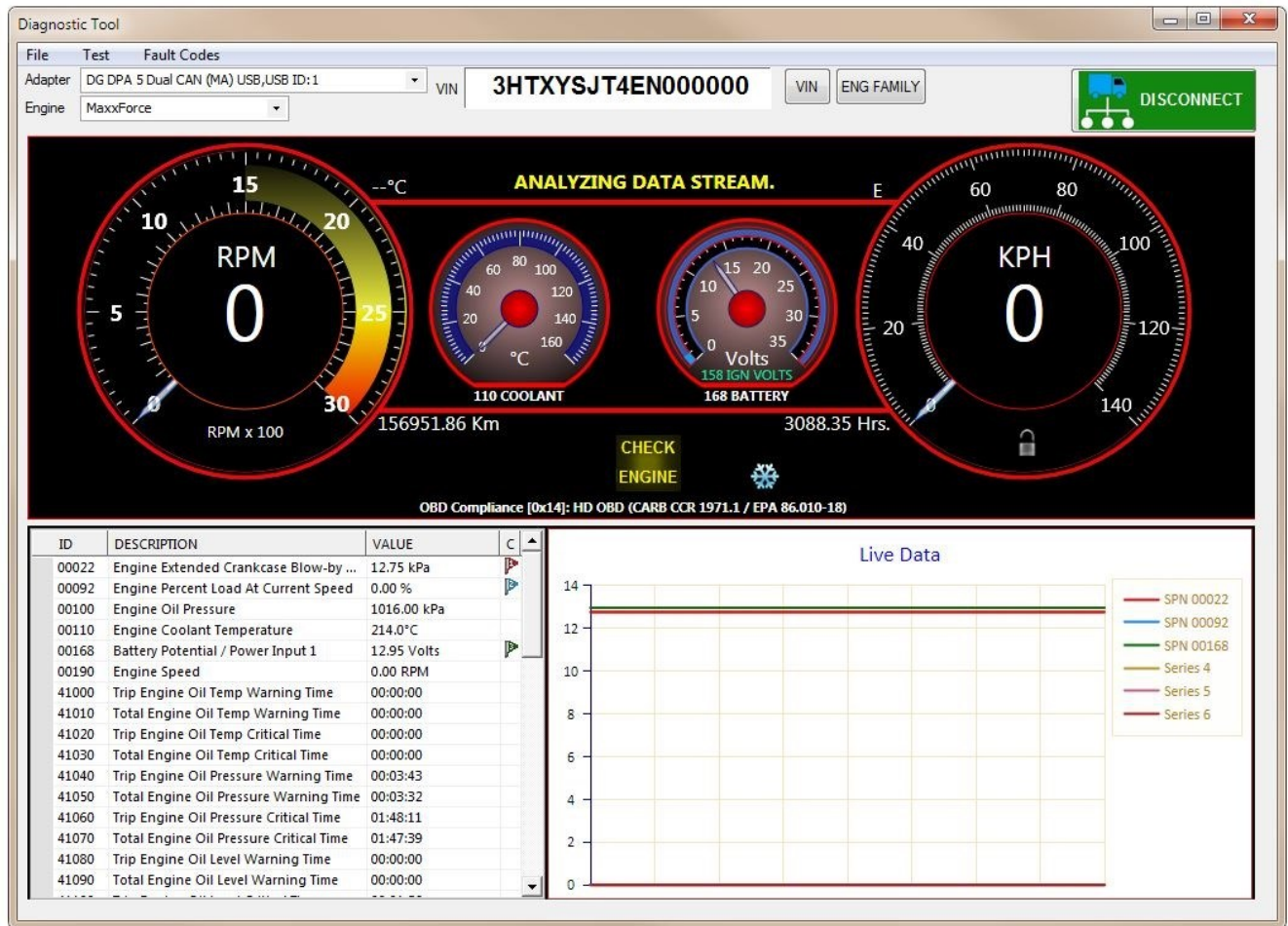# PFD-TOOL

Truck Diagnostics

INSTALLING:

Due to an increase in pirated and hacked software, Anti-Virus scanners are overly sensitive. Therefore PFD-Tool may show as a Infected File however please be assured it is not infected. You can safely Whitelist the files so they will not be detected and deleted.

Create a folder called PFD-Tool in your C Drive

Add it as a Whitelisted folder to your Anti-Virus (We can help if you need assistance*) just email and download the Team Viewer Tool*

Copy the zip file to this folder

Select Unzip (Extract Files) If the unzipping creates another folder you can copy the folders back to C:\PFD-Tool

We will be developing an installer. This software is so new it does not even have a dedicated installer.

Right Click on the executable PFDTool.exe and select Send To -> Desktop create icon

On the desktop, right click and select Properties, Then select Compatibility, and then check the box Run As Administrator….

If you have a HD screen and find the image too small, Right click on the icon, select Properties and select Compatibility… Select Change High DPI Settings… Select Override High DPI Behaviour… Select System (Enhanced)
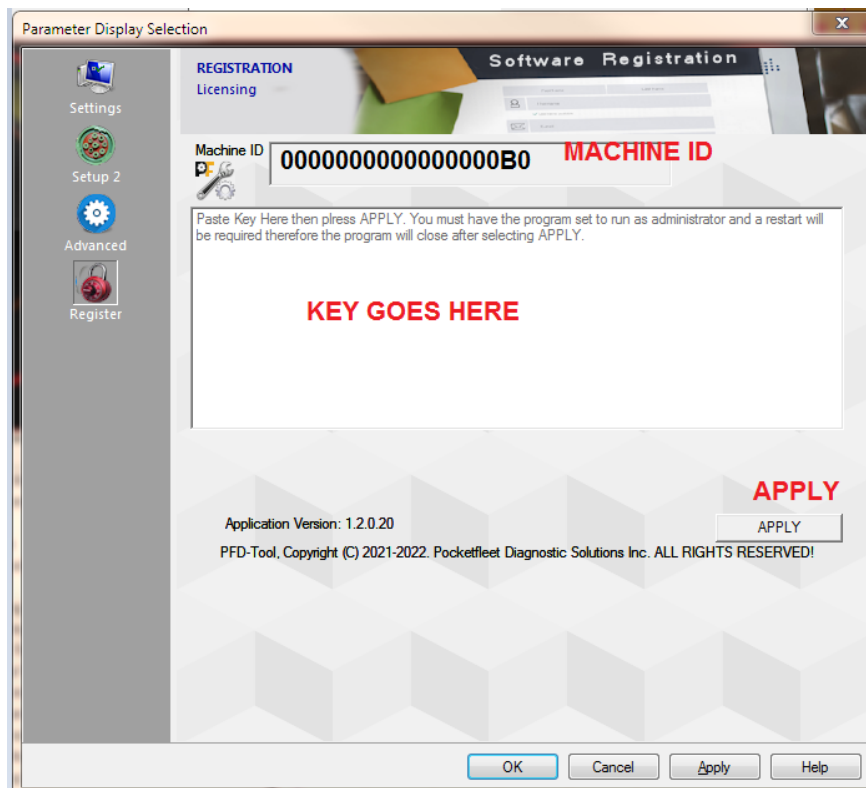
This will allow PFD-Tool to scale to a larger screen size

Registering…

Open Settings

Select Registration

Copy and send the Machine ID to PFSupport@rogers.com

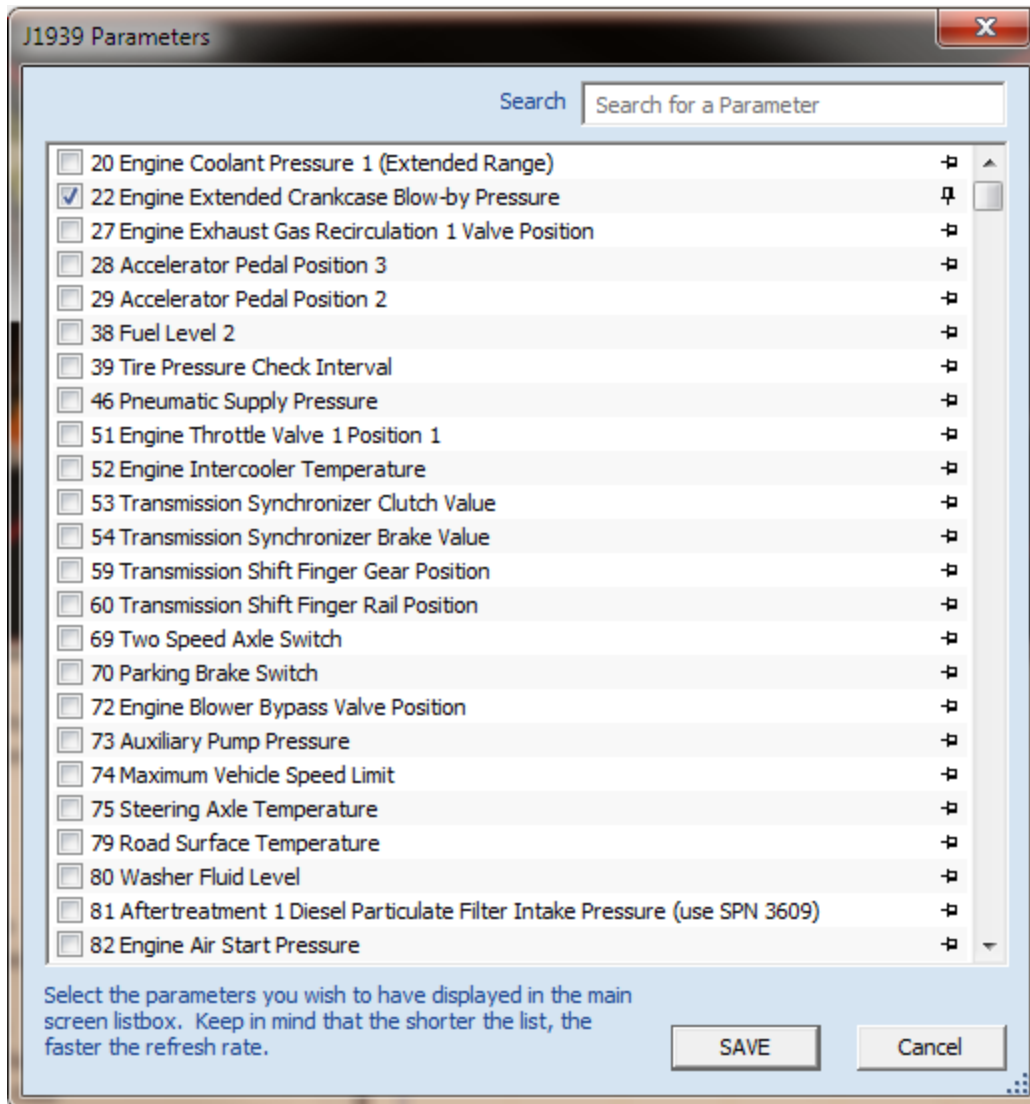Paste the key we send back into the large box

The Speedometer has a padlock in the bottom, If it is unlocked, so is the software. If it is red and is locked, the software needs a key.

You should always Exit and Restart the program between vehicles to avoid residual readings.

CHOOSING PARAMETERS

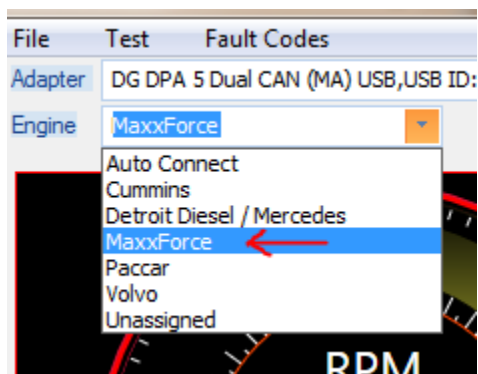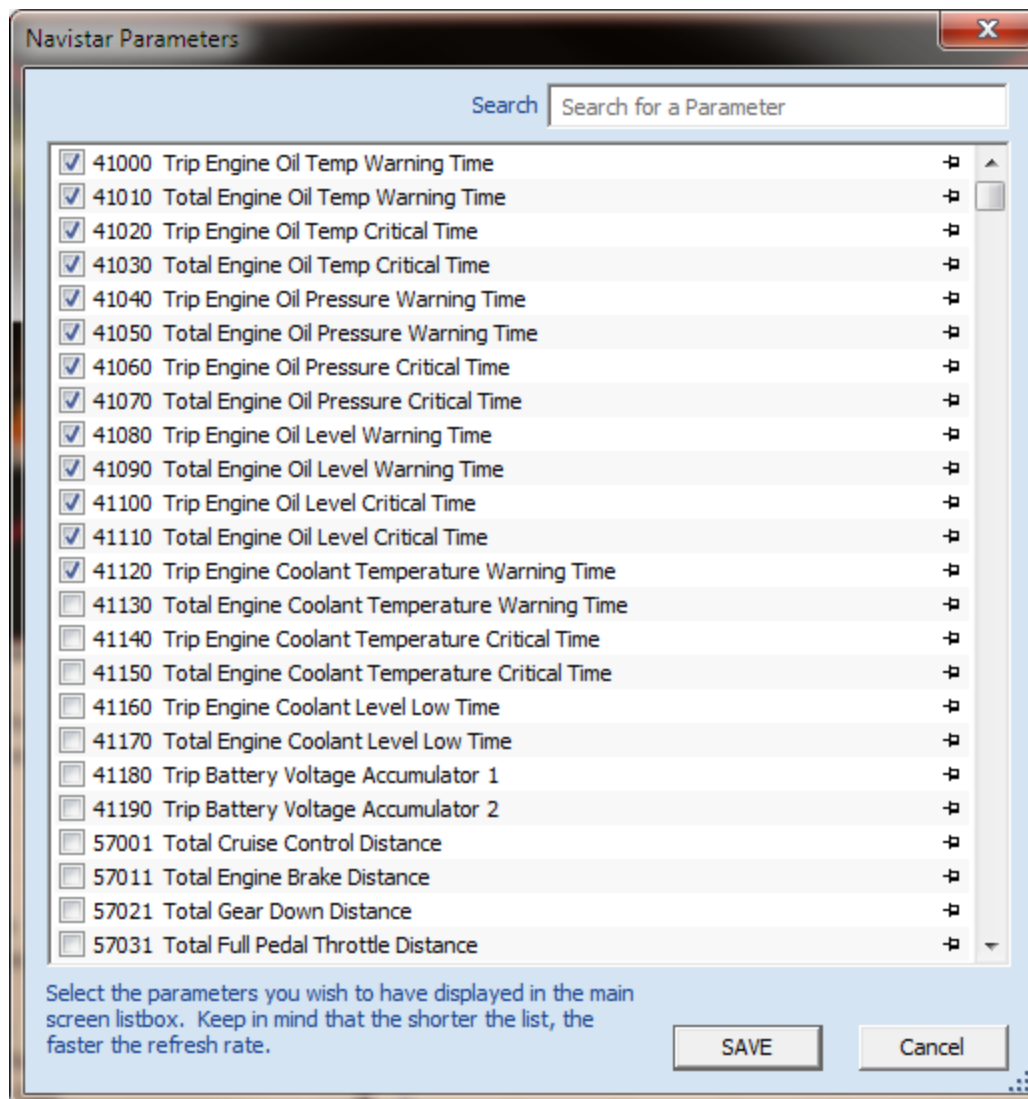Open the J1939 Parameters List in the File Menu

Check the left box to add the parameter to the list. Choose as few as possible, too many SPNs will slow the refresh rate.

Click on the PIN to add the parameter to the Graph (Maximum 6)

If you have a Navistar, And had selected MaxxForce from the Engine Type selection on the main screen, the Navistar Selection will add Navistar Parameters to the list.

Navistar Parameters

Search [Search for a Parameter]

☑	41000	Trip Engine Oil Temp Warning Time	⊓
☑	41010	Total Engine Oil Temp Warning Time	⊓
☑	41020	Trip Engine Oil Temp Critical Time	⊓
☑	41030	Total Engine Oil Temp Critical Time	⊓
☑	41040	Trip Engine Oil Pressure Warning Time	⊓
☑	41050	Total Engine Oil Pressure Warning Time	⊓
☑	41060	Trip Engine Oil Pressure Critical Time	⊓
☑	41070	Total Engine Oil Pressure Critical Time	⊓
☑	41080	Trip Engine Oil Level Warning Time	⊓
☑	41090	Total Engine Oil Level Warning Time	⊓
☑	41100	Trip Engine Oil Level Critical Time	⊓
☑	41110	Total Engine Oil Level Critical Time	⊓
☑	41120	Trip Engine Coolant Temperature Warning Time	⊓
☐	41130	Total Engine Coolant Temperature Warning Time	⊓
☐	41140	Trip Engine Coolant Temperature Critical Time	⊓
☐	41150	Total Engine Coolant Temperature Critical Time	⊓
☐	41160	Trip Engine Coolant Level Low Time	⊓
☐	41170	Total Engine Coolant Level Low Time	⊓
☐	41180	Trip Battery Voltage Accumulator 1	⊓
☐	41190	Trip Battery Voltage Accumulator 2	⊓
☐	57001	Total Cruise Control Distance	⊓
☐	57011	Total Engine Brake Distance	⊓
☐	57021	Total Gear Down Distance	⊓
☐	57031	Total Full Pedal Throttle Distance	⊓

Select the parameters you wish to have displayed in the main
screen listbox. Keep in mind that the shorter the list, the
faster the refresh rate.   [SAVE]   [Cancel]

You can do the same with Cummins but only of a Cummins engine is to be connected.

With Cummins there are no J1939 parameters listed. You can select Cummins Parameters that are the same as J1939 for example, SAE Battery Voltage is SPN 168 and the Cummins Battery Voltage Parameter is C16788754 .

Note that Cummins values may differ slightly from SAE values due to rounding issues, for example an SAE value may be multiplied by .125 and the Cummins equivalent value may be multiplied by .125354 causing the result displayed values to be different by a small amount.

In all cases, Selections are remembered and the last selections will remain selected every time the program is started unless you change the selected parameters.

ID	DESCRIPTION	VALUE	C
▶ C16783439	_Ambient_Air_Temperature	150.01 °C	
C16788754	_Battery_Voltage	12.69 V	🚩
C16785834	_Customer_Name	Besco	
C16806862	_DPF_Lamp_Enable	ENABLED	
C16806864	_DPF_Lamp_Status	OFF	
C16785831	_ECM_Name	CM2350A	
C16786075	_ECM_Real_Time	0 seconds	
C16785836	_Engine_CPL	4515	
C16785837	_Engine_Make	CMMNS	
C16781840	_Fan_Clutch_Type	DISCRETE	
C16824542	_Fuel_Level_Sensor_Voltage	0.00 V	
C16781449	_Governor_Type	TIS_AUTOMOTIVE	
C16785841	_OEM_Name	DAIMLER TRUCKS	
C16817563	_SCR_Catalyst_Inlet_Temperature_...	0.00 V	
C16817645	_SCR_Catalyst_Outlet_Temperature	0.00 °C	

Rules to remember With Parameters

Free Version has ONLY 200 J1939 parameters up to SPN 583. You need to upgrade to get more parameters (up to SPN 8074)

More means slower, only select the Parameters you need.

You have 6 flags for graphs all together, so only graph what you need.

Only Graph values that graph, for example, you cannot graph a VIN number so choosing VIN as a graph item is a waste.
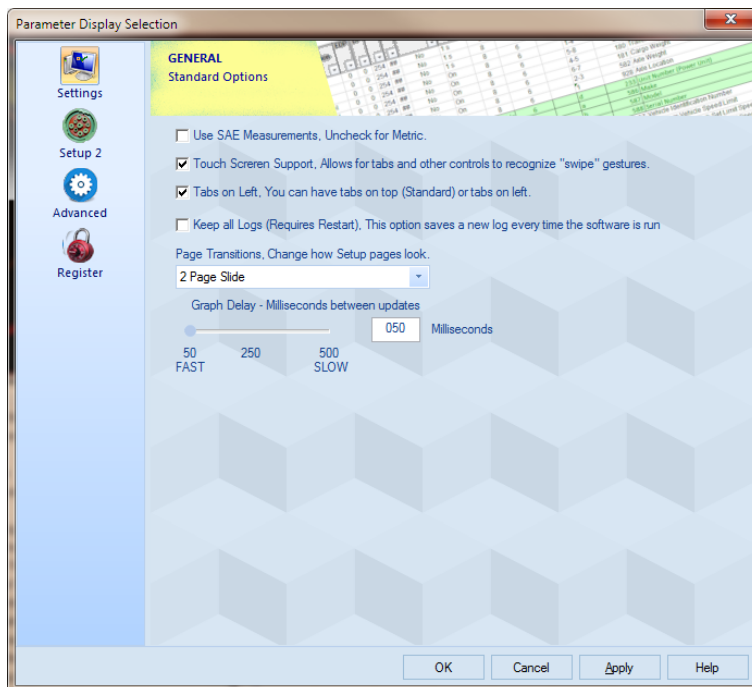
OEM Parameters are slower to refresh, they fill and then refresh at a slower rate as these parameters are often just configuration parameters such as Max Road Speed Limit.

Parameters for other ECUs will be added in future updates.

CHANGING PARAMETERS

OEM parameters will be changeable in a future update. In this version they are read only.
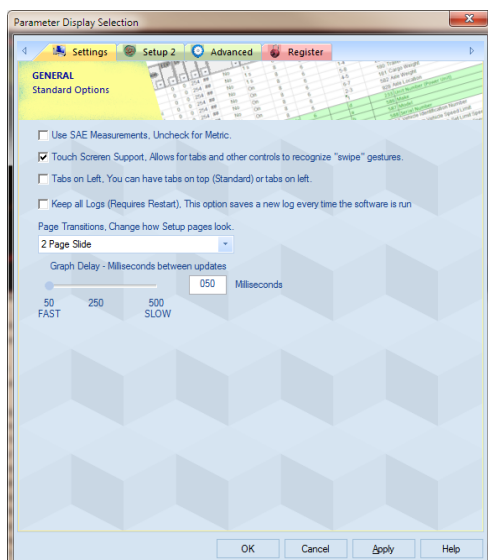
SETTINGS

Use SAE Measurements will display Inches, Feet, Miles, Degrees F, PSI

Uncheck to use Metric values, Centimeters, Kilometers, Kilo Pascal, Degrees Celsius.

Touch Screen Support allows for better response when using a touch screen

Tabs on the left is for look and feel, as in the screen shot above. , Tabs on top looks like this

Keep all logs will create separate log files every time that you run this software, they will have the dat and time added to the title. This can use up hard drive space so if you are low on disc space, uncheck this option

Page Transition tells the software how to switch between tabs, it is purely for look and feel.

Graph delay speeds up or slows down the advancing of the graph. Slower advancing may miss intermittent pulses.
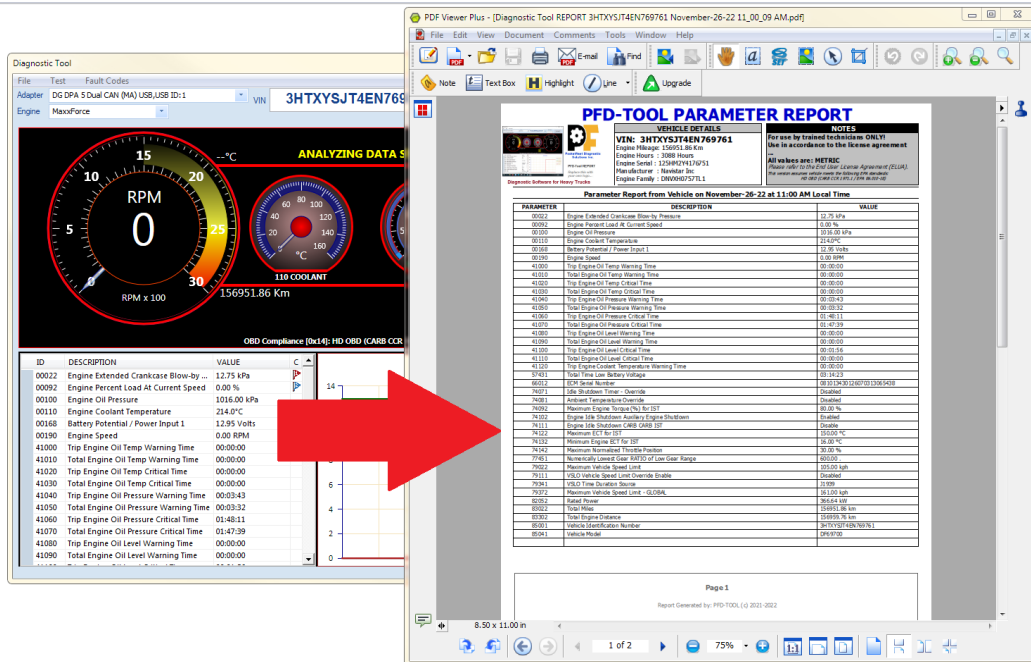
SETUP 2 and ADVANCED

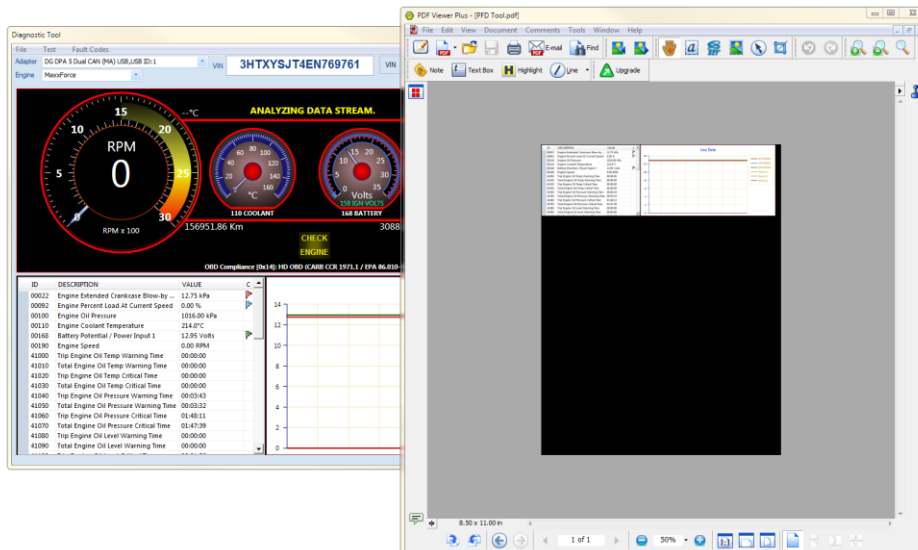These menu options will be added ad updates are made.

READ CALIBRATION, If you see this option, it is for Engineering and does not work for Diagnostics.

PRINT PARAMETERS

Print Parameters will print the parameters listed in the main screen at the time the print was requested.
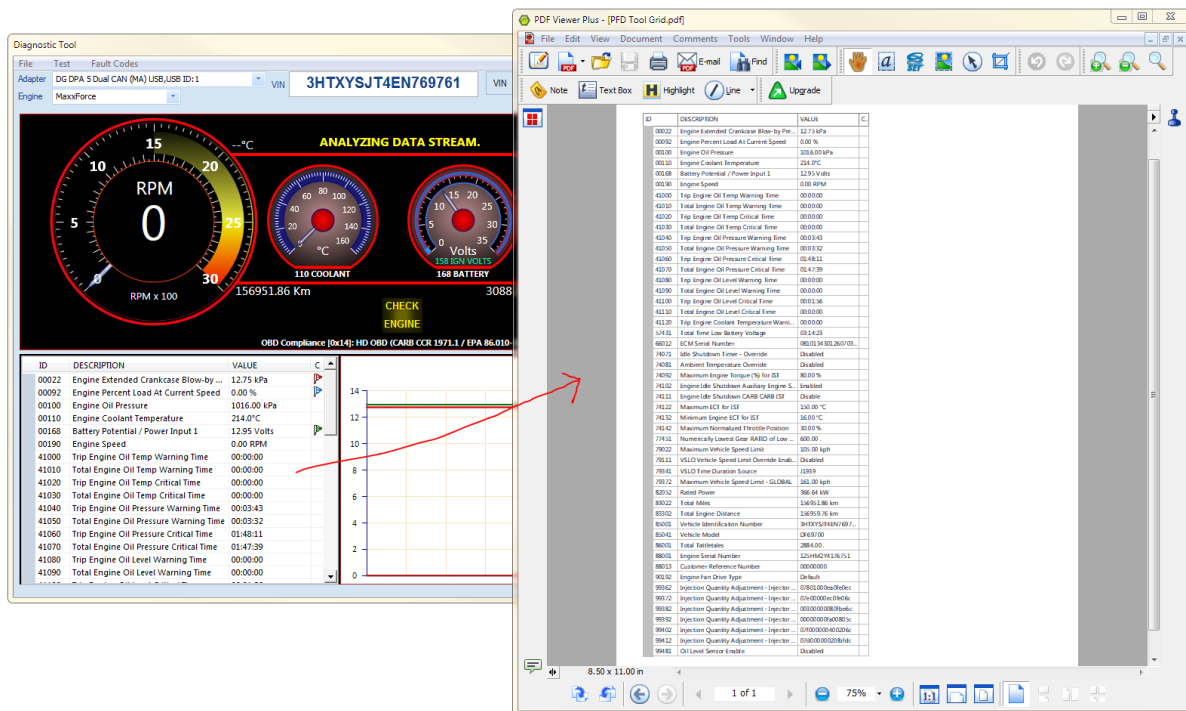

PRINT GRAPH

Prints the graph and the visible items in the list to the left.

PRINT PARAMETER GRID

Prints all the current parameters in the Grid without any titles or header

PRINT DTCs
Prints a DTC Report

ERASE DTCs
Will erase all inactive DTCs in ALL ECUs

FREEZE FRAMES
Freeze Frames are snapshots of several parameters taken at the instant a DTC was created. This is helpful to see that for example every time a DTC is created the truck is at 245 degrees and running at 2500RPM   It is a Diagnostic assist feature
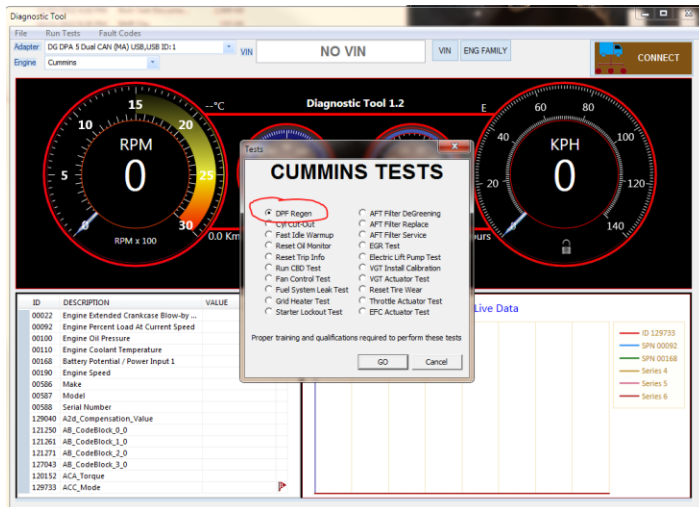
Freeze Frames are indicated with a snowflake icon

When Viewing a DTC, hover over it and the freeze frame will appear if available

On Printed Reports the Freeze Frames are included where available.

DIAGNOSTIC TROUBLE CODE REPORT

VEHICLE DTC REPORT

VIN: **3HTXYSJT4EN769761**
Engine Mileage: 156951.86 Km
Engine Hours : 3088.35 Hrs.
Engine Serial : 125HM2Y4176751
Manufacturer : Navistar Inc
Engine Family : DNVXH0757TL1

NOTES

Some DTC Descriptions are generic,
follow all safety precautionss when
repairing or testing a vehicle.
All values are: METRIC
Please refer to the End User License Agreement (ELUA).
This version assumes vehicle meets the following EPA standards:
HD OBD (CARB CCR 1971.1 / EPA 86.010-18)

PFD-Tool REPORT
Replace this with
your own logo....

Packetfleet Diagnostic
Solutions Inc.

Diagnostic Software for Heavy Trucks

DTC Report from Vehicle on November-26-22 at 11:12 AM Local Time

MODULE	S	CODE	FMI	COUNT	DESCRIPTION
Engine #1	A	SPN:3479	6	1	Aftertreatment 1 Fuel Pressure 1 Control, Current Above Normal, or Grounded Circuit FREEZE_FRA
					Boost Press: 432.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C
Engine #1	A	SPN:629	12	1	, Bad Intelligent Device or Component FREEZE_FRAME: Boost Press: 432.00kPa, TorqueMode:
					Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00, Coolant: 100.0 °C
Engine #1	A	SPN:91	4	1	Accelerator Pedal Position 1, Voltage Below Normal, or Shorted to High Source FREEZE_FRAME:
					Boost Press: 498.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C
Engine #1	A	SPN:2623	4	1	Accelerator Pedal #1 Channel 2, Voltage Below Normal, or Shorted to High Source FREEZE_FRAME
					Boost Press: 498.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C
Engine #1	A	SPN:157	3	1	Engine Fuel 1 Injector Metering Rail 1 Pressure, Voltage Above Normal, or Shorted to
					High Source FREEZE_FRAME: Boost Press: 510.00kPa, TorqueMode: Torque Limiting, RPM:
					0.00, Load: 0% Speed: 0.00, Coolant: 100.0 °C
Engine #1	A	SPN:633	5	1	Engine Fuel Actuator 1 Control Command, Current Below Normal, or Open Circuit FREEZE_FRAME:
					Boost Press: 510.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C
Engine #1	A	SPN:110	3	1	Engine Coolant Temperature, Voltage Above Normal, or Shorted to High Source FREEZE_FRAME:
					Boost Press: 510.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C
Engine #1	A	SPN:4076	3	1	Engine Coolant Temperature 2, Voltage Above Normal, or Shorted to High Source FREEZE_FRAME:
					Boost Press: 510.00kPa, TorqueMode: Torque Limiting, RPM: 0.00, Load: 0% Speed: 0.00,
					Coolant: 100.0 °C

RUN TESTS

If you have the REGEN version, you can run Regens on all the major makes.

All other tests will not work unless you have the Enhanced Version

NOTE: For a full list of current tests – Email pfsupport@rogers.com

Some tests are currently in development

If a test is in development you will get a message stating that. Look for it in the next release.

DPF REGEN

You must be connected to the appropriate engine and the truck must be idling and warmed up.
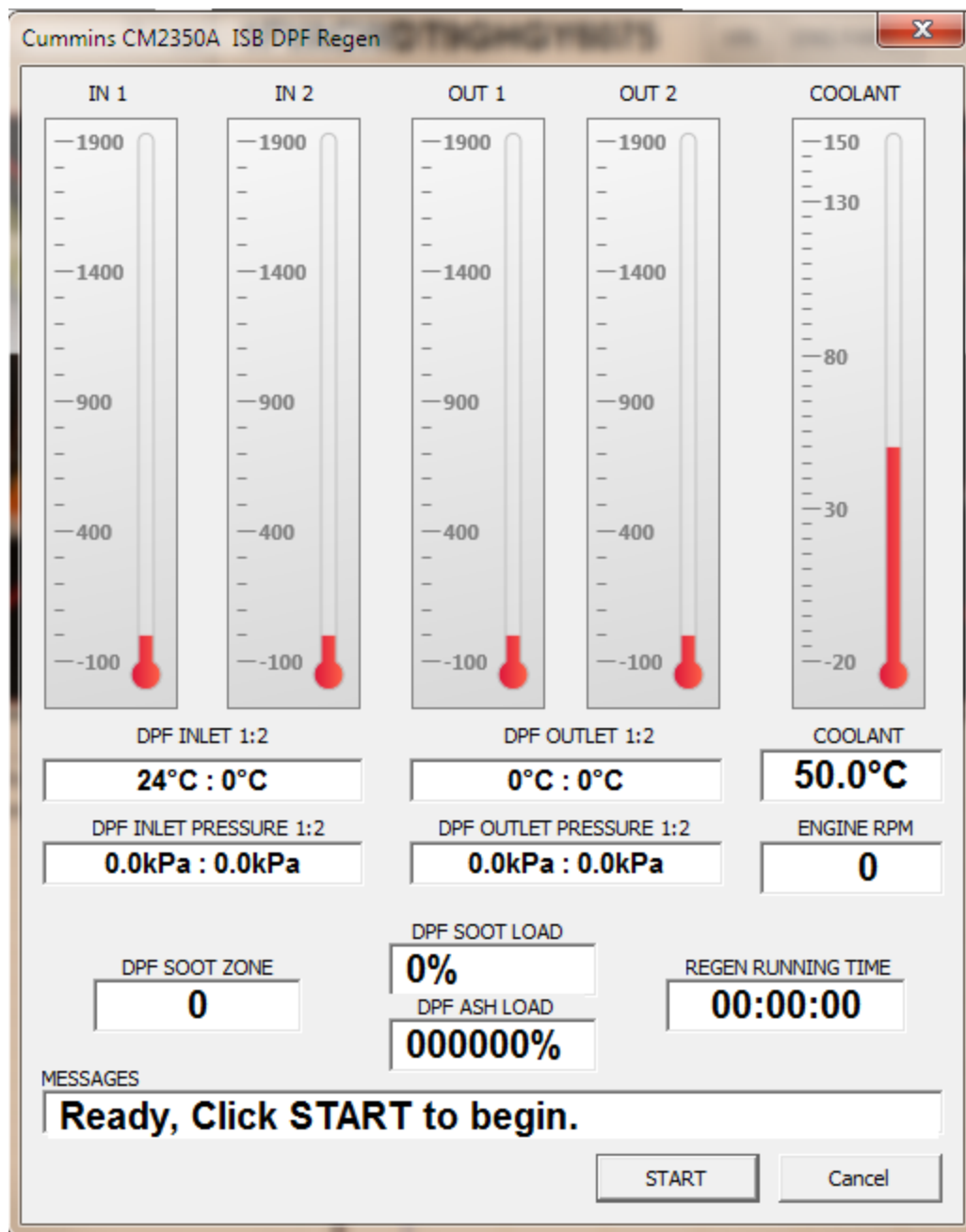
Park Brake ON

Wheels chalked

Away from any flammable materials or long grass

(Exhaust gets hot enough to cause a fire)

Select DPF Regen

The regen screen will display, Do not be alarmed if some of the parameters do not show, This is the same screen for all vehicle makes and some OEMs do things a bit differently.

Cummins CM2350A ISB DPF Regen

IN 1	IN 2	OUT 1	OUT 2	COOLANT

DPF INLET 1:2

24°C : 0°C

DPF OUTLET 1:2

0°C : 0°C

COOLANT

50.0°C

DPF INLET PRESSURE 1:2

0.0kPa : 0.0kPa

DPF OUTLET PRESSURE 1:2

0.0kPa : 0.0kPa

ENGINE RPM

0

DPF SOOT LOAD

0%

DPF SOOT ZONE

0

DPF ASH LOAD

000000%

REGEN RUNNING TIME

00:00:00

MESSAGES

Ready, Click START to begin.

START   Cancel

Click START to begin the regen, the status will be in the messages box, the start should now say STOP so you can stop at any time, Another way to stop a regen is depress the service brake.

NOTE REGENS should not be left unattended and should not run longer than 40 Min.

DO NOT START A REGEN WHEN THE TRUCK IS IN MOTION. As per OEM WARNINGS

CYLINDER CUT-OUT

MaxxForce Cyl Cutout

Manual Cutout

1 ON
2 ON
3 ON
4 ON
5 ON
6 ON

RPM: 596.7 DEMO
Coolant: 215°F DEMO
Load: 19.72% DEMO

MANUAL CUTOUT TEST

Cut Selected   Restore Selected

Select 1-3 cylinders to test then select the button CUT SELECTED. To return the cylinders back to normal, select RESTORE SELECTED. Do not cut more than 3 Cylinders at a time or the engine may stall.

The engine temperature should be at or above 160 degrees F and the A/C off. Please follow safety precautions. This is an audio only test, results are not charted.

MaxxForce RPMx100

	1	2	3	4	5	6	7	8	9	10
RPM	5.94	5.93	5.96	5.93	6.01	5.96	5.93	5.96	6.01	5.93
Base	8.433	9.363	8.697	9.008	8.145	9.399	10.21	8.241	9.844	10.61
Cyl 1	21.13	22.94	21.09	21.84	22.75	19.19	19.06	21.95	20.22	19.03
Cyl 2	21.13	22.94	21.09	21.84	22.73	19.7	20.94	23	20.65	19.37
Cyl 3	21.13	22.75	19.19	19.06	22.73	19.7	20.94	22.71	21.89	19.99
Cyl 4	22.94	22.75	21.95	20.22	22.73	23	20.65	22.71	21.89	21.19
Cyl 5	21.09	19.19	21.95	19.03	19.7	23	19.37	22.71	19.99	21.19
Cyl 6	21.84	19.06	20.22	19.03	20.94	20.65	19.37	21.89	19.99	21.19

Cylinder Cutout Results

Cyl 1, Cyl 2, Cyl 3, Cyl 4, Cyl 5, Cyl 6, BASE

Load %

Legend: RPM, Base, Cyl 1, Cyl 2, Cyl 3, Cyl 4, Cyl 5, Cyl 6

100%
CUTOUT DONE!

AUTOMATIC CUTOUT TEST

START   CANCEL

This test will automatically cut 3 cylinders at a time in a controled grouping while collecting engine load data. The test should last about 5 minutes and results will be charted.

Cylinder cut-outs work a bit differently between manufacturers and may not currently be available in all.

There will be a manual and auto cut-out. The manual cut-out does not display a graph, you would cut one or more cylinders and listen as well as look at the RPM and Engine Load to see if the cylinder(s) are pulling their weight so to speak.

AUTOMATIC runs a routine where 3 cylinders are cut at a time, this cycles through 10 sequences and gives an average load for each cylinder and the results are graphed. (The above is just a random test and is not a real cut-out)

Use the ON-OFF switches on the left to cut individual cylinders.

Cylinders that are cut turn red

NOTE, if 2 cylinders are weak, the engine may stall on the AUTOMATIC test.

AFTERTREATMENT FUEL ACTUATOR TEST

Select the specific version of test, slide the slider to select a delay then start, the test will begin after the selected delay. This gives you time to position yourself to observe the test.

DPF SERVICE / REPLACE

Enter the serial Number of the DPF Filter and the date then hit the *DPF HAS BEEN SERVICED* Button

The arrow on the right of Date drops down a calendar for your convenience.

INJECTOR QUANTITY ADJUSTMENT – Navistar / MaxxForce

Get the Quantity Adjustment Code from the injector or label on box, send that to
PFSupport@rogers.com, we will send back the 16 digit trim code you enter in the screen above.

With Key on, Engine off, Select Program to write the code(s) to the ECM.

If there is a problem with the code, the program will tell you

INJECTOR QUANTITY ADJUSTMENT – Volvo

INJECTOR QUANTITY ADJUSTMENT – Detroit Diesel / MBE 900/4000

Get codes from new injector.

ASH ACUMULATORS RESET – Detroit Diesel

SCR Accumulators Reset

Use this panel to reset SCR Accumulators when replacing an SCR catalyst.

Time Above SCR Inlet Temp 1: Hour	Time Above SCR Inlet Temp 1: Min.	Time Above SCR Inlet Temp 1: Sec.
0	**0**	**0**

Time Above SCR Inlet 2 Temperature	Seconds	Time Above SCR Outlet 2 Temperature	Seconds
0		**0**	

Please provide the Serial Number for the new SCR Unit.

124xxxxxxxxxxx   Serial Number Format is 124xxxxxxxxxxx (14 digits)
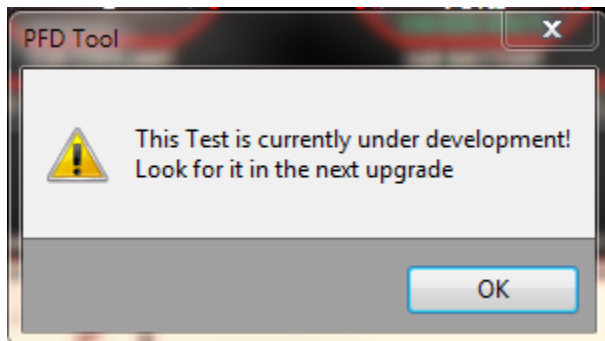
Reset SCR Accumulators

Progress

[01:54 PM] Enter SCR Serial Number then press Reset SCR Accumulators to begin.

CLOSE

Enter the serial number the reset SCR Accumulators.

TESTS UNDER DEVELOPMENT

PFD Tool

⚠ This Test is currently under development!
Look for it in the next upgrade

OK

Some tests are being added and until they are completed and tested you will see this….

If you would like to speed up the release of these tests, you may volunteer to test them. This is a safe procedure, the ECM will not let you do anything that will harm it, All that will happen is the test will work or won't. Send me the logs so I can figure out what is not working and then you will be the first to have that test.

FAST IDLE WARM-UP

If conditions are met (The engine is cold) this will start a fast idle with some timing changes to allow the engine to warm up quickly and safely. Many tests require the engine to be at operating temperature and this test will help you get there. Not all vehicles support this test.

END USER LICENSE AGREEMENT

You as the user agrees that this software license is granting you use of the software not ownership. You agree that you are a qualified and experienced Truck Technician and will follow all of the manufacturer's safety suggestions and requirements.

You are aware that the software is multi-purpose and different manufacturers may send undocumented signals therefore the accuracy of this software will not be the same as the OEM (Original Equipment Manufacturer) software and there may be discrepancies.

You use this software at your own risk and there are no guarantees, expressed or implied except where required by law.

Licenses are for the use of the software on the PC the software was installed on at the time of purchase. If you upgrade to a new PC you will need a New License.

Support on the PC the software was installed on is Lifetime and the Upgrades are LifeTime as well. Once you purchase the license you may update the software any time for free and you may email our support department at no cost.

Support is operational Monday-Friday 8am-5pm Eastern. Depending on volume, it may be up to 72 hours to get a reply. We do not offer Telephone or instant support at this price point.

To contact support email PFSupport@rogers.com

For Licensing, Send the Machine ID to PFSupport@rogers.com and you should get a response within 24 hrs. If not send again.