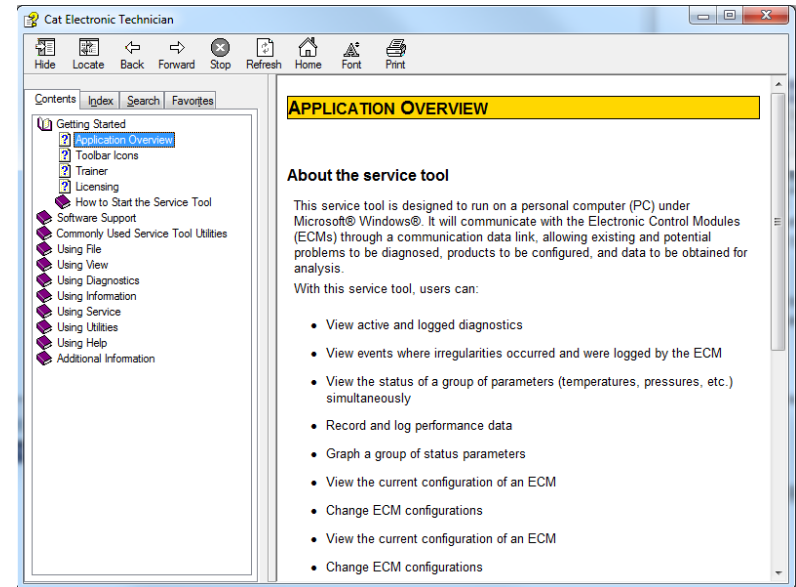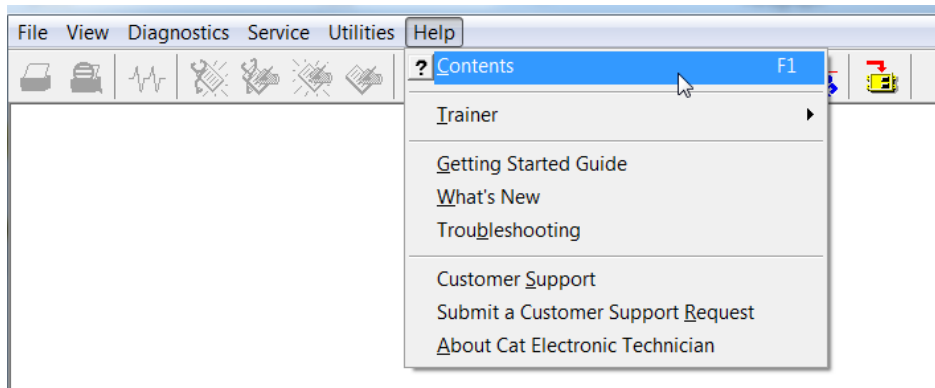- Requires Comm Adapter Tool Kit to flash adapter (included with Communication Adapter 3

Cat ET Help Manual

- Software manual is contained within help menu of Cat ET

- Paper copy of manual is not available

Customer Cat ET
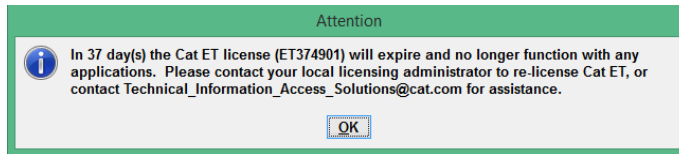
- Cat ET can be downloaded or installed from a CD

- Licensing activates customer Cat ET for 365 days and alerts the user when their license is about to expire

> **Attention**
>
> In 37 day(s) the Cat ET license (ET374901) will expire and no longer function with any applications. Please contact your local licensing administrator to re-license Cat ET, or contact Technical_Information_Access_Solutions@cat.com for assistance.
>
> OK

- Customer Cat ET cannot:

  - Clear Events that require Factory Passwords

  - Turn On/Off Options activated by Factory Passwords
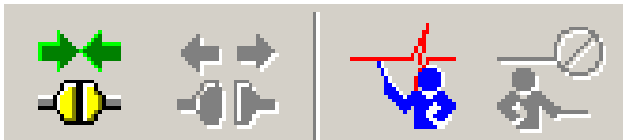
  - Generate Factory Passwords

  - Flash ECM's

Cat ET Trainer

- Allows user to navigate and learn Cat ET without license

- 18 Training Choices

- Trainer is started with icons from the toolbar listed below

Status Screen

- Status screen allows the viewing of real time parameters by either using a predefined group or creating a custom group
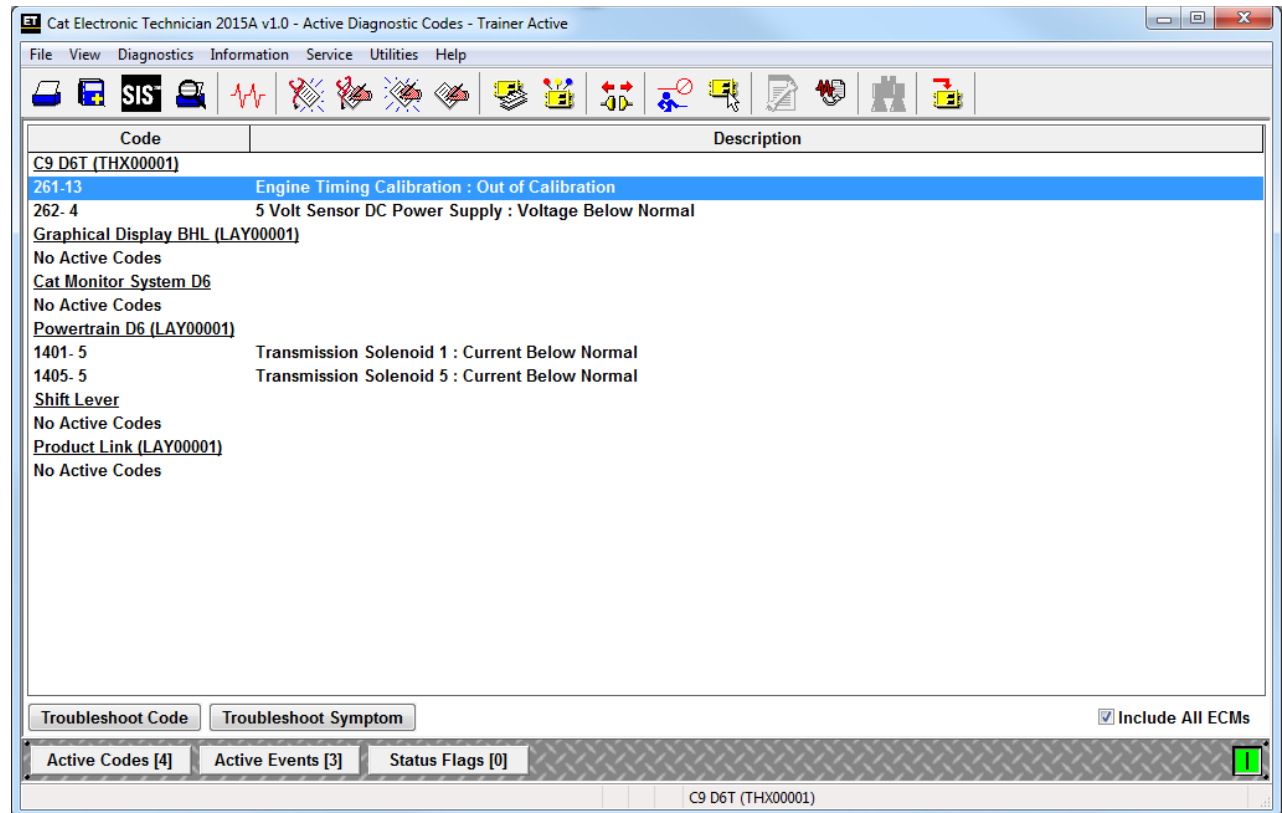
Active Diagnostic Codes

- The Active Diagnostic Codes function provides information to warn the vehicle operator of potential problems, and indicates the nature of the problem to the service technician

- The codes that are displayed on this screen are active (occurring as you view them)
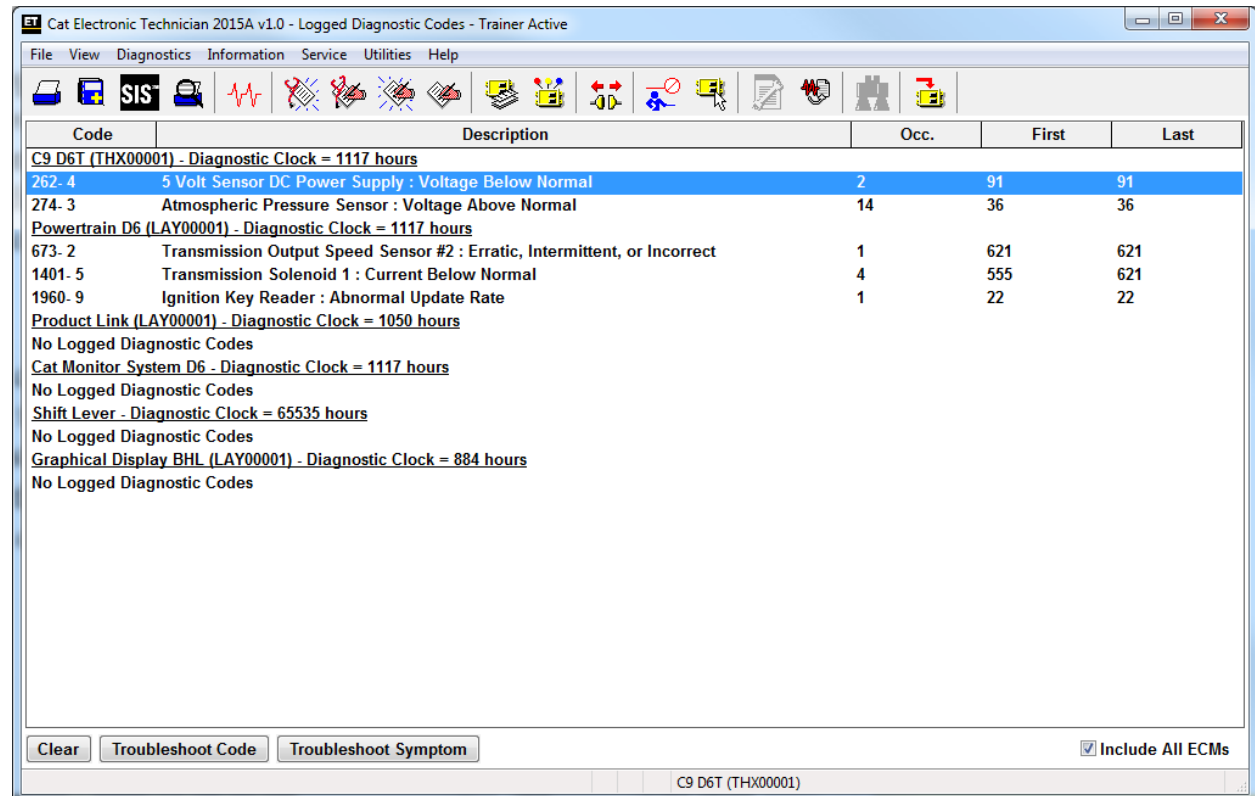

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Logged Diagnostic Codes

- The Logged Diagnostic Codes function provides a list of diagnostic codes logged by the ECM

- These codes are similar to the active diagnostic codes except that they are logged over time

Cat Electronic Technician 2015A v1.0 - Logged Diagnostic Codes - Trainer Active

File   View   Diagnostics   Information   Service   Utilities   Help

Code	Description	Occ.	First	Last
C9 D6T (THX00001) - Diagnostic Clock = 1117 hours				
262- 4	5 Volt Sensor DC Power Supply : Voltage Below Normal	2	91	91
274- 3	Atmospheric Pressure Sensor : Voltage Above Normal	14	36	36
Powertrain D6 (LAY00001) - Diagnostic Clock = 1117 hours				
673- 2	Transmission Output Speed Sensor #2 : Erratic, Intermittent, or Incorrect	1	621	621
1401- 5	Transmission Solenoid 1 : Current Below Normal	4	555	621
1960- 9	Ignition Key Reader : Abnormal Update Rate	1	22	22
Product Link (LAY00001) - Diagnostic Clock = 1050 hours				
No Logged Diagnostic Codes				
Cat Monitor System D6 - Diagnostic Clock = 1117 hours				
No Logged Diagnostic Codes				
Shift Lever - Diagnostic Clock = 65535 hours				
No Logged Diagnostic Codes				
Graphical Display BHL (LAY00001) - Diagnostic Clock = 884 hours				
No Logged Diagnostic Codes				

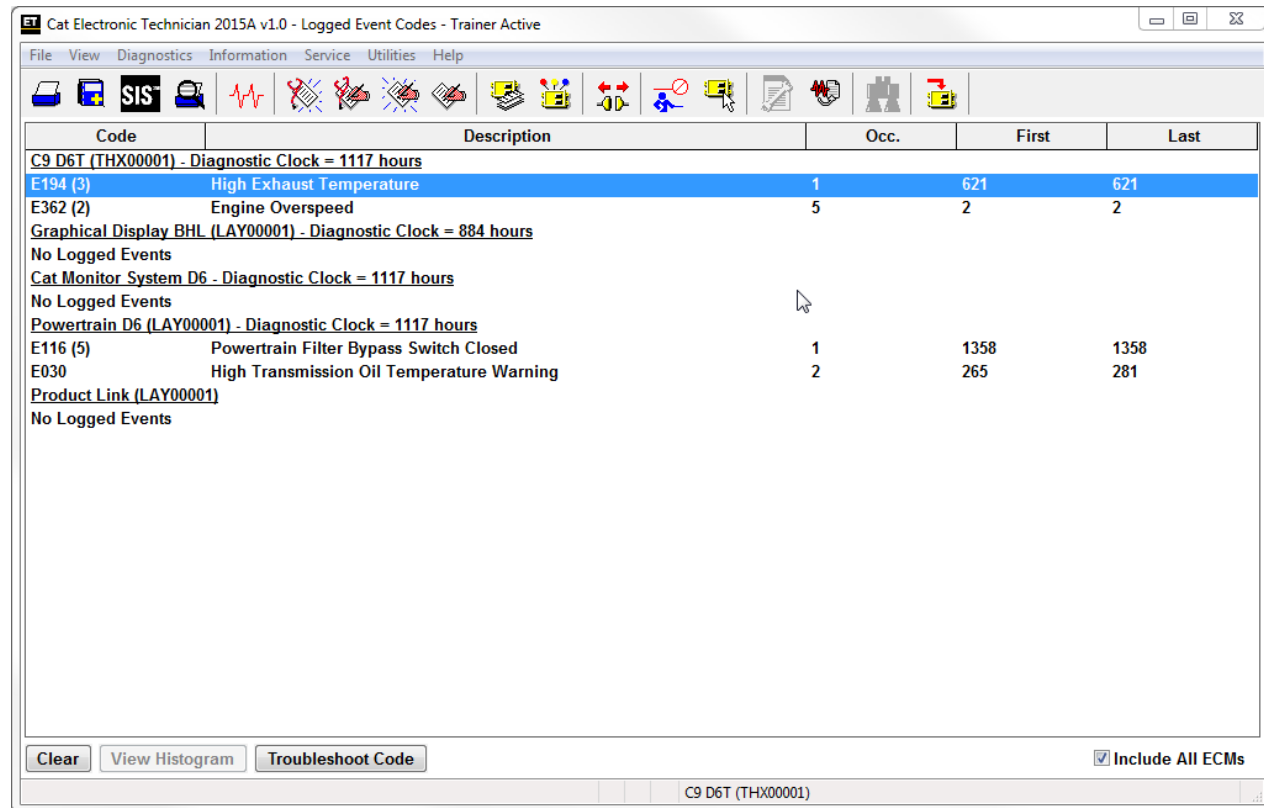Clear   Troubleshoot Code   Troubleshoot Symptom   ☑ Include All ECMs

C9 D6T (THX00001)

Logged Event Codes

- The Logged Event Codes function provides a list of event codes logged by the ECM

- These codes are similar to the logged diagnostic codes, except that the event represents the symptom of the operational problem

- These codes indicate to the manager or technician how the machine/equipment is being operated

Code	Description	Occ.	First	Last
C9 D6T (THX00001) - Diagnostic Clock = 1117 hours				
E194 (3)	High Exhaust Temperature	1	621	621
E362 (2)	Engine Overspeed	5	2	2
Graphical Display BHL (LAY00001) - Diagnostic Clock = 884 hours				
No Logged Events				
Cat Monitor System D6 - Diagnostic Clock = 1117 hours				
No Logged Events				
Powertrain D6 (LAY00001) - Diagnostic Clock = 1117 hours				
E116 (5)	Powertrain Filter Bypass Switch Closed	1	1358	1358
E030	High Transmission Oil Temperature Warning	2	265	281
Product Link (LAY00001)				
No Logged Events				

Cat Electronic Technician 2015A v1.0 - Logged Event Codes - Trainer Active

File View Diagnostics Information Service Utilities Help

Clear | View Histogram | Troubleshoot Code | ☑ Include All ECMs

C9 D6T (THX00001)

ECM Summary

- The ECM Summary screen allows user to view all of the useful ECM information

- All available ECMs are retrieved and their information displayed on the screen

- When reporting problems or are requesting help for the service tool, you need to give the information that is displayed on the ECM Summary screen
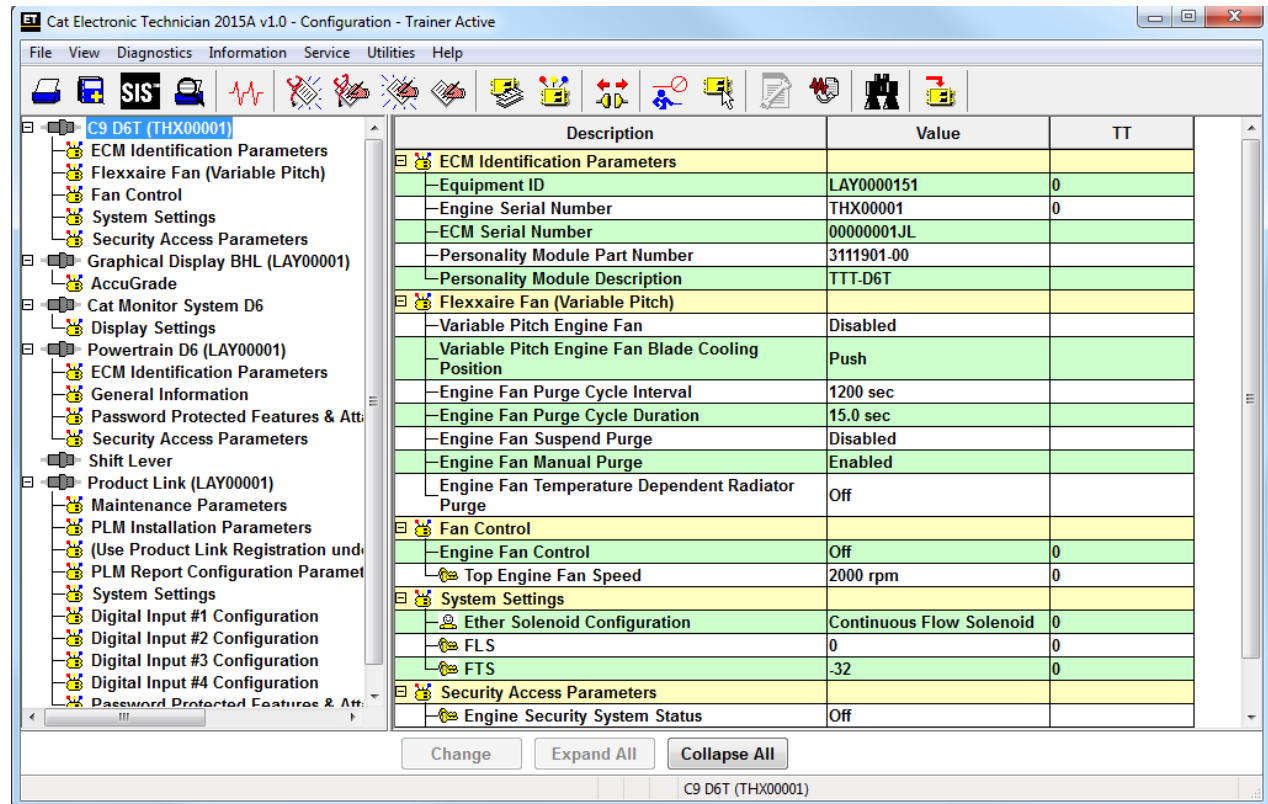

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Configuration

- The Configuration function allows user to view and change configurable information on an ECM. All available ECMs are retrieved and their information displayed on the screen

- The Find function allows the user to search for a parameter or any word in a parameter (for example speed) in the Configuration screen
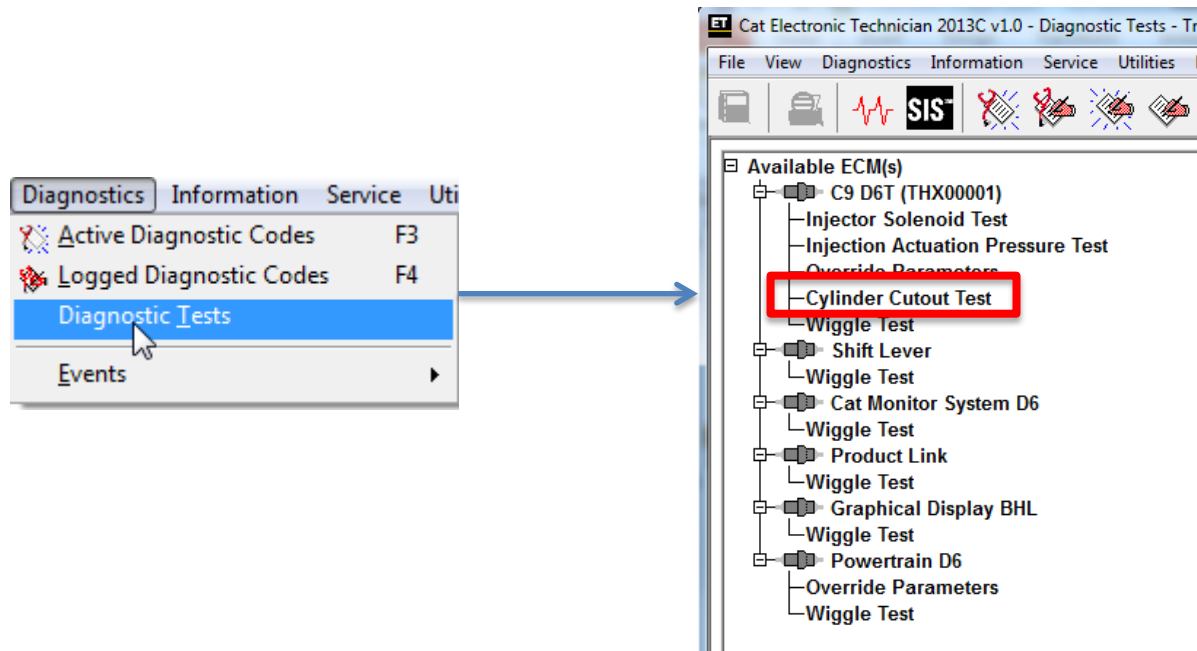
Automatic Cylinder Cutout Test

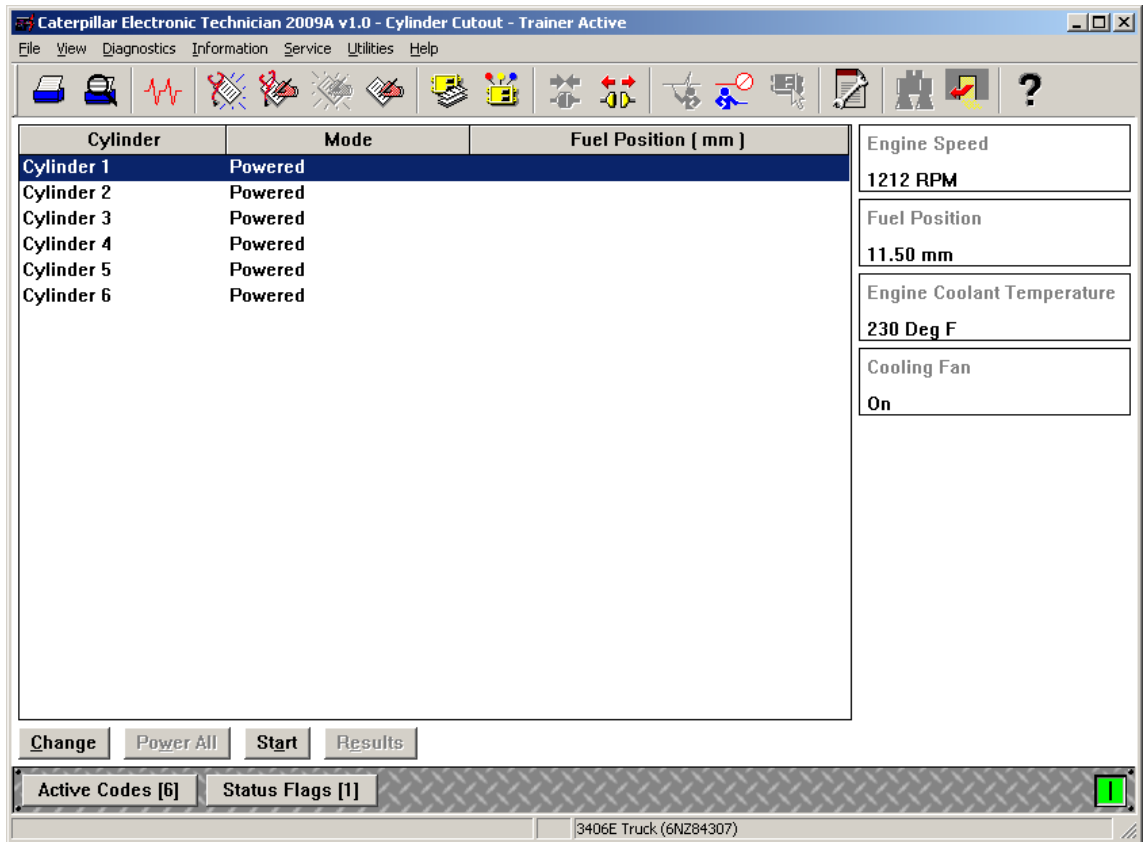Select Diagnostic Tests from the Diagnostic menu, then choose Cylinder Cutout test from the next screen

Automatic Cylinder Cutout Test

- The Cylinder Cutout function allows user to perform an automated one, four, or five cylinder cutout test to verify that the injectors are working

- This process involves cutting out and re-powering a particular cylinder. It also monitors the other cylinders to see if their fuel position increases, as it should

- If the fuel position does not increase, then the cut out cylinder was not working before cutting it out.

- *Note: Not all automated tests are available for all products.*

Automatic Cylinder Cutout Test

Select the Cutout test that needs to be performed and click continue

Automatic Cylinder Cutout Test

- The test proceeds to display a list of test conditions. These conditions must be met before and during the automatic cylinder cutout test

- Cat ET will not allow the test to be run if the test conditions are not met or maintained

- *Note: Test conditions may vary for each test*

Screenshot content:

Caterpillar Electronic Technician 2009A v1.0 - 4 Cylinder Cutout - Trainer Active

File   View   Diagnostics   Information   Service   Utilities   Help

4 Cylinder Cutout Test Conditions

The following conditions must be met for the automatic Cylinder Cutout Test:

1) Engine Speed must be between 980 RPM and 1020 RPM
2) Engine Coolant Temperature must be 149 Deg F or higher
3) No engine performance related active diagnostic codes are allowed

If at any time any of these conditions are not met, the test will automatically be aborted.

Note: Fan cycling on and off, or engine load change, will invalidate this test.
1) If the fan is not controlled by the engine ECM, please enable the fan if possible.
WARNING: Please make sure the compression brake is in the off position. During the test the compression brake operating will make the engine surge.

Click the Continue button to begin test.

<< Back   Continue >>

| Engine Speed |
| 1212 RPM |
| Fuel Position |
| 11.50 mm |
| Engine Coolant Temperature |
| 230 Deg F |
| Cooling Fan |
| On |

Active Codes [6]   Status Flags [1]
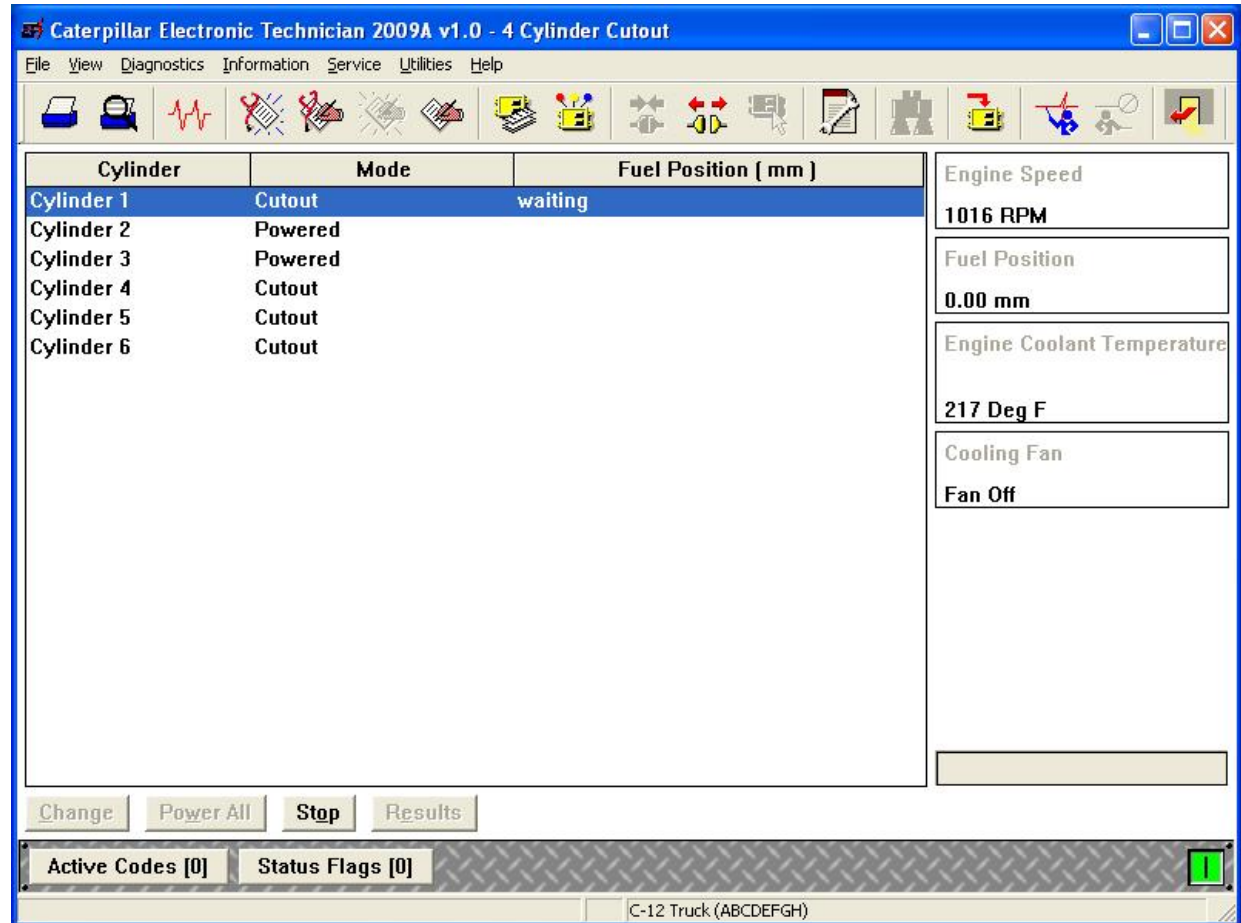
3406E Truck (6NZ84307)

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Automatic Cylinder Cutout Test

- This screen is the automatic Cylinder Cutout test in progress

- Also present in this automated test is a progress indicator bar that represents the percent completion of the test

- In addition to the progress bar, Cat ET status bar indicates the current test number and current cylinder being tested

Caterpillar Electronic Technician 2009A v1.0 - 4 Cylinder Cutout

File View Diagnostics Information Service Utilities Help

Cylinder	Mode	Fuel Position (mm)
Cylinder 1	Cutout	waiting
Cylinder 2	Powered	
Cylinder 3	Powered	
Cylinder 4	Cutout	
Cylinder 5	Cutout	
Cylinder 6	Cutout	

Engine Speed
1016 RPM

Fuel Position
0.00 mm

Engine Coolant Temperature
217 Deg F

Cooling Fan
Fan Off

Change   Power All   Stop   Results

Active Codes [0]   Status Flags [0]
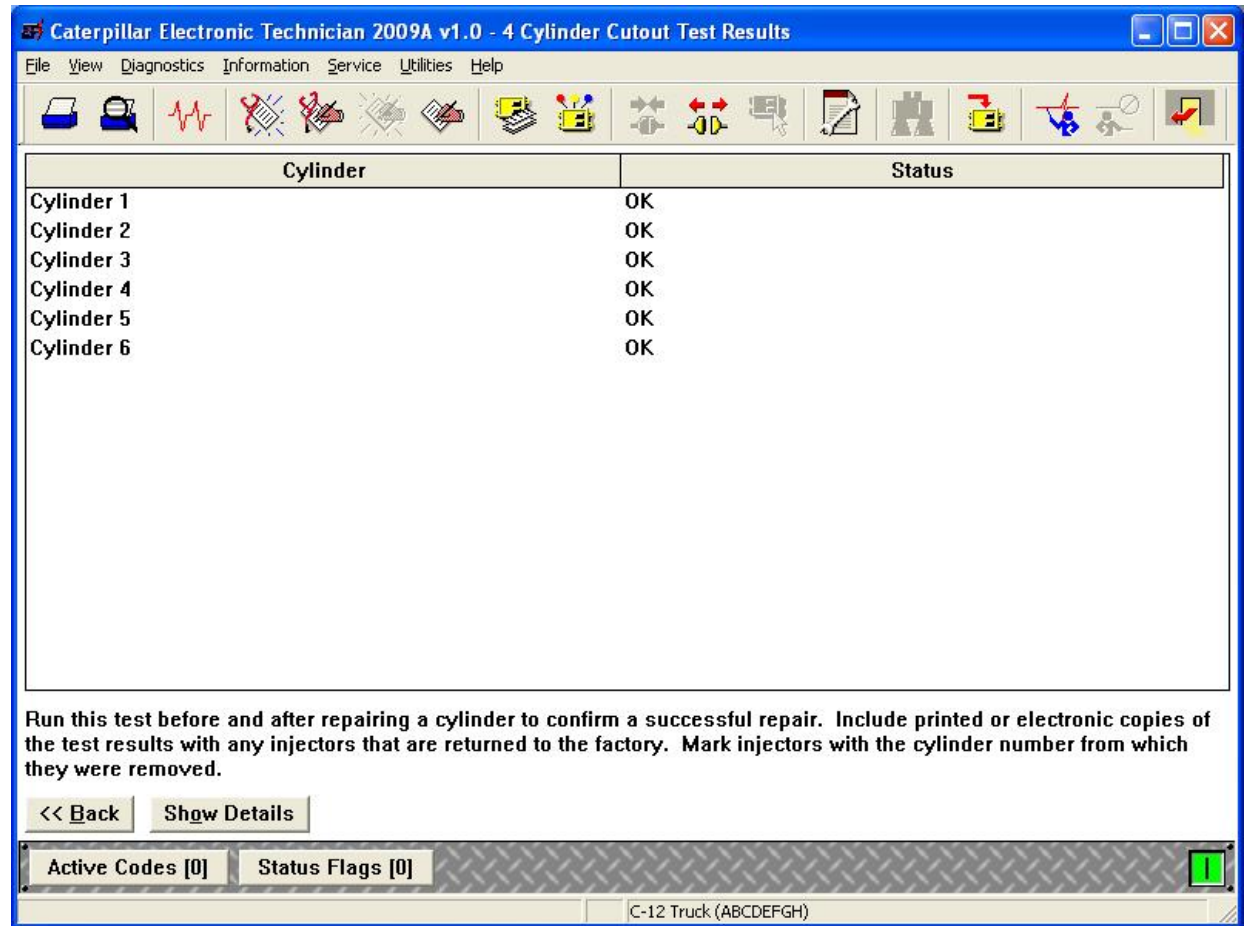
C-12 Truck (ABCDEFGH)

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Automatic Cylinder Cutout Test

- Upon completion of the cylinder cutout test, a results screen will appear letting the user know the injector's status and the results of the test

- The user can also view more specific and detailed test results from this screen by selecting the 'Show Details' push-button
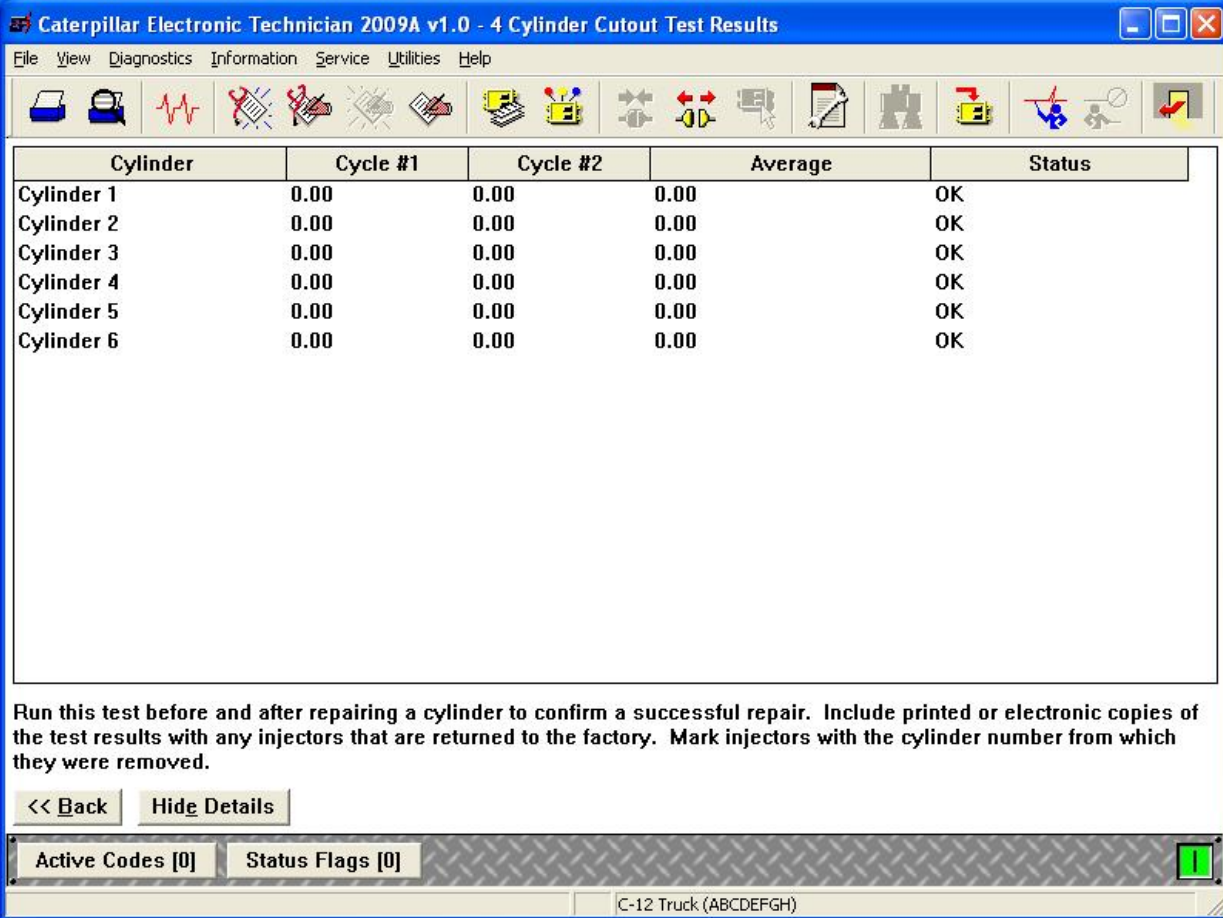

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Automatic Cylinder Cutout Test

Selecting the 'Show Details' push-button displays the cylinder cutout test sheet in electronic form.

Caterpillar Electronic Technician 2009A v1.0 - 4 Cylinder Cutout Test Results

File   View   Diagnostics   Information   Service   Utilities   Help

Cylinder	Cycle #1	Cycle #2	Average	Status
Cylinder 1	0.00	0.00	0.00	OK
Cylinder 2	0.00	0.00	0.00	OK
Cylinder 3	0.00	0.00	0.00	OK
Cylinder 4	0.00	0.00	0.00	OK
Cylinder 5	0.00	0.00	0.00	OK
Cylinder 6	0.00	0.00	0.00	OK

Run this test before and after repairing a cylinder to confirm a successful repair. Include printed or electronic copies of the test results with any injectors that are returned to the factory. Mark injectors with the cylinder number from which they were removed.

<< Back   Hide Details

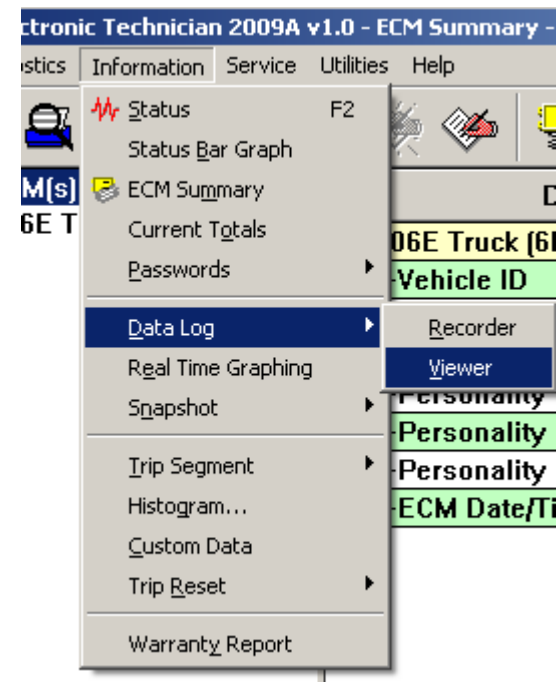Active Codes [0]   Status Flags [0]

C-12 Truck (ABCDEFGH)

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Cat ET Data Logger

- Data Logger:

    - Is available for all Cat ET applications.

    - Allows you to record real time data (as it occurs) of parameters you have selected from the ECM.

- To use Data Logger:
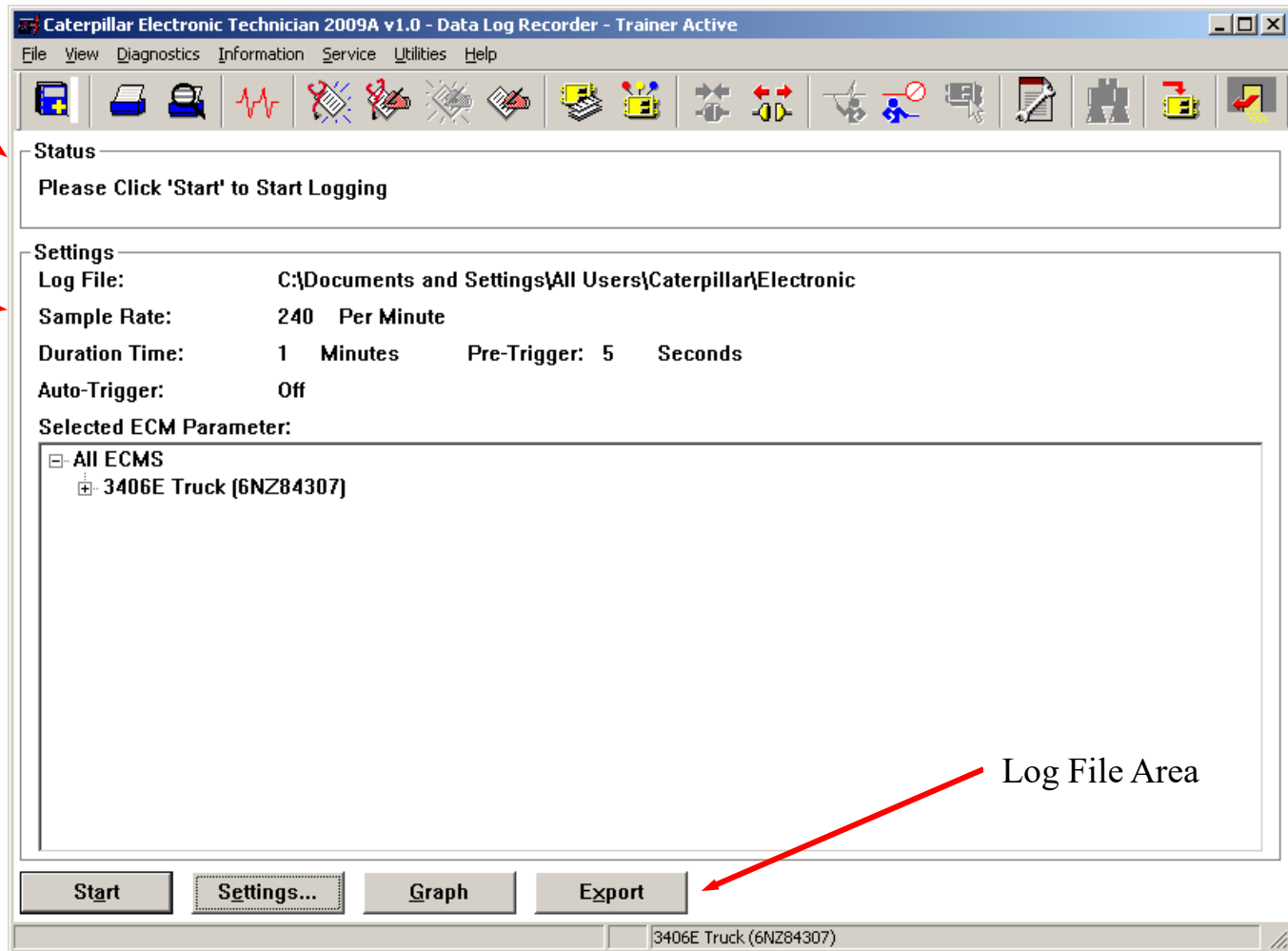
- Select Data Logger from the Information menu.

Cat ET Data Logger

The Data Logger screen displays

Status Area

Setup Area

Log File Area

Caterpillar Electronic Technician 2009A v1.0 - Data Log Recorder - Trainer Active

File View Diagnostics Information Service Utilities Help

Status

Please Click 'Start' to Start Logging

Settings

Log File: C:\Documents and Settings\All Users\Caterpillar\Electronic

Sample Rate: 240   Per Minute

Duration Time: 1   Minutes   Pre-Trigger: 5   Seconds

Auto-Trigger: Off

Selected ECM Parameter:

- All ECMS
  - 3406E Truck (6NZ84307)

Start   Settings...   Graph   Export
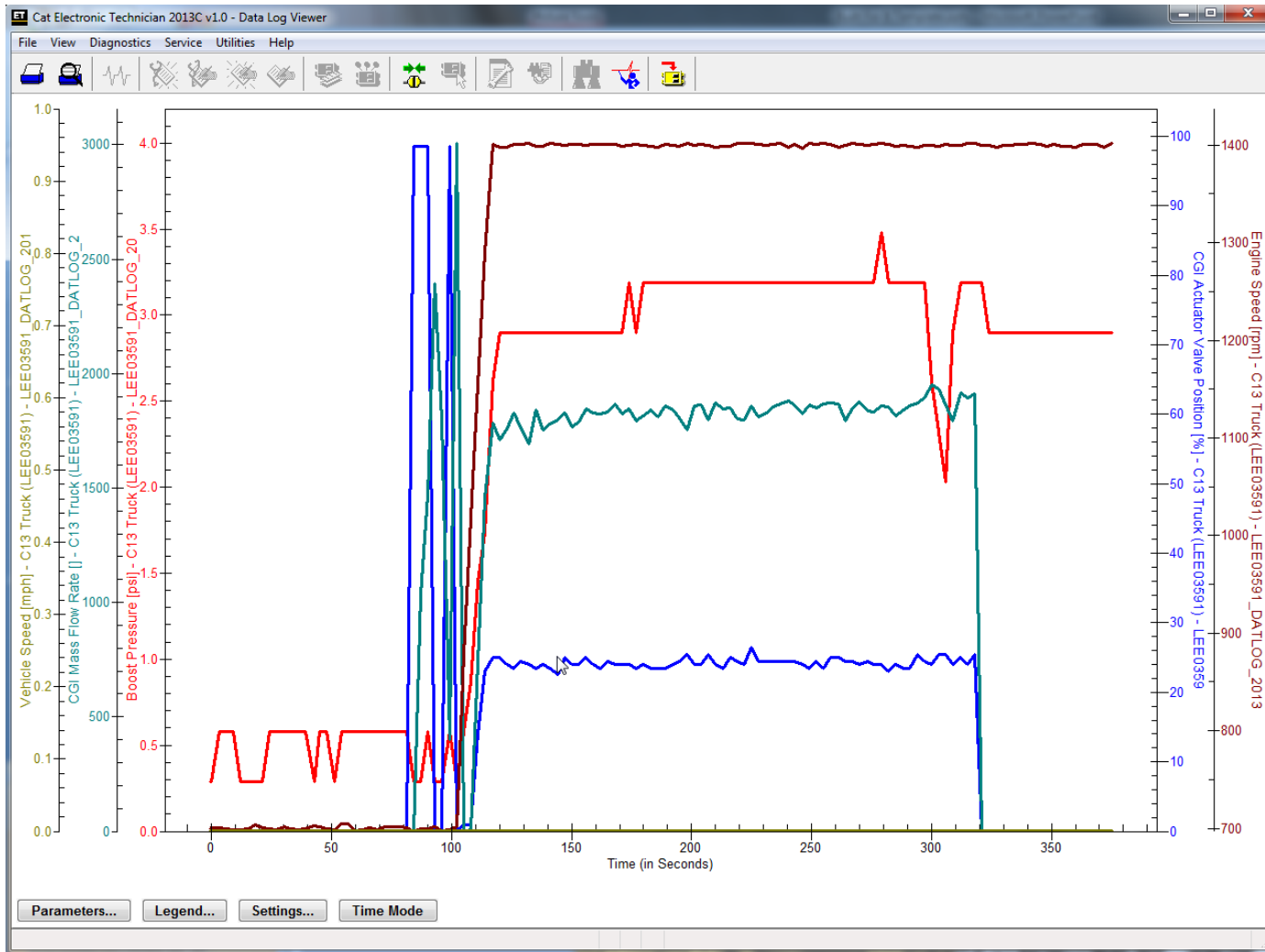
3406E Truck (6NZ84307)

Cat ET Data Logger

- The range that data can be collected is from four samples per second down to five an hour

- When the logging is complete, Cat ET will automatically shut down the data logging function

- Data logging takes place within Cat ET, so the program needs to be running at all times during the logging process

- Data Logger will work in the background, making it possible for other functions of Cat ET to be used

  - However, if a rate faster than 20 samples per minute is chosen, a dialog will appear preventing the user from leaving the 'Data Logger' tool until logging is complete or the 'Stop Log' push-button is selected

Cat ET Data Log Viewer

Current Totals
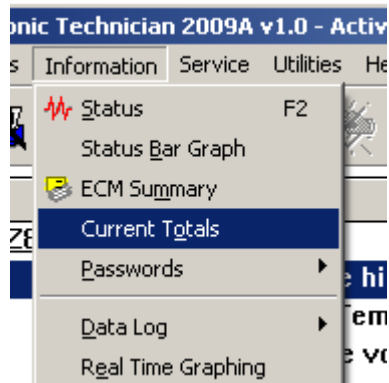
- From the Information dropdown select Current Totals
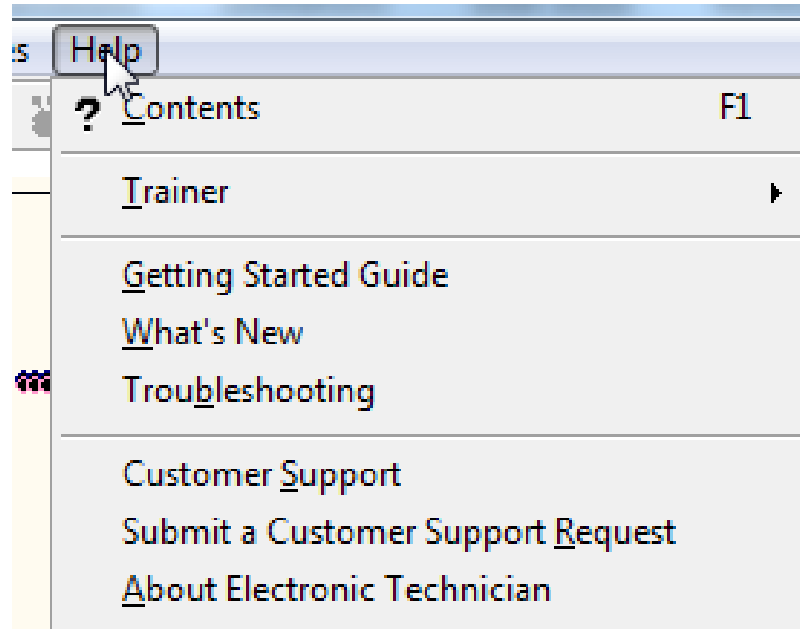
Troubleshooting Guide

- From the help dropdown menu, select Troubleshooting

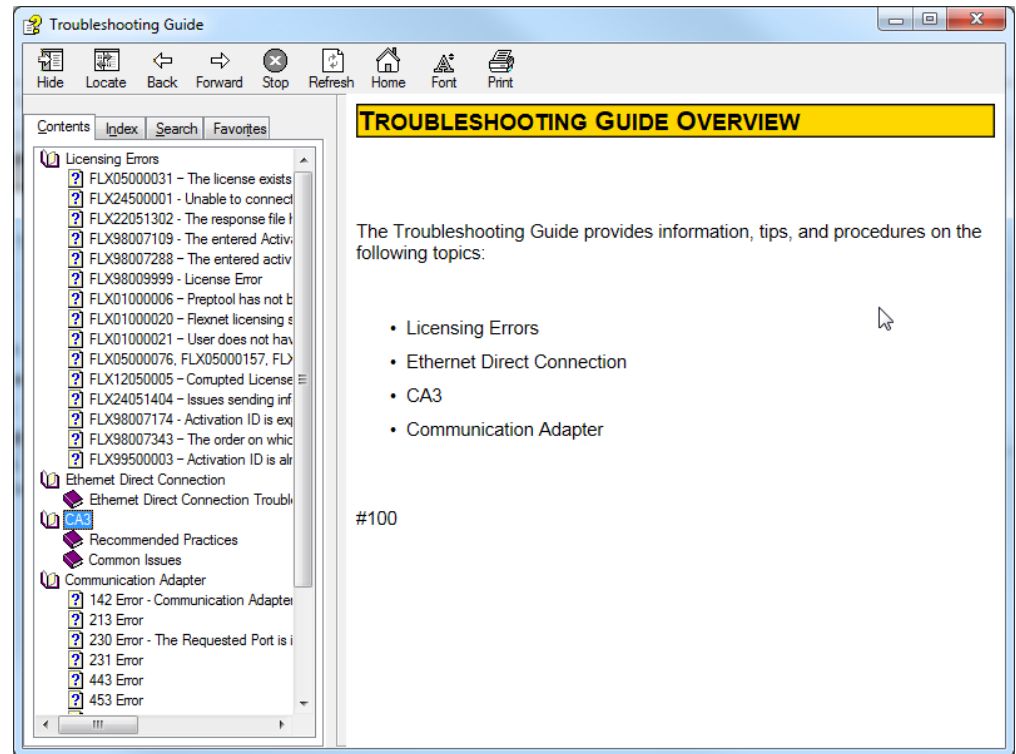- This is for troubleshooting Cat ET, not equipment issues

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Troubleshooting Guide

- Displays most common issues associated with Cat ET

- Opens in a separate window

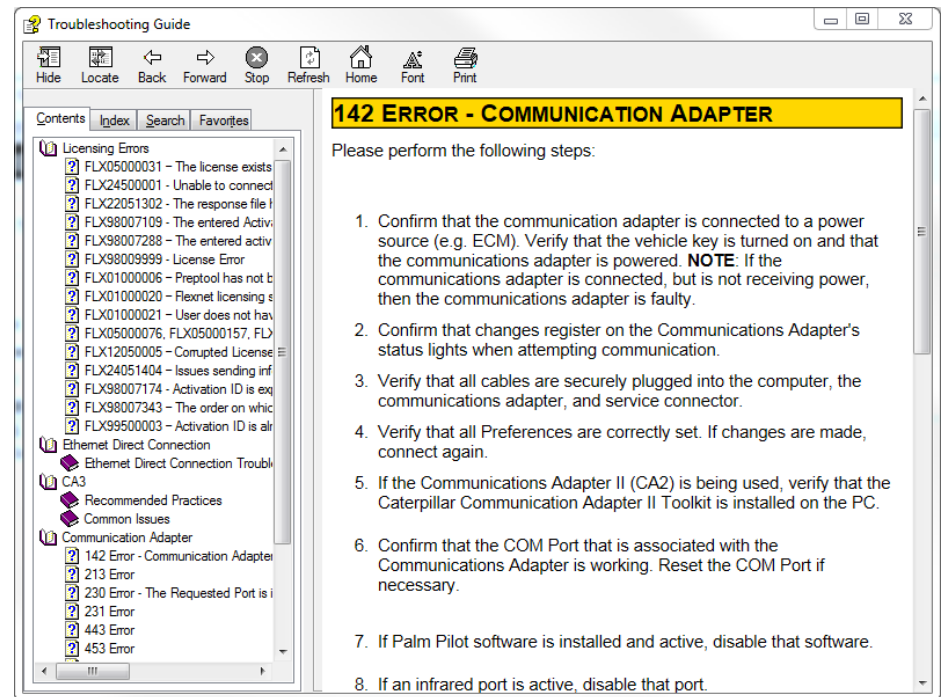- Clicking on related error takes you to troubleshooting steps to fix the problem

Troubleshooting Guide

- The procedures in the Troubleshooting Guide are identical to the procedures utilized by the support center when you call in for assistance
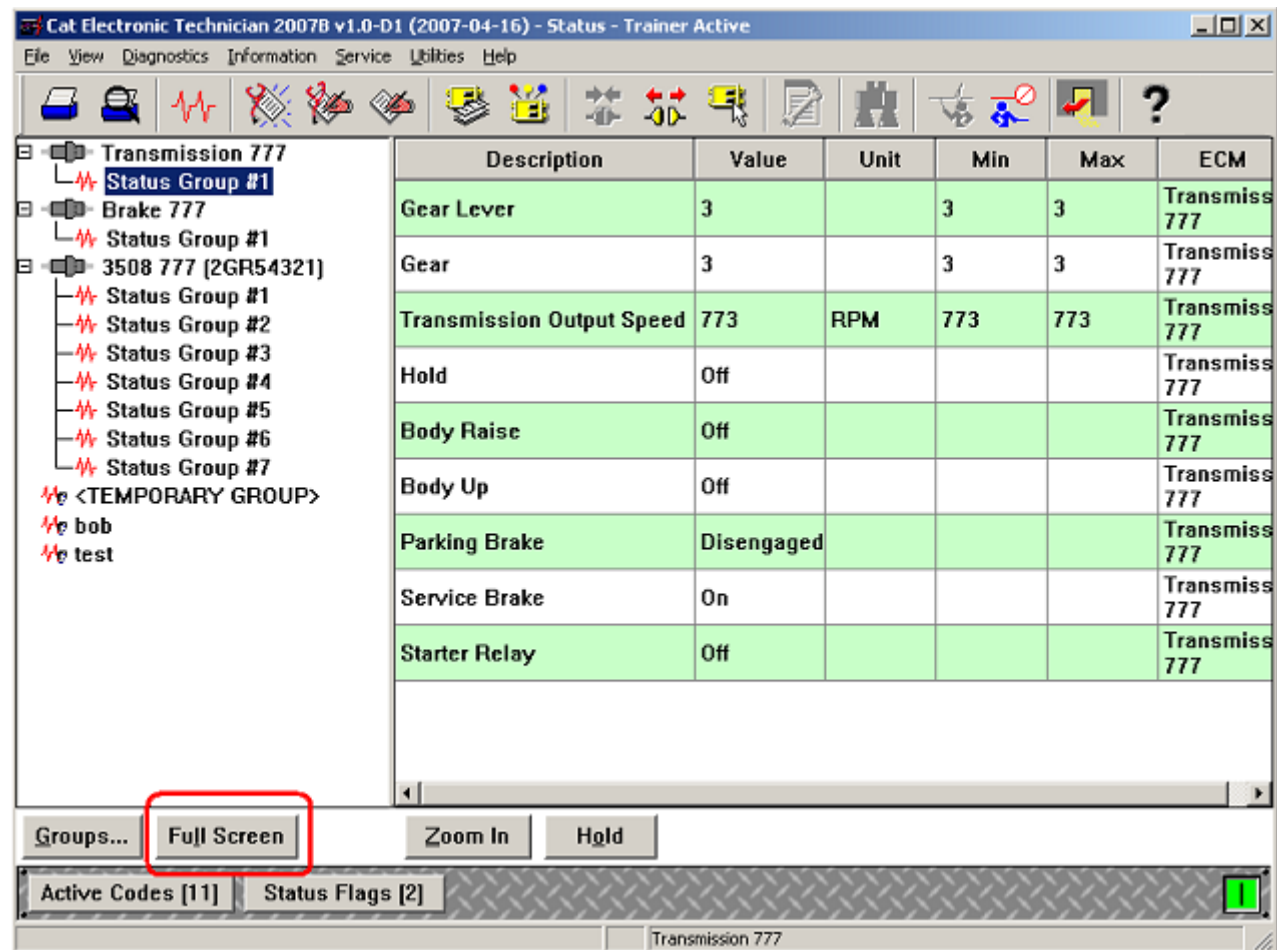

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Full Screen Status

- Enables User to view screen from a distance
  - Access from Status Screen
  - Choose up to six parameters to view
  - Select Full Screen from the Status page
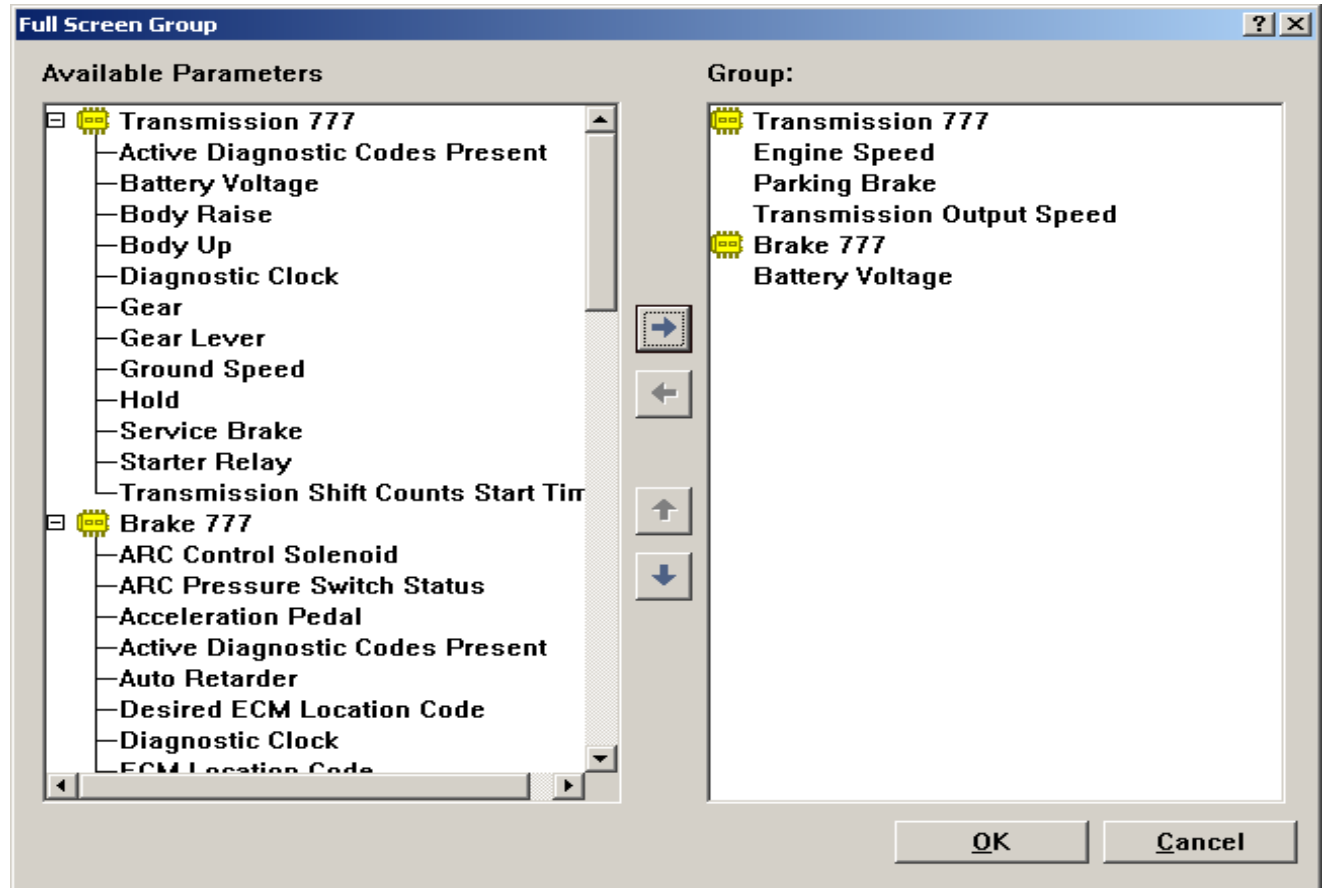
Full Screen Status

- Select the parameters you would like to monitor

- Remember, only six can be displayed at any given time

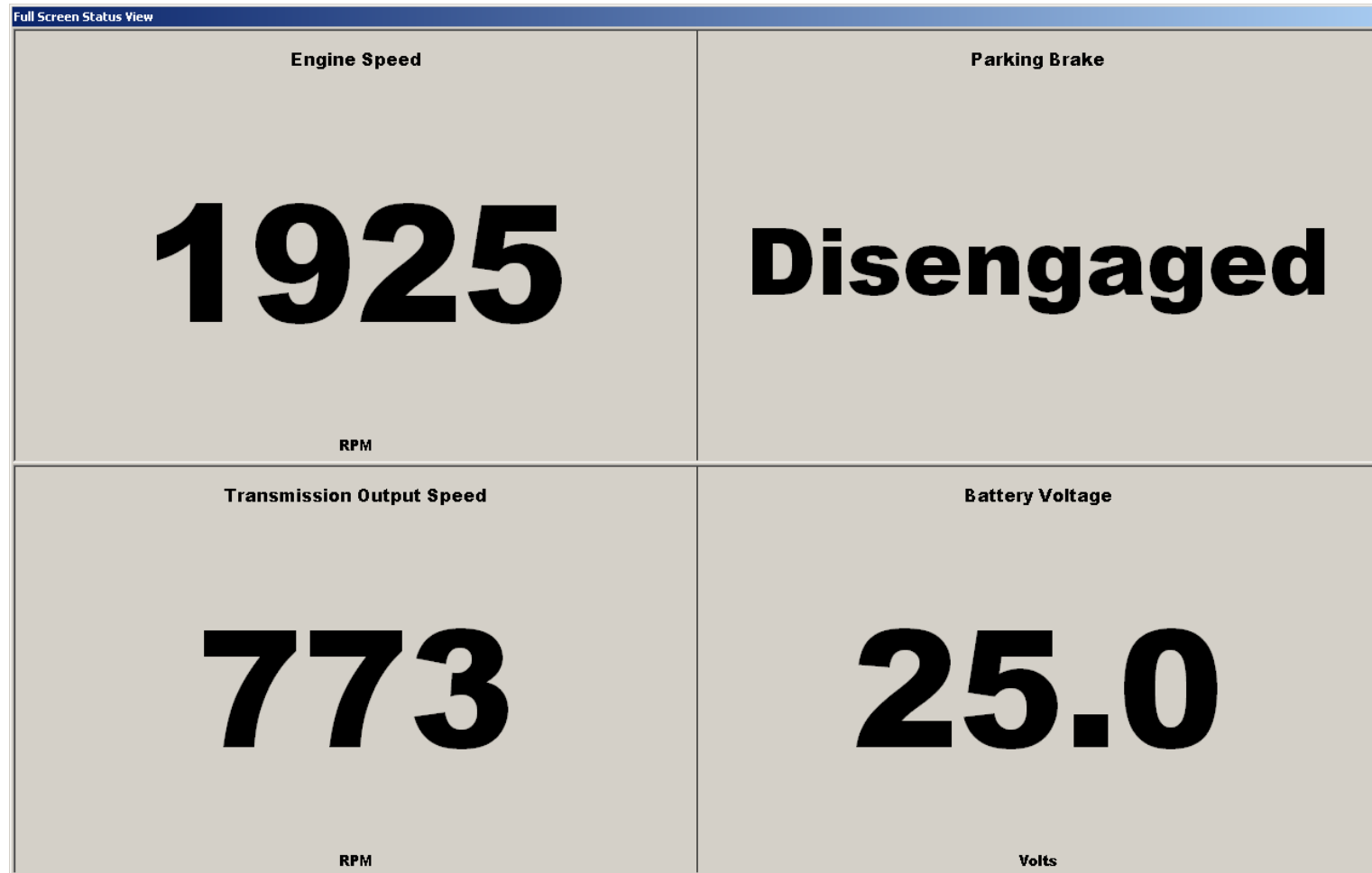- Once Full Screen Status is displayed, any keystroke or mouse click will return to Cat ET

Full Screen Status

Questions?

- For any questions that you may have please contact your local Cat Dealer or……………
- Contact the Cat ET Support desk at:

eBusiness Enterprise Service Center Contact Information		
Email	Ebiz_Apps_Support@Cat.com	
Location	Phone Number	Languages: Hours Available (Time Zone)
US and Canada	(309) 578-6789 Toll-Free: (855) 391-1778	English: 24x7
Mexico	+52 8183 192847	Spanish: 11:00PM Sun – 11:00PM Fri (Central) English: 24x7
Brazil	+55 1921 061048	Brazilian Portuguese: 6:00AM – 10:00PM Mon-Sat (Brasilia) Spanish: 11:00PM Sun – 11:00PM Fri (Central) English: 24x7
UK	+44 19210 61402	English: 24x7 French: 11:00PM Sun – 11:00PM Fri (Central European) German: 7:30AM – 4:00PM Mon-Fri (Central European) Italian: 9:00AM – 5:00PM Mon-Fri (Central European)
Belgium	+32 7125 1603	French: 11:00PM Sun – 11:00PM Fri (Central European) German: 7:30AM – 4:00PM Mon-Fri (Central European) English: 24x7
Germany	+49 4023 803025	German: 7:30AM – 4:00PM Mon-Fri (Central European) English: 24x7
Italy	+39 0248 422626	Italian: 9:00AM – 5:00PM Mon-Fri (Central European) English: 24x7
Spain	+34 954 418708	Spanish: 11:00PM Sun – 11:00PM Fri (Central US) Brazilian Portuguese: 6:00AM – 10:00PM Mon-Sat (Brasilia) English: 24x7
China	+86 2258 096140	English: 24x7 Mandarin: 8:00AM – 5:00PM Mon-Fri (Chinese Standard)
Australia	+61 7332 98277	
Singapore	+65 6801 2237	
Thailand	+66 2105 5197	
Indonesia	+62 2182 39805	
Bangalore	+91 80 3350 3940	
Chennai	+91 44 3999 2165	