#### **Enabling the Fuel Gauge**





# **Fuel Level Reading**

#### Fuel Level Per Psi Reading



0 psi = E 900 psi = ¼ Tank 1800 psi = ½ Tank 2700 psi = ¾ Tank 3600 psi = Full Tank



#### All reading are at 70 °F

Accurate temperature compensation allows dispensers to place a full fuel load on the vehicle during all weather conditions. Anytime the temperature of the gas in a cylinder is higher than 70° F, the full cylinder pressure will be greater than the commonly rated 3,600 psi service pressure at 70° F.

# Temperature Compensated Cylinder Pressure

Temperature Compensated Cylinder Pressure					
3,600 psi service pressure calculated from the standard gas composition used to create the gasoline gallon					
equivalent					
Gas Temperature, Degrees F Pressure in Full 3,600 psi CNG Container, psig					
123.6         4,500           120.0         4,455					
				110.0 4,272	
100.0 4,105					
90.0	3,936				
80.0	3,768				
70.0	3,600				
60.0	3,432				
50.0	3,263				
40.0	3,094				
30.0	2,926				
20.0	2,757				
10.0	2,589				
0.0         2,421           -10.0         2,253					
		-20.0	2,086		
-30.0	1,919				
-40.0	1,753				



# **Required Program and Interface Tool**

Diagnostic tool Paccar Electronic Service Analyst is a dealer program for the diagnosis of Kenworth and Peterbilt. Diagnostic tool contains information on repair and maintenance, as well as electrical wiring diagnostics. This program works with Nexiq, CECU emulsion, ICU emulsion. Diagnostic program as a diagnostic tool works with all functions in the ECM, the ESA reported on the Data Link Adapter for NAMUX components.



The USB-Link<sup>™</sup> 2, the next generation vehicle interface from NEXIQ Technologies. Standard adapter for most heavy-duty vehicles is the 6 and 9-Pin Deutsch Adapter.







#### **Connect USB-Link to Laptop**

Attach the latching USB Cable on the USB-Link to the USB port on the laptop





# Connecting the USB-Link to the OBD

On-board diagnostics (OBD) is an automotive term referring to a vehicle's self-diagnostic and reporting capability. OBD systems give the vehicle owner or repair technician access to the status of the various vehicle subsystems.



Standard adapter for most heavy-duty vehicles is the 6 and 9-Pin Deutsch Adapter attached the correct adapter. They are differnt sizes so you wont get it wrong





#### Powering Up

Turn the Key on and let the trucks computer start its Boot-Up





# Opening Electronic Service Analyst (ESA) Program





Click on the Electronic Service Analyst icon to open program.

#### **Data Connection**

Click on the Connect tap at the upper left corner to connect to the vehicle.







#### Parameter On Control Unit

Click on the Program tap at the upper right corner to open current • program parameter on the control unit.

File Tools Options Win	dow Help						
ESA 📎	Disconnect 😟 Diagnose	S Manitor	Simulate	Program			
External Applications	Control Unit Information						
🟠 ESA Home	🕘 Control Unit Informatio	n		Print P	Preview		
ServiceNet	CECU3						
	enassis Number	449038					
D PEP - re	Vehicle Identification Number	2NP3L20X4H	M449038				
	Division	Peterbilt	0	CAT Information			
	Unit of Measure	English	G	SECAT Information			
	Cluster Model	Driver Warnin	g information M	odule			
	Control Unit Type	Cab Electroni	c Control Unit 3				
	Data Bus	K-Line					
	Hardware Version	A2C53335934					
	Flash Loader Version	04.15.2009.10	.43.02				
	Software Version	P30-1017-104				<b>`</b>	
	Engine Model	Not Available					
	Programming Date	2016.11.30			alve	•	
	CECU Mileage	Not Available			arys	L	
	Engine Idle Speed Timer Expiration Mileage	Not Available	(click here to un	ock)			
	Vehicle Speed Limiter Expiration Mileage	Not Available	(click here to un	ock)			

A window open saying Detecting *Parameter On Control Unit* will open up. It – will run for a few minutes to make the connection.



# **Enable The Fuel Gauge**

A PWM signal is sent to CECU to replicate the exact same signal it would see if it were a diesel fuel tank sender.

System Chassis Interface Harness Fuel Sender must be connected to OEM Chassis Harness LH Fuel Tank Sender connector

OEM Fuel Gauge must be turned on in the CECU.

Legacy Cab needs Primary Fuel Level Gauge Installed set to CVSG and Primary Fuel Level on V-Can set to Enabled

NGP Cab Needs Primary Fuel Level on V-Can set to Enabled.

2 🥑	Disconnect 🤨 Diagnose 🚳 Moni	or 🔇 Simulate	Program	
ons 🖗	Program			Print Preview CI
lome	VIN/Chassis Number			
	2NP3L2SX4HM449038 Set to Engine VIN			Progr
eNet	M Desh Lighting Deplay Drivetran Bectrical Lighting Optional	Sauge Standard Gauge Teltale		-
	Description	- Locker	d Value	Group
Veb Site	Ignition Timer Available		Disable	<ul> <li>Display</li> </ul>
	Ignition Timer Maximum		30	Display
	Languages Available		Enable	Display
	Lighting Data on VCAN		Disable	- Electrical
	Low Voltage Disconnect Installed		Disable	- Electrical
	Main Transmission Oil Temperature o	n VCAN	Enable	Electrical
	Outside Air Temperature Source		Sensor	- Standard Gauge
	Park Brake Symbol In Indication Bar		Enable	- Display
	Primary Air Pressure Surge motaned		Enable	- Standard
	Primary Air Pressure on V-CAN		Enable	- Electrical
	Primary Fuel Level Gauge Installed		Enable	- Standard Gauge
	Primary Fuer Level on V CAN		Enable	- Electrical
	Prohibit Dash Dimming With Dome La	np On	Disable	Dash Lightin
	PTO Control Present		Enable	- Drivetrain
	TTO OUT AND A DAMAGE AND A DAMAGE		Disable	- Optional

*	Primary Fuel Level Gauge Installed	CVSG
1	Primary Fuel Level on V-CAN	Enable



### Program the Changes

Click on the Program tap at the upper right corner to save the new program to the control unit.

onitor 🛞 Simulat	te Program		
es Guine Devoluti Guine Talkala		Pro	
In sente   service geole   resea	Locked Value	Group	
	Disable	- Display	
	30	Display	
	Enable	- Display	
		Dioping	
	Disable	Electrical	
_	Disable	Electrical     Electrical	
on VCAN	Disable Disable Enable	Electrical     Electrical     Electrical     Electrical	
on VCAN	Disable Disable Enable Sensor	<ul> <li>Fights</li> <li>Fights</li></ul>	

A window open saying *Program Parameters In Progress.* When complete a green check will appear and the word DONE. Click on the OK to close window.





### Disconnecting

Click on the Disconnect tap at the upper left corner to disconnect from the control unit. Turn the vehicle key off and disconnect the Standard adapter for most heavy-duty vehicles is the 6 and 9-Pin Deutsch Adapter.

SA 🕘	Disconnect 🥺 Diagnose 🚳 Monitor	📎 Smulate 📮 Program	
Applications	🜪 Program		Print Preview C
ESA M	VIN/Chassis Number 187229 Set to Engine VIN	Progr	
ServiceNet	Al Dash Lighting   Display   Diversir   Bestinal   Lighting   Network Interface   Option	al Gauge   Sandard Gauge   Tultain	
	Description	- Locked Value	Group
PEP Web Site	Ignition Timer Maximum	non Parameters	Display
	Interrupt Start of Truck With Engine RPM	a second s	- Drivetrain
	Interrupt Start of Truck With Overcrankin	ogramming Parameters In Progress	Drivetrain
	Languages Available	connection.	<ul> <li>Display</li> </ul>
	Low Voltage Disconnect Installed		Electrical
	LVD System Dropout Voltage	anning parameters pranning parameter 1 of 1.	Electrical
	Main Transmission Oil Temp on VCAN	<b>V</b>	- Electrical
	Overspeed Shutdown Installed Dove		Drivetrain
	Overspeed Shutdown Low Air Threshold		Drivetrain
	Overspeed Shutdown Low Air Warning E	OK	<ul> <li>Drivetrain</li> </ul>
	Primary Air Pressure Gauge Installed	CVSG	Standard
			Gauge
	Primary Air Pressure on V-CAN	Enable	- Electrical
	Primary Fuel Level Gauge Installed	CVSG	- Standard Gauge
	* Primary Fuel Level on V-CAN	Enable	- Electrical
	Beabilith Dash Dimmins With Dama Lama On	Disable	· Deck Linkting



