



TECH TIP

DX3 BURNER MANUAL REGEN MONITOR

**GROUP: 0-GENERAL
TECH TIP NO: TT-22-023
DATE: 11-22-22**

SUBJECT VEHICLES : 11MY-14MY Conventional Trucks equipped with a J08 engine and burner style exhaust systems.

OVERVIEW:

The purpose of this procedure is to provide instructions in how to perform a burner regen recording on Conventional trucks equipped with a burner style exhaust system with DX3.

Note: This technical tip is provided as technical information and is not authorization for a warrantable repair.

REPAIR PROCEDURE:

Note: Be sure to change unit settings in DX3. Click **Settings** (gear in the upper right) > **Unit Setting** and then mirror the settings as shown below, click **OK**. Log out of DX3, then log back in to hold new settings for future DX3 connections and data monitoring.

[B1014]

Unit Setting

Distance	Mile(mile)	▼
Speed	Mile per hour(mph)	▼
Acceleration	Mph/sec(mph/sec)	▼
Capacity	US Gallon(gal)	▼
Fuel consumption rate	Mile per US Gallon(mpg)	▼
Fuel consumption rat...	Mileage per Liter(km/L)	▼
Temperature	Fahrenheit(° F)	▼
Horsepower	Horsepower(hp)	▼
Torque	Foot pounds (lb-ft)	▼
Pressure	Pound per Square Inch(PSI)	▼
Pressure (Mp)	Pound per Square Inch(PSI)	▼

OK Cancel

1. Bring the engine to normal operating temperature of 175°F to 185°F (79-85 °C)

2. Connect DX3 and allow read out to complete. Click **Customization**, in system select **Engine CAN**, and scroll to locate **DPF Soot Amount Piling Up**. Set the soot level to **3.5g/L** for a manual regen, and click **Write**. Follow DX3 to complete writing of soot level.

Note: Key must be ON with the engine OFF to write or change any value. Ignition must then be turned off for 60 seconds to finalize writing of value. Turn the key back on and verify the manual regen light is flashing on the regen switch.

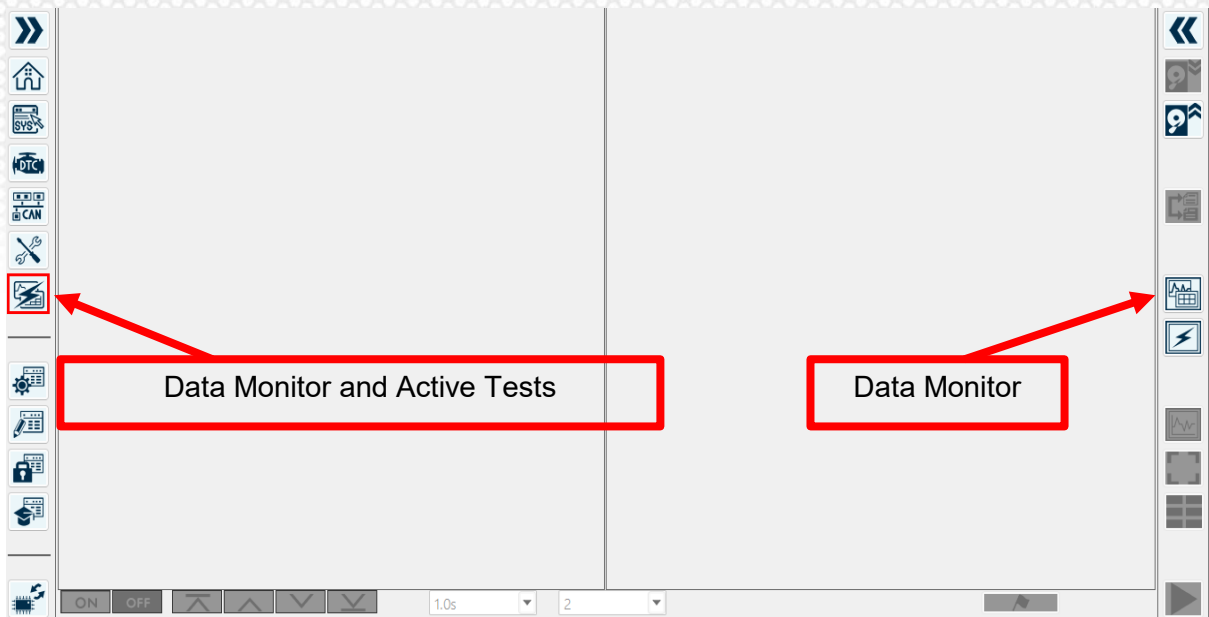
Customization

System: 01 Engine Serial(K line)

No.	Items	Initial value	Set value	Unit	Write to ECU
439	Idle Shutdown Active Minimum Coolant Temperature	-40	-40	°F	
440	Idle Shutdown Active Minimum Ambient Temperature	-40	-40		
449	Setting of economy running intensity	Low	Low		
451	Setting start idle up mode changeover	Always	Always		
453	Setting of actuation time for hill start gear change assi...	0.0	0.0	Seconds	
456	Long idling control RPM	0	0	rpm	
474	Customized Backup (data 2 byte 6 digits) 1	0	0		
534	DPF Soot Amount Piling Up	0.000	3.5	g/L	
543	PM deposit volume 1 (A09C)	0.000	0.000	g/L	
544	PM deposit volume 2	0.000	0.000	g/L	
580	Total idle fuel injection	0.0	0.0	gal	
581	Trip idle injection quantity	0.0	0.0	gal	
582	Total fuel injection quantity	0.0	0.0	gal	

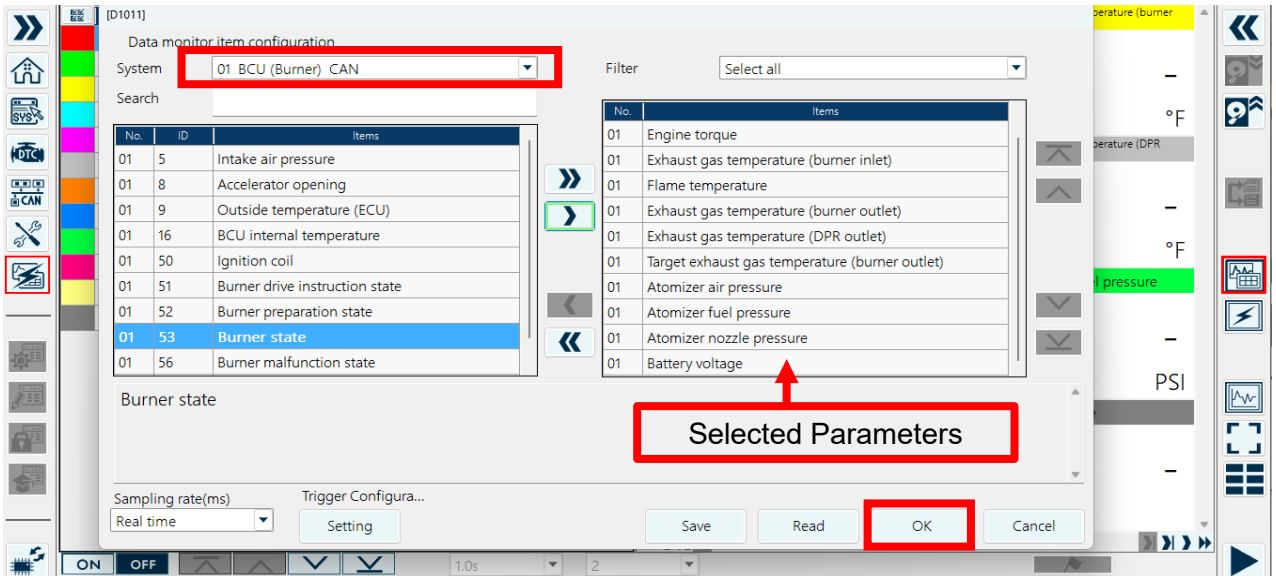
Customization

3. Select “*Data Monitor and Active Tests*” then select “*Data Monitor*”.



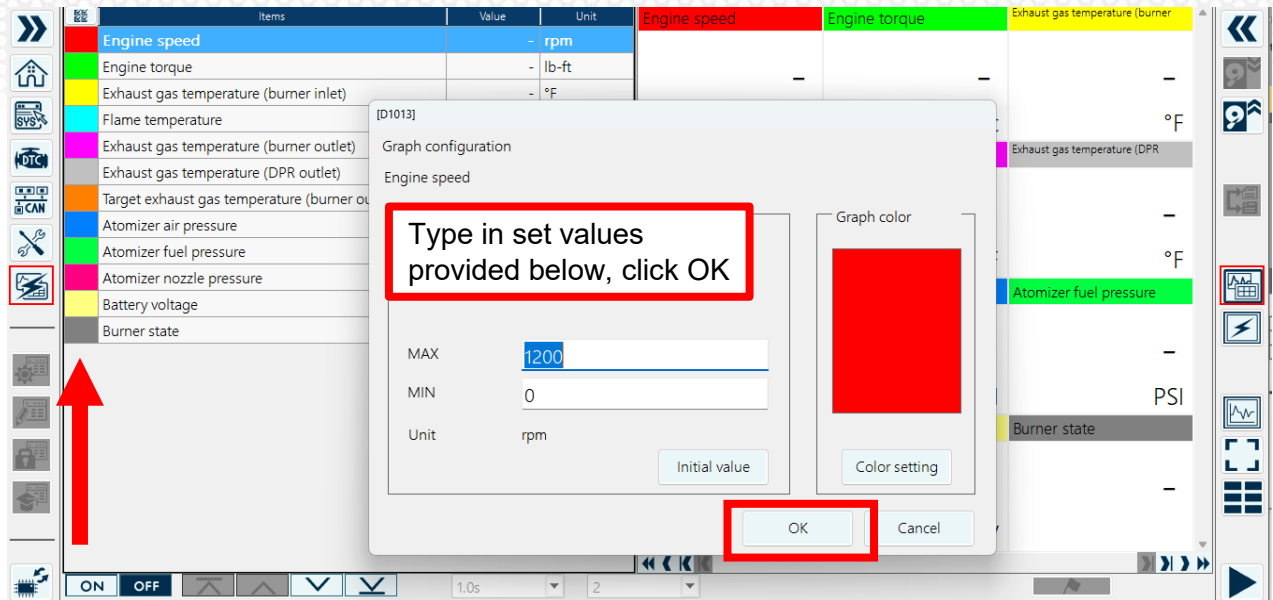
4. In the data monitor item configuration menu on the next page, select **BCU (Burner)** and the following parameters and then click **OK**.

- Engine Speed
- Engine Torque
- Exhaust Gas Temp (Burner Inlet)
- Flame Temp
- Exhaust Gas Temp (Burner Outlet)
- Exhaust Gas Temp (DPR Outlet)
- Target Exhaust Gas Temp (Burner Outlet)
- Atomizer Air Pressure
- Atomizer Fuel Pressure
- Atomizer Nozzle Pressure
- Battery Voltage
- Burner State



IMPORTANT – MIN/MAX Values must be adjusted prior to performing this recording.

5. Adjust MIN/MAX Values. Click the colored box next to each parameter one at a time to set values as shown below, click **OK** to accept each value.



Engine Speed **Max 1200 / Min 0**

Engine Torque **Max 400 / Min 0**

Exhaust Gas Temp (Burner Inlet)

Flame Temp

Exhaust Gas Temp (Burner Outlet)

Exhaust Gas Temp (DPR Outlet)

Target Exhaust Gas Temp (Burner Outlet)

Max 2000*F / Min 32* for ALL Temp Sensors

Atomizer Air Pressure

Atomizer Fuel Pressure

Atomizer Nozzle Pressure

Max 137.75 / Min 0 for ALL Atomizer Sensors

Battery Voltage **Max 20 / Min 0**

Burner State **Max 15 Min 0**

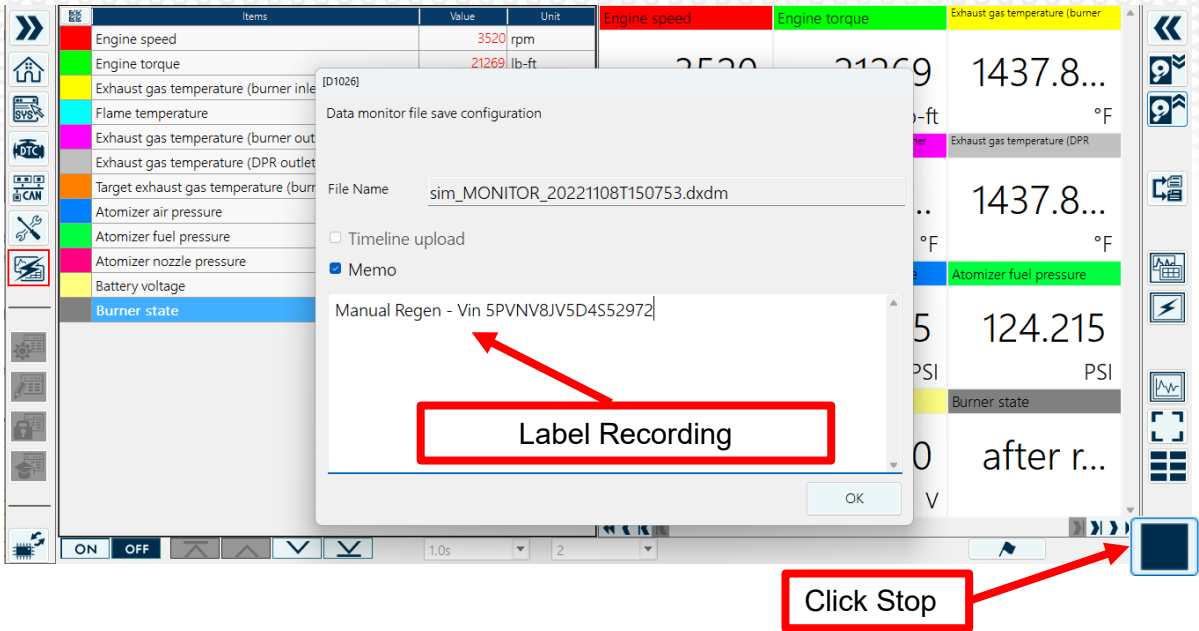


6. Start the truck, start the DX recording and press the Manual Regen switch on the dash to start manual regen. Record until manual regen has completed.

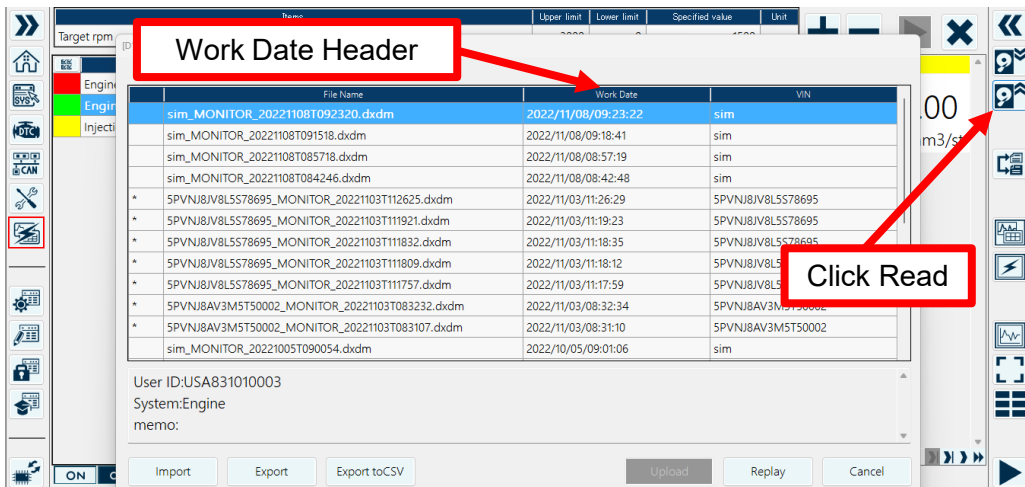
Items	Value	Unit	Engine speed	Engine torque	Exhaust gas temperature (burner)
Engine speed	-	rpm	-	-	-
Engine torque	-	lb-ft	rpm	lb-ft	°F
Exhaust gas temperature (burner inlet)	-	°F	Flame temperature	Exhaust gas temperature (burner)	Exhaust gas temperature (DPR)
Flame temperature	-	°F	-	-	-
Exhaust gas temperature (burner outlet)	-	°F	°F	°F	°F
Exhaust gas temperature (DPR outlet)	-	°F	Target exhaust gas temperature	Atomizer air pressure	Atomizer fuel pressure
Target exhaust gas temperature (burner outlet)	-	°F	-	-	-
Atomizer air pressure	-	PSI	°F	PSI	PSI
Atomizer fuel pressure	-	PSI	Atomizer nozzle pressure	Battery voltage	Burner state
Atomizer nozzle pressure	-	PSI	-	-	-
Battery voltage	-	V	PSI	V	-
Burner state	-	-	-	-	-

Start Recording, record until regen completes.

7. Click the **Stop** in the lower right of DX3 to stop the recording. In the save box, **label recording**, be sure to include the test name and VIN or TechAssist Case number and click **OK**.



8. Click **Read**, click on the **Work Date** header a couple of times to sort recordings by work date.



9. Locate and select the recording to review, highlight and click **Replay**.

Saved data monitor file list

File Name	Work Date	VIN
sim_MONITOR_20221108T150753.dxdm	2022/11/08/15:27:25	sim
sim_MONITOR_20221108T093408.dxdm	2022/11/08/09:34:12	sim
sim_MONITOR_20221108T092320.dxdm	2022/11/08/09:23:22	sim
sim_MONITOR_20221108T091518.dxdm	2022/11/08/09:18:41	sim
sim_MONITOR_20221108T085718.dxdm	2022/11/08/08:57:19	sim
sim_MONITOR_20221108T084246.dxdm	2022/11/08/08:42:48	sim
* 5PVNJ8JV8L5S78695_MONITOR_20221103T111832.dxdm	2022/11/03/11:18:35	5PVNJ8JV8L5S78695
* 5PVNJ8JV8L5S78695_MONITOR_20221103T111809.dxdm	2022/11/03/11:18:12	5PVNJ8JV8L5S78695
* 5PVNJ8JV8L5S78695_MONITOR_20221103T111757.dxdm	2022/11/03/11:17:59	5PVNJ8JV8L5S78695
* 5PVNJ8AV3M5T50002_MONITOR_20221103T083232.dxdm	2022/11/03/08:32:34	5PVNJ8AV3M5T50002

User ID:USA831010003
System:BCU (Burner)
memo:Manual Regen - Vin 5PVNV8JV5D4S52972

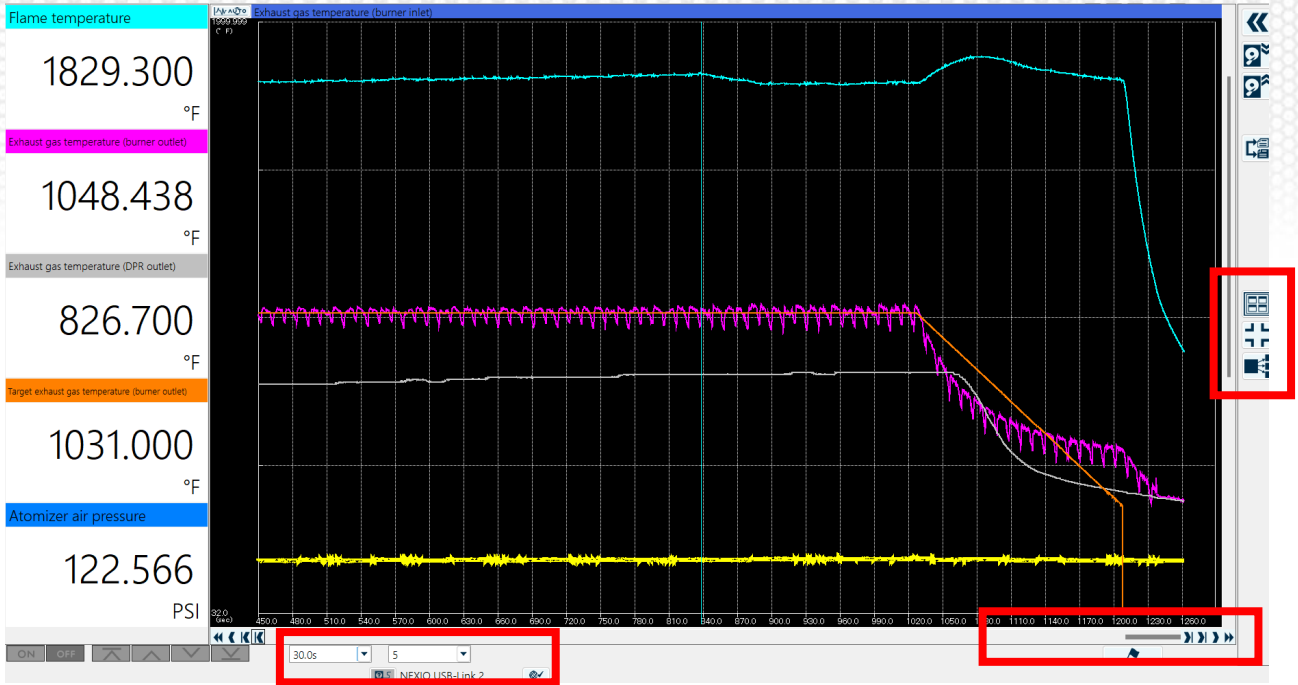
Import Export Export to CSV Upload **Replay** Cancel

10. Use **ON/OFF** toggle as shown below to change between parameters as needed. Red indicates a graphed parameter. Highlight parameter to toggle **ON / OFF** or change position by using **UP / DOWN** arrows.

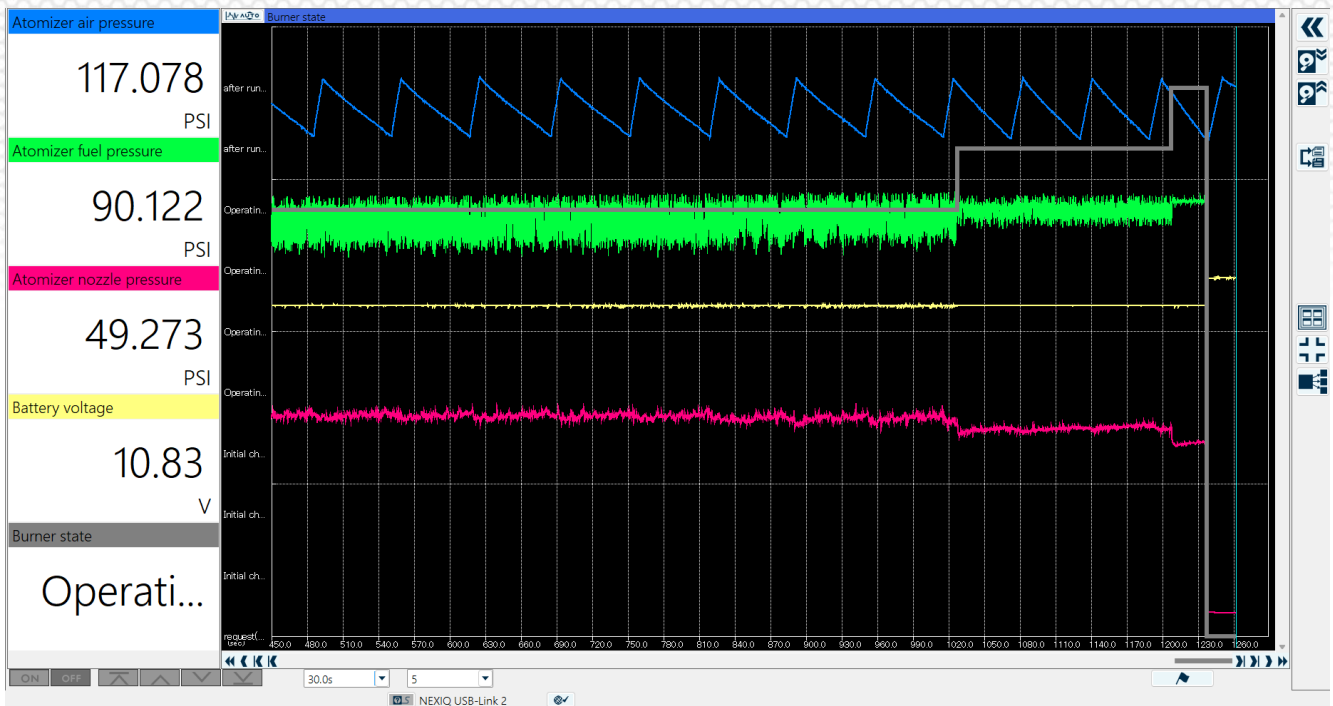
Items	Value	Unit
Engine speed	730	rpm
Engine torque	83	lb-ft
Exhaust gas temperature (burner inlet)	2110.000	°F
Flame temperature	1829.300	°F
Exhaust gas temperature (burner outlet)	1048.438	°F
Exhaust gas temperature (DPR outlet)	826.700	°F
Target exhaust gas temperature (burner outlet)	1031.000	°F
Atomizer air pressure	122.566	PSI
Atomizer fuel pressure	91.114	PSI
Atomizer nozzle pressure	48.407	PSI
Battery voltage	10.87	V
Burner state	Operating/Regen)	

ON/OFF UP/DOWN

11. Select all five (5) temperature sensors to place in one graph. Use graph type, time and slide bar to review data.



12. Graph the three (3) atomizer sensors, burner state and battery voltage together.



13. Engine Torque can be graphed alone if needed, as additional data to make judgement.

Note: Refer to our DX3 training course as needed for any graphing questions.

Note: If you are not able to determine judgment, please follow **TechTip #22-019 Sending DX3 Files to TechAssist**. Create a TechAssist case outlining the customers concern, diagnosis performed and related DTC's, then attach file(s) for review.