Nachfolgend sind die Standardanzeigen des OBDII-Standards aufgeführt. Sie können sehen, welche Anzeigen vom UltraGauge EM Plus unterstützt werden – aber nur, wenn das Zielfahrzeug die Anzeige ebenfalls unterstützt. Eine ausführliche deutsche Beschreibung der Daten finden Sie bspw. im Buch Fahrzeugdiagnose mit OBD II

PID (Hex)	Description	Support Yes/No
00	Supported next 32 PIDs	No
01	System status	No
02	DTC that caused freeze frame data storage	No
03	Fuel System Status	Yes
04	Calculated % Engine Load	Yes
05	Coolant Temperature	Yes
06	Short Term Fuel Trim - Bank 1	Yes
07	Long Term Fuel Trim - Bank 1	Yes
08	Short Term Fuel Trim - Bank 2	Yes
09	Long Term Fuel Trim - Bank 2	Yes
0A	Fuel Pressure	Yes
0B	Intake Manifold Absolute Pressure (MAP)	Yes
0C	Engine RPM	Yes
0D	Vehicle Speed	Yes
0E	Ignition Timing Advance - #1 Cylinder	Yes
0F	Intake Air Temperature (IAT)	Yes
10	Air Flow Rate - Mass Air Flow (MAF)	Yes
11	Absolute Throttle Position %	Yes
12	Commanded Secondary Air Status	No
13	Oxygen Sensors Presence	No

Abbr1	O2		Abbr2	Loc	
TData	07DF 0113 0000				
TCtrl	82		RCtrl	21	
RPOS	1808		MTCH	411300	
MATH	X:	0001	/: 0001	+:	0000
Output Format	00		Ave	00	
Left/Right	20				

Range	Bit Mapped 8-bit value (0-F)
Description	For vehicles with 1 or 2 banks of sensors (common). Each of the 8 bits corresponds to a O2 Sensor location. If the Sensor is present, the bit will be set to 1. The lower the bit position, the closer to the engine for that bank

Bit position	O2 Sensor
0	B1S1
1	B1S2
2	B1S3
3	B1S4
4	B2S1
5	B2S2
6	B2S3
7	B2S4

14	O2 Voltage B1S1	Yes
14b	Short term fuel trim % for B1S1	No

Abbr1	O2		Abbr2	B1S1			
TData	07DF 0114 0000						
TCtrl	82		RCtrl	21			
RPOS	2008		MTCH	411400			
MATH	X:	0064	/:	0080	+:	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.2% (Rich)						
Description	Short term fuel trim % for Bank 1, O2 Sensor 1. Reports constant 99.2 if No t supported by vehicle						

15	O2 Voltage B1S2	Yes
15b	Short term fuel trim % for B1S2	No

Abbr1	O2	Abbr2	B1S2
TData	07DF 0115 0000		
TCtrl	82	RCtrl	21
RPOS	2008	MTCH	411500

MATH	X:	0064	/:	0080	+:	FF9C
Output Format	00		Ave		00	
Left/Right	41					
Range	(Lean) -100% to 99.2% (Rich)					
Description	Short term fuel trim % for Bank 1, O2 Sensor 2. Reports constant 99.2 if No t supported by vehicle					
16	O2 Voltage B1S3 or B2S1					No
Abbr1	O2		Abbr2		B2S1	
TData	07DF 0116 0000					
TCtrl	82		RCtrl		21	
RPOS	1808		MTCH		411600	
MATH	X:	0001	/:	00C8	+:	0000
Output Format	00		Ave		00	
Left/Right	22					
Range	0V to 1.25V					
Description	Oscillating output voltage of O2 sensor (No t used for wide band O2 sensors					
16b	Short term fuel trim % for B1S3 or B2S1					No
Abbr1	O2		Abbr2		B2S1	
TData	07DF 0116 0000					
TCtrl	82		RCtrl		21	
RPOS	2008		MTCH		411600	
MATH	X:	0064	/:	0080	+:	FF9C
Output Format	00		Ave		00	
Left/Right	41					
Range	(Lean) -100% to 99.2% (Rich)					
Description	Short term fuel trim % for B1S3 or B2S1 O2 Sensor. Reports constant 99.2 if No t supported by vehicle					
17	O2 Voltage B1S4 or B2S2					No
Abbr1	O2		Abbr2		B2S2	
TData	07DF 0117 0000					

TCtrl	82		RCtrl	21	
RPOS	1808		MTCH	411700	
MATH	X	0001	/	00C8	+ 0000
Output Format	00		Ave	00	
Left/Right	22				
Range	0V to 1.25V				
Description	Oscillating output voltage of O2 sensor (No t used for wide band O2 sensors				

17b	Short term fuel trim % for B1S4 or B2S2	No

Abbr1	O2		Abbr2	B2S2	
TData	07DF 0117 0000				
TCtrl	82		RCtrl	21	
RPOS	2008		MTCH	411700	
MATH	X:	0064	/:	0080	+: FF9C
Output Format	00		Ave	00	
Left/Right	41				
Range	(Lean) -100% to 99.2% (Rich)				
Description	Short term fuel trim % for B1S4 or B2S2 O2 Sensor. Reports constant 99.2 if No t supported by vehicle				

18	O2 Voltage B2S1 or B3S1	Yes
18b	Short term fuel trim % for B2S1 or B3S1	No

Abbr1	O2		Abbr2	B2S1	
TData	07DF 0118 0000				
TCtrl	82		RCtrl	21	
RPOS	2008		MTCH	411800	
MATH	X:	0064	/:	0080	+: FF9C
Output Format	00		Ave	00	
Left/Right	41				
Range	(Lean) -100% to 99.2% (Rich)				
Description	Short term fuel trim % for B2S1 or B3S1 O2 Sensor. Reports constant 99.2 if No t supported by vehicle				

19	O2 Voltage B2S2 or B3S2	Yes
19b	Short term fuel trim % for B2S2 or B3S2	No

Abbr1	O2	Abbr2	B2S2
TData	07DF 0119 0000		
TCtrl	82	RCtrl	21
RPOS	2008	MTCH	411900
MATH	X: 0064	/: 0080	+: FF9C
Output Format	00	Ave	00
Left/Right	41		
Range	(Lean) -100% to 99.2% (Rich)		
Description	Short term fuel trim % for B2S2 or B3S2 O2 Sensor. Reports constant 99.2 if No t supported by vehicle		

1A	O2 Voltage B2S3 or B4S1	No

Abbr1	O2	Abbr2	B2S3
TData	07DF 011A 0000		
TCtrl	82	RCtrl	21
RPOS	1808	MTCH	411A00
MATH	X 0001	/ 00C8	+ 0000
Output Format	00	Ave	00
Left/Right	22		
Range	0V to 1.25V		
Description	Oscillating output voltage of O2 sensor (No t used for wide band O2 sensors		

1Ab	Short term fuel trim % for B2S3 or B4S1	No

Abbr1	O2	Abbr2	B2S3
TData	07DF 011A 0000		
TCtrl	82	RCtrl	21
RPOS	2008	MTCH	411A00
MATH	X: 0064	/: 0080	+: FF9C
Output Format	00	Ave	00
Left/Right	41		
Range	(Lean) -100% to 99.2% (Rich)		

Description	Short term fuel trim % for B2S3 or B4S1 O2 Sensor. Reports constant 99.2 if No t supported by vehicle

1B	O2 Voltage B2S4 or B4S2	No

Abbr1	O2		Abbr2	B2S4			
TData	07DF 011B 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	411B00			
MATH	X	0001	/	00C8	+	0000	
Output Format	00		Ave	00			
Left/Right	22						
Range	0V to 1.25V						
Description	Oscillating output voltage of B2S4 or B4S2 O2 sensor (No t used for wide band O2 sensors						

1Bb	Short term fuel trim % for B2S4 or B4S2	No

Abbr1	O2		Abbr2	B2S4			
TData	07DF 011B 0000						
TCtrl	82		RCtrl	21			
RPOS	2008		MTCH	411B00			
MATH	X:	0064	/:	0080	+:	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.2% (Rich)						
Description	Short term fuel trim % for B2S4 or B4S2 O2 Sensor. Reports constant 99.2 if No t supported by vehicle						

1C	OBD requirements to which engine is certified	No

Abbr1	OBD		Abbr2				
TData	07DF 011C 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	411C00			
MATH	X:	0001	/:	0001	+:	0000	

Output Format	0F	Ave	00
Left/Right	20		
Range	Hexadecimal Code from 00 to FF		
Description	Static value representing OBD requirements to which vehicle or engine is certified. This is already printed on the vehicle's emission label		

1D	Oxygen Sensors Presence	No

Abbr1	O2		Abbr2	Loc		
TData	07DF 011D 0000					
TCtrl	82		RCtrl	21		
RPOS	1808		MTCH	411D00		
MATH	X:	0001	/:	0001	+:	0000
Output Format	00		Ave	00		
Left/Right	20					
Range	Bit Mapped 8-bit value 0-F					
Description	For vehicles with 3 or 4 banks of sensors (No t common) Each of the 8 bits corresponds to a O2 Sensor location. If the Sensor is present, the bit will be set to 1. The lower the bit position, the closer to the engine for that bank					

Bit position	O2 Sensor
0	B1S1
1	B1S2
2	B2S1
3	B2S2
4	B3S1
5	B3S2
6	B4S1
7	B4S2

1E	Power Take Off (PTO) Status	No

Abbr1	PTO	Abbr2	
TData	07DF 011E 0000		

TCtrl	82			RCtrl	21		
RPOS	1801			MTCH	411E00		
MATH	X:	0001		/:	0001	+:	0000
Output Format	0D			Ave	00		
Left/Right	30						
Range	0n or off						
Description	PTO No t active: Off PTO active: On						
1F	Time Since Engine Start					No	
Abbr1	Tme			Abbr2	ES		
TData	07DF 011F 0000						
TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	411F00		
MATH	X:	0001		/:	0001	+:	0000
Output Format	0E (Time)			Ave	00		
Left/Right	50						
Range	00:00 to 18:12 (18 hours, 12 minutes)						
Description	Increments once the engine is running. Resets to zero during every control module power-up and when entering ignition on, engine off position						
20	Supported next 32 PIDs					No	
21	Distance Traveled While MIL is Activated					Yes	
22	Fuel Pressure relative to manifold vacuum					No	
Abbr1	Fuel			Abbr2	PSI		
TData	07DF 0122 0000						
TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	412200		
MATH	X:	143A		/:	FFFF	+:	0000
Output Format	11 (PSI)			Ave	00		
Left/Right	31						
Range	0 to 750.9 PSI						

Description	Fuel Pressure relative to manifold vacuum						
23	Fuel Rail Pressure (PSI)						Yes
24	Wide O2 Lambda - Bank 1, Sensor 1						Yes
Abbr1	O2?		Abbr2	B1S1			
TData	07DF 0124 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	412400			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B1S1 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						
25	Wide O2 Lambda - Bank 1, Sensor 2						Yes
Abbr1	O2?		Abbr2	B1S2			
TData	07DF 0125 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	412500			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B1S2 ? = 1 = ideal mixture ? > 1 = lean mixture						

	? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)

26	Wide O2 Lambda - Bank 1, Sensor 3						No
Abbr1	O2?			Abbr2	B1S3		
TData	07DF 0126 0000						
TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	412600		
MATH	X	0002	/	FFFF	+	0000	
Output Format	00			Ave	00		
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B1S3 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

27	Wide O2 Lambda- Bank 1, Sensor 4						No
Abbr1	O2?			Abbr2	B1S4		
TData	07DF 0127 0000						
TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	412700		
MATH	X	0002	/	FFFF	+	0000	
Output Format	00			Ave	00		
Left/Right	23						

Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B1S4 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						
28	Wide O2 Lambda - Bank 2, Sensor 1						Yes
Abbr1	O2?		Abbr2	B2S1			
TData	07DF 0128 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	412800			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B2S1 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						
29	Wide O2 Lambda - Bank 2, Sensor 2						Yes
Abbr1	O2?		Abbr2	B2S2			
TData	07DF 0129 0000						
TCtrl	82		RCtrl	21			

RPOS	1810		MTCH	412900			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B2S2 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

2A	Wide O2 Lambda - Bank 2, Sensor 3	No

Abbr1	O2?		Abbr2	B2S3			
TData	07DF 012A 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	412A00			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B2S3 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

2B	Wide O2 Lambda - Bank 2, Sensor 4						No
Abbr1	O2?		Abbr2	B2S4			
TData	07DF 012B 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	412B00			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	wide-ratio Oxygen Sensors Lambda for B2S4 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						
2C	EGR % Flow Commanded						Yes
2D	EGR % Error						Yes
2E	Evaporative Purge % Commanded						Yes
2F	Fuel Level %						Yes
30	Number of warm-ups since DTCs cleared						Yes
31	Distance traveled since DTCs cleared						Yes
32	Evap System Vapor Pressure						Yes
33	Barometric Pressure						Yes
34	Wide O2 Lambda -Bank 1. Sensor 1						Yes
Abbr1	O2?		Abbr2	B1S1			
TData	07DF 0134 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413400			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			

Left/Right	23		
Range	0 to 1.999		
Description	Current based wide-ratio Oxygen Sensors Lambda for B1S1 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)		

35	Wide O2 Lambda - Bank 1, Sensor 2	Yes

Abbr1	O2?		Abbr2	B1S2			
TData	07DF 0135 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413500			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B1S2 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

36	Wide O2 Lambda - Bank 1, Sensor 3	No

Abbr1	O2?	Abbr2	B1S3
TData	07DF 0136 0000		

TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	413600		
MATH	X	0002	/	FFFF	+	0000	
Output Format	00			Ave	00		
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B1S3 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						
37	Wide O2 Lambda - Bank 1, Sensor 4					No	
Abbr1	O2?			Abbr2	B1S4		
TData	07DF 0137 0000						
TCtrl	82			RCtrl	21		
RPOS	1810			MTCH	413700		
MATH	X	0002	/	FFFF	+	0000	
Output Format	00			Ave	00		
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B1S4 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require						

	adjusting the MATH)

38	Wide O2 Lambda - Bank 2, Sensor 1	Yes

Abbr1	O2?		Abbr2	B2S1			
TData	07DF 0138 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413800			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B2S1 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

39	Wide O2 Lambda - Bank 2, Sensor 2	Yes

Abbr1	O2?		Abbr2	B2S2			
TData	07DF 0139 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413900			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B2S2 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details.						

	(No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)

3A	Wide O2 Lambda - Bank 2, Sensor 3	No

Abbr1	O2?		Abbr2	B2S3			
TData	07DF 013A 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413A00			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						
Description	Current based wide-ratio Oxygen Sensors Lambda for B2S3 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)						

3B	Wide O2 Lambda - Bank 2, Sensor 4	No

Abbr1	O2?		Abbr2	B2S4			
TData	07DF 013B 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	413B00			
MATH	X	0002	/	FFFF	+	0000	
Output Format	00		Ave	00			
Left/Right	23						
Range	0 to 1.999						

Description	Current based wide-ratio Oxygen Sensors Lambda for B2S4 ? = 1 = ideal mixture ? > 1 = lean mixture ? < 1 = rich mixture See UltraGauge user manual for details. (No te that this parameter may be scaled depending on vehicle, which will require adjusting the MATH)

3C	Catalytic Converter Temperature - Bank 1, Sensor 1	Yes
3D	Catalytic Converter Temperature - Bank 2, Sensor 1	Yes
3E	Catalytic Converter Temperature - Bank 1, Sensor 2	Yes
3F	Catalytic Converter Temperature - Bank 2, Sensor 2	Yes
40	Supported next 32 PIDs	No
41	Monitor status this driving cycle	No
42	Control module voltage	Yes
43	Absolute Load	Yes
44	AFR commanded ratio	Yes
45	Relative Throttle Position %	No

Abbr1	RTP			Abbr2	%		
TData	07DF 0145 0000						
TCtrl	82			RCtrl	21		
RPOS	1808			MTCH	414500		
MATH	X	0064	/	00FF	+	0000	
Output Format	00			Ave	00		
Left/Right	31						
Range	0 to 100%						
Description	Relative or “learned” throttle position is No rmalized and scaled from 0 to 100 %						

	0% = “learned” closed-throttle position. Because of the closed-throttle offset, wide-open throttle will usually indicate substantially less than 100 %

46	Ambient Air Temp	Yes
47	Absolute Throttle Position B %	Yes
48	Absolute Throttle Position C %	No

Abbr1	ATP		Abbr2	C%			
TData	07DF 0148 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	414800			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						
Description	Absolute throttle position C (No t “relative” or “learned”) A No rmalized value, scaled from 0 to 100 %						

49	Accelerator Pedal Position D %	Yes

Abbr1	APP		Abbr2	D%			
TData	07DF 0149 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	4149800			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						
Description	Absolute throttle position D (						

	No t “relative” or “learned”) A No rmalized value, scaled from 0 to 100 %

4A	Accelerator Pedal Position E %					No
Abbr1	APP		Abbr2	E%		
TData	07DF 014A 0000					
TCtrl	82		RCtrl	21		
RPOS	1808		MTCH	414A800		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	0 to 100%					
Description	Accelerator Pedal Position E, (No t “relative” or “learned”) A No rmalized value, scaled from 0 to 100 %					

4B	Accelerator Pedal Position F %					No
Abbr1	APP		Abbr2	F%		
TData	07DF 014B 0000					
TCtrl	82		RCtrl	21		
RPOS	1808		MTCH	414B00		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	0 to 100%					
Description	Accelerator Pedal Position F, (No t “relative” or “learned”)					

	A No rmalized value, scaled from 0 to 100 %

4C	Commanded Throttle Actuator Control %	Yes
4D	Engine Run Time while MIL on	No

Abbr1	RT		Abbr2	MIL	
TData	07DF 014D 0000				
TCtrl	82		RCtrl	21	
RPOS	1810		MTCH	414D00	
MATH	X	0001	/ 0001	+	0000
Output Format	00		Ave	00	
Left/Right	50				
Range	0 to 65,535 minutes (~45 days)				
Description	Engine Run Time since MIL (Check engine light) on. Does No t wrap				

4E	Engine Run Time since DTCs cleared	No

Abbr1	RT		Abbr2	DTC	
TData	07DF 014E 0000				
TCtrl	82		RCtrl	21	
RPOS	1810		MTCH	414E00	
MATH	X	0001	/ 0001	+	0000
Output Format	00		Ave	00	
Left/Right	50				
Range	0 to 65,535 minutes (~45 days)				
Description	Engine Run Time since DTC (Trouble Codes) cleared. Does No t wrap				

52	Alcohol Fuel %	No

Abbr1	ALC	Abbr2	%
TData	07DF 0152 0000		
TCtrl	82	RCtrl	21

RPOS	1808		MTCH	415200			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						
Description	Percentage of alcohol (etha No l or metha No l) in the fuel blend supplied to the combustion chamber						
53	Absolute Evap System Vapor Pressure					No	
Abbr1	EVP		Abbr2	PSI			
TData	07DF 0153 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	415300			
MATH	X	0001	/	00C8	+	0000	
Output Format	11		Ave	00			
Left/Right	22						
Range	0 to 47.5 PSI						
Description	Absolute evaporative system vapor pressure No rmally obtained from a sensor located in the fuel tank. No t gauge pressure. An absolute vacuum would be 0 PSI						
54	Evap System Vapor Pressure					No	
Abbr1	EVP		Abbr2	PSI			
TData	07DF 0154 0000						
TCtrl	82		RCtrl	21			
RPOS	1890		MTCH	415400			
MATH	X	0001	/	03E8	+	0000	
Output Format	11		Ave	00			
Left/Right	22						

Range	-4.75 to 4.75 PSI						
Description	Evaporative system vapor pressure No rmally obtained from a sensor located in the fuel tank. Gauge pressure.						
55	Short Term Secondary O2 Fuel Trim % – Bank 1					No	
Abbr1	Srt		Abbr2	FT1			
TData	07DF 0155 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415500			
MATH	X	0064	/	0080	+	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.22% (Rich)						
Description	Short Term Secondary O2 Sensor Fuel Trim indicates the correction currently being utilized by the closed-loop fuel system. If the fuel system is in open loop, 0% correction is displayed						
56	Long Term Secondary O2 Fuel Trim % – Bank 1					No	
Abbr1	Lng		Abbr2	FT1			
TData	07DF 0156 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415600			
MATH	X	0064	/	0080	+	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.22% (Rich)						
Description	Long Term Secondary O2 Sensor Fuel Trim indicates the correction currently being utilized by the fuel system regardless of loop status						
57	Short Term Secondary O2 Fuel Trim % – Bank 2					No	
Abbr1	Srt		Abbr2	FT2			

TData	07DF 0157 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415700			
MATH	X	0064	/	0080	+	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.22% (Rich)						
Description	Short Term Secondary O2 Sensor Fuel Trim indicates the correction currently being utilized by the closed-loop fuel system. If the fuel system is in open loop, 0% correction is displayed						
58	Long Term Secondary O2 Fuel Trim % – Bank 2					No	
Abbr1	Lng		Abbr2	FT2			
TData	07DF 0158 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415800			
MATH	X	0064	/	0080	+	FF9C	
Output Format	00		Ave	00			
Left/Right	41						
Range	(Lean) -100% to 99.22% (Rich)						
Description	Long Term Secondary O2 Sensor Fuel Trim indicates the correction currently being utilized by the fuel system regardless of loop status						
59	Fuel Rail Pressure (absolute)					No	
Abbr1	FRP		Abbr2	PSI			
TData	07DF 0159 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	415900			
MATH	X	000A	/	0001	+	0000	
Output Format	11 (PSI)		Ave	00			
Left/Right	50						
Range	(vacuum) 0 to 95,050 PSI						

Description	Absolute fuel rail pressure at the engine. No t gauge pressure. Found on Diesel and Direct Injection engines

5A	Accelerator Pedal Relative Position %	No

Abbr1	APRP		Abbr2	%			
TData	07DF 015A 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415A00			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	30						
Range	0 to 100%						
Description	Relative or “learned” pedal position No rmalized and scaled from 0 to 100 %. “learned” closed-pedal position = 0%						

5B	Hybrid/EV Battery Remaining Charge %	No

Abbr1	SOC		Abbr2	%			
TData	07DF 015B 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	415B00			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						
Description	The percent of charge remaining for the battery pack, expressed as a percentage of full charge, commonly referred to as State Of Charge (SOC).						

5C	Engine Oil Temperature	Yes
5D	Fuel Injection Timing	Yes
5E	Engine Fuel Rate	Yes
60	Supported next 32 PIDs	No
61	Commanded Engine % Torque	No

Abbr1	TRQ		Abbr2	CM%			
TData	07DF 0161 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	416100			
MATH	X	0001	/	0001	+	FF83	
Output Format	00		Ave	00			
Left/Right	40						
Range	-125% to 130%						
Description	Commanded engine torque by the driver as a % of maximum						
62	Actual Engine % Torque					No	
Abbr1	TRQ		Abbr2	%			
TData	07DF 0162 0000						
TCtrl	82		RCtrl	21			
RPOS	1808		MTCH	416200			
MATH	X	0001	/	0001	+	FF83	
Output Format	00		Ave	00			
Left/Right	40						
Range	-125% to 130%						
Description	Calculated output torque of the engine						
63	Engine Reference Torque					No	
Abbr1	TRQ		Abbr2	Ref			
TData	07DF 0163 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	416300			
MATH	X	0001	/	0001	+	0000	
Output Format	13		Ave	00			
Left/Right	50						
Range	0 to 48,336 ft lbs						
Description	Torque 100% reference value for all defined indicated engine torque parameters. It is only defined once, is a constant, and doesn't change if a different engine torque map becomes valid.						
66	Mass Air Flow A					No	

Abbr1	MAPA			Abbr2			
TData	07DF 0166 0000						
TCtrl	82			RCtrl	21		
RPOS	2010			MTCH	416600		
MATH	X	0001	/	0020	+	0000	
Output Format	00			Ave	00		
Left/Right	41						
Range	0 to 2047.9 grams/second						
Description	The Mass Air Flow measured entering the engine as measured by MAF sensor A **Output Format** / **Units** 00 / grams/sec 15 / lbs/min 16 / lbs/hour						
66b	Mass Air Flow B					No	
Abbr1	MAPB			Abbr2			
TData	07DF 0166 0000						
TCtrl	82			RCtrl	21		
RPOS	3010			MTCH	416600		
MATH	X	0001	/	0020	+	0000	
Output Format	00			Ave	00		
Left/Right	41						
Range	0 to 2047.9 grams/second						
Description	The Mass Air Flow measured entering the engine as measured by MAF sensor B **Output Format** / **Units** 00 / grams/sec 15 / lbs/min 16 / lbs/hour						
67	Engine Coolant Temperature 1					No	
Abbr1	Eng			Abbr2	1°F		

TData	07DF 0167 0000						
TCtrl	82		RCtrl	21			
RPOS	2008		MTCH	416700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 415°F						
Description	Alternate Engine Coolant temperature Sensor 1						

67b	Engine Coolant Temperature 2					No	
Abbr1	Eng		Abbr2	2°F			
TData	07DF 0167 0000						
TCtrl	82		RCtrl	21			
RPOS	2808		MTCH	416700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 415°F						
Description	Alternate Engine Coolant temperature Sensor 2						

68	Intake Air Temperature - Bank 1, Sensor 1					Yes	
Abbr1	IAT		Abbr2	B1S1			
TData	07DF 0168 0000						
TCtrl	82		RCtrl	22			
RPOS	2808		MTCH	416800			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 415°F						
Description	Intake Air Temperature Sensor bank 1, Sensor 1						

68b	Intake Air Temperature - Bank 1, Sensor 2					Yes
Abbr1	IAT		Abbr2	B1S2		
TData	07DF 0168 0000					
TCtrl	82		RCtrl	22		
RPOS	3008		MTCH	416800		
MATH	X	0001	/	0001	+	FFD8
Output Format	10		Ave	00		
Left/Right	31					
Range	-40°F to 415°F					
Description	Intake Air Temperature bank 1, Sensor 2					

68c	Intake Air Temperature - Bank 1, Sensor 3					Yes
Abbr1	IAT		Abbr2	B1S3		
TData	07DF 0168 0000					
TCtrl	82		RCtrl	22		
RPOS	3808		MTCH	416800		
MATH	X	0001	/	0001	+	FFD8
Output Format	10		Ave	00		
Left/Right	31					
Range	-40°F to 415°F					
Description	Intake Air Temperature bank 1, Sensor 3					

69	Commanded EGR A Duty Cycle/Position					Yes
Abbr1	CEGR		Abbr2	A%		
TData	07DF 0169 0000					
TCtrl	82		RCtrl	22		
RPOS	2808		MTCH	416900		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	(No flow) 0% to 100% (max flow)					
Description	Commanded EGR % No rmalized to the maximum EGR commanded output					

69b	Actual EGR A Duty Cycle/Position					Yes
Abbr1	EGR		Abbr2	A%		
TData	07DF 0169 0000					
TCtrl	82		RCtrl	22		
RPOS	3008		MTCH	416900		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	(No flow) 0% to 100% (max flow)					
Description	Actual EGR % No rmalized to the maximum EGR commanded output					

69c	EGR A Error %					Yes
Abbr1	EGRA		Abbr2	Er%		
TData	07DF 0169 0000					
TCtrl	82		RCtrl	22		
RPOS	3808		MTCH	416900		
MATH	X	0064	/	0080	+	FF9C
Output Format	00		Ave	00		
Left/Right	41					
Range	(< cmd) -100% to 99.2% (> cmd)					
Description	EGR error, as a percent of commanded EGR					

6A	Commanded Diesel Intake A Air Flow %					No
Abbr1	CIAF		Abbr2	A%		
TData	07DF 016A 0000					
TCtrl	82		RCtrl	21		
RPOS	2008		MTCH	416A00		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	(closed throttle) 0% to 100% (wide open)					

Description	Commanded Intake Air Flow %. Also k No wn as EGR throttle

6Ab	Relative Diesel Intake Air Flow A Position %	No

Abbr1	RIAF		Abbr2	A%			
TData	07DF 016A 0000						
TCtrl	82		RCtrl	21			
RPOS	2808		MTCH	416A00			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	(closed throttle) 0% to 100% (wide open)						
Description	Intake Air Flow position displayed as a percent. Relative or learned position is a No rmalized value, scaled from 0 to 100%. Intake Air Flow position is also k No wn as EGR Throttle Position on compression ignition vehicles						

6Ac	Commanded Diesel Intake B Air Flow %	No

Abbr1	CIAF		Abbr2	B%			
TData	07DF 016A 0000						
TCtrl	82		RCtrl	21			
RPOS	3008		MTCH	416A00			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	(closed throttle) 0% to 100% (wide open)						
Description	Commanded Intake Air Flow %. Also k No wn as EGR throttle						

6Ad	Relative Diesel Intake Air Flow B Position %	No

Abbr1	RIAF			Abbr2	B%		
TData	07DF 016A 0000						
TCtrl	82			RCtrl	21		
RPOS	3808			MTCH	416A00		
MATH	X	0064	/	00FF	+	0000	
Output Format	00			Ave	00		
Left/Right	31						
Range	(closed throttle) 0% to 100% (wide open)						
Description	Intake Air Flow position displayed as a percent. Relative or learned position is a No rmalized value, scaled from 0 to 100%. Intake Air Flow position is also k No wn as EGR Throttle Position on compression ignition vehicles						
6B	EGR Temperature - Bank 1, Sensor 1				No		
Abbr1	EGR			Abbr2	B1S1		
TData	07DF 016B 0000						
TCtrl	82			RCtrl	21		
RPOS	2008			MTCH	416B00		
MATH	X	0001 0004	/	0001	+	FFD8	
Output Format	10			Ave	00		
Left/Right	31						
Range	-40°F to 419°F (1796F)						
Description	EGR Temperature Bank 1, Sensor 1 Two possible X: values. Use which ever makes sense based on the output at ambient temperature (when cold)						
6Bb	EGR Temperature - Bank 1, Sensor 2				No		
Abbr1	EGR			Abbr2	B1S2		
TData	07DF 016B 0000						
TCtrl	82			RCtrl	21		

RPOS	2808		MTCH	416B00			
MATH	X	0001 0004	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F (1796F)						
Description	EGR Temperature Bank 1, Sensor 2 Two possible X: values. Use which ever makes sense based on the output at ambient temperature (when cold)						
6Bc	EGR Temperature - Bank 2, Sensor 1					No	
Abbr1	EGR		Abbr2	B2S1			
TData	07DF 016B 0000						
TCtrl	82		RCtrl	21			
RPOS	3008		MTCH	416B00			
MATH	X	0001 0004	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F (1796F)						
Description	EGR Temperature Bank 2, Sensor 1 Two possible X: values. Use which ever makes sense based on the output at ambient temperature (when cold)						
6Bd	EGR Temperature - Bank 2, Sensor 2					No	
Abbr1	EGR		Abbr2	B2S2			
TData	07DF 016B 0000						
TCtrl	82		RCtrl	21			
RPOS	3808		MTCH	416B00			
MATH	X	0001 0004	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F (1796F)						

Description	EGR Temperature Bank 2, Sensor 2 Two possible X: values. Use which ever makes sense based on the output at ambient temperature (when cold)

6D	Commanded Fuel Rail Pressure A	Yes

Abbr1	CFRA		Abbr2	PSI			
TData	07DF 016D 0000						
TCtrl	82		RCtrl	22			
RPOS	2810		MTCH	416D00			
MATH	X	000A	/	0001	+	0000	
Output Format	11		Ave	00			
Left/Right	50						
Range	0 to 95,050 PSI						
Description	Commanded fuel Rail A pressure						

6Dc	Fuel Rail A Temperature	Yes

Abbr1	FRA		Abbr2	°F			
TData	07E0 016D 0000						
TCtrl	92		RCtrl	10			
RPOS	1008		MTCH	210000			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Fuel Rail A temperature						

6Dd	Commanded Fuel Rail B Pressure	Yes

Abbr1	CFRB		Abbr2	PSI			
TData	07E0 016D 0000						
TCtrl	92		RCtrl	10			
RPOS	1810		MTCH	210000			
MATH	X	000A	/	0001	+	0000	
Output Format	11		Ave	00			
Left/Right	50						
Range	0 to 95,050 PSI						
Description	Commanded Fuel Rail B pressure						

6De	Fuel Rail B Pressure					Yes
Abbr1	FRB		Abbr2	PSI		
TData	07E0 016D 0000					
TCtrl	92		RCtrl	10		
RPOS	2810		MTCH	210000		
MATH	X	000A	/	0001	+	0000
Output Format	11		Ave	00		
Left/Right	50					
Range	0 to 95,050 PSI					
Description	Fuel Rail B pressure					

6Df	Fuel Rail B Temperature					Yes
Abbr1	FRB		Abbr2	°F		
TData	07E0 016D 0000					
TCtrl	92		RCtrl	10		
RPOS	3808		MTCH	210000		
MATH	X	0001	/	0001	+	FFD8
Output Format	10		Ave	00		
Left/Right	31					
Range	-40°F to 419°F					
Description	Fuel Rail B temperature					

6E	Commanded Injection Control A Pressure					Yes
Abbr1	ICPA		Abbr2	PSI		
TData	07DF 016E 0000					
TCtrl	82		RCtrl	22		
RPOS	2810		MTCH	016E00		
MATH	X	000A	/	0001	+	0000
Output Format	11		Ave	00		
Left/Right	50					
Range	0 to 95,050 PSI					
Description	Commanded Injection Control Pressure A					

6Ec	Commanded Injection Control B Pressure					Yes
Abbr1	ICPB		Abbr2	PSI		
TData	07E0 016E 0000					

TCtrl	92		RCtrl	10			
RPOS	1010		MTCH	210000			
MATH	X	000A	/	0001	+	0000	
Output Format	11		Ave	00			
Left/Right	50						
Range	0 to 95,050 PSI						
Description	Commanded Injection Control Pressure B						
6Ed	Injection Control B Pressure					Yes	
Abbr1	ICPB		Abbr2	PSI			
TData	07E0 016E 0000						
TCtrl	92		RCtrl	10			
RPOS	2010		MTCH	210000			
MATH	X	000A	/	0001	+	0000	
Output Format	11		Ave	00			
Left/Right	50						
Range	0 to 95,050 PSI						
Description	Injection Control Pressure B						
6F	Turbocharger Compressor Inlet Pressure A					No	
Abbr1	TrbA		Abbr2	PSI			
TData	07DF 016F 0000						
TCtrl	82		RCtrl	21			
RPOS	2008		MTCH	416F00			
MATH	X	0001 0008	/	0001	+	0000	
Output Format	11		Ave	00			
Left/Right	31						
Range	(vacuum) 0 to 37 PSI (or 295.8 PSI)						
Description	Absolute Turbocharger Compressor Inlet Pressure Sensor A. Two possible X: values. Use which ever makes sense based on observation						
6Fb	Turbocharger Compressor Inlet Pressure B					No	
Abbr1	TrbB		Abbr2	PSI			
TData	07DF 016F 0000						

TCtrl	82			RCtrl	21		
RPOS	2808			MTCH	416F00		
MATH	X	0001 0008	/	0001	+	0000	
Output Format	11			Ave	00		
Left/Right	31						
Range	(vacuum) 0 to 37 PSI (or 295.8 PSI)						
Description	Absolute Turbocharger Compressor Inlet Pressure Sensor B. Two possible X: values. Use which ever makes sense based on observation						

70	Commanded Boost Pressure A	Yes

Abbr1	CBA			Abbr2	PSI		
TData	07DF 0170 0000						
TCtrl	82			RCtrl	22		
RPOS	2810			MTCH	417000		
MATH	X	0001	/	0020	+	0000	
Output Format	11			Ave	00		
Left/Right	31						
Range	0 to 297 PSI						
Description	turbocharger/supercharger A commanded boost pressure						

70c	Commanded Boost Pressure B	Yes

Abbr1	CBB			Abbr2	PSI		
TData	07E0 0170 0000						
TCtrl	92			RCtrl	10		
RPOS	1010			MTCH	210000		
MATH	X	0001	/	0020	+	0000	
Output Format	11			Ave	00		
Left/Right	31						
Range	0 to 297 PSI						
Description	turbocharger/supercharger B commanded boost pressure						

70d	Boost Pressure B	Yes

Abbr1	BstB	Abbr2	PSI

TData	07E0 0170 0000						
TCtrl	92		RCtrl	10			
RPOS	2010		MTCH	210000			
MATH	X	0001	/	0020	+	0000	
Output Format	11		Ave	00			
Left/Right	31						
Range	0 to 297 PSI						
Description	turbocharger/supercharger B boost pressure						

71	Commanded Variable Geometry Turbo A Position	Yes

Abbr1	CVG		Abbr2	TrbA			
TData	07DF 0171 0000						
TCtrl	82		RCtrl	22			
RPOS	2808		MTCH	417100			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	(bypassed) 0% to 100% (No t bypassed)						
Description	Commanded Variable Geometry Turbo A Position						

71b	Variable Geometry Turbo A Position	Yes

Abbr1	VG		Abbr2	TrbA			
TData	07DF 0171 0000						
TCtrl	82		RCtrl	22			
RPOS	3008		MTCH	417100			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	(bypassed) 0% to 100% (No t bypassed)						
Description	Variable Geometry Turbo A Position						

71c	Commanded Variable Geometry Turbo B	Yes

	Position		
Abbr1	CVG	Abbr2	TrbB
TData	07DF 0171 0000		
TCtrl	82	RCtrl	22
RPOS	3808	MTCH	417100
MATH	X 0064	/ 00FF	+ 0000
Output Format	00	Ave	00
Left/Right	31		
Range	(bypassed) 0% to 100% (No t bypassed)		
Description	Commanded Variable Geometry Turbo B Position		

71d	Variable Geometry Turbo B Position		Yes
Abbr1	VG	Abbr2	TrbB
TData	07E0 0171 0000		
TCtrl	92	RCtrl	10
RPOS	0808	MTCH	210000
MATH	X 0064	/ 00FF	+ 0000
Output Format	00	Ave	00
Left/Right	31		
Range	(bypassed) 0% to 100% (No t bypassed)		
Description	Variable Geometry Turbo B Position		

72	Wastegate A Position		No
Abbr1	WGA	Abbr2	Pos%
TData	07DF 0172 0000		
TCtrl	82	RCtrl	21
RPOS	2808	MTCH	417200
MATH	X 0064	/ 00FF	+ 0000
Output Format	00	Ave	00
Left/Right	31		
Range	(closed) 0% to 100% (full open)		
Description	Wastegate A Position		

72b	Wastegate B Position					No
Abbr1	WGB		Abbr2	Pos%		
TData	07DF 0172 0000					
TCtrl	82		RCtrl	21		
RPOS	3808		MTCH	417200		
MATH	X	0064	/	00FF	+	0000
Output Format	00		Ave	00		
Left/Right	31					
Range	(closed) 0% to 100% (full open)					
Description	Wastegate B Position					

73	Exhaust Pressure - Bank 1					Yes
Abbr1	EP1		Abbr2	PSI		
TData	07DF 0173 0000					
TCtrl	82		RCtrl	21		
RPOS	2010		MTCH	417300		
MATH	X	0001	/	0064	+	0000
Output Format	11		Ave	00		
Left/Right	31					
Range	0 to 95 PSI					
Description	Exhaust Pressure Sensor Bank 1					

73b	Exhaust Pressure - Bank 2					No
Abbr1	EP2		Abbr2	PSI		
TData	07DF 0173 0000					
TCtrl	82		RCtrl	21		
RPOS	3010		MTCH	417300		
MATH	X	0001	/	0064	+	0000
Output Format	11		Ave	00		
Left/Right	31					
Range	0 to 95 PSI					
Description	Exhaust Pressure Sensor Bank 2					

74	Turbocharger A RPM					No
Abbr1	TrbA		Abbr2	RPM		
TData	07DF 0174 0000					

TCtrl	82			RCtrl	21		
RPOS	2010			MTCH	417400		
MATH	X	0001	/	0064	+	0000	
Output Format	00			Ave	00		
Left/Right	32						
Range	0 to 655.350K RPM						
Description	Turbocharger A RPM in units of 1K RPMs 15.67 = 15,670 RPMs						

74b	Turbocharger B RPM	No

Abbr1	TrbB			Abbr2	RPM		
TData	07DF 0174 0000						
TCtrl	82			RCtrl	21		
RPOS	3010			MTCH	417400		
MATH	X	0001	/	0064	+	0000	
Output Format	00			Ave	00		
Left/Right	32						
Range	0 to 655.350K RPM						
Description	Turbocharger B RPM in units of 1K RPMs 55.67 = 55,670 RPMs						

75	Turbocharger A Compressor Inlet Temperature	Yes

Abbr1	TrbA			Abbr2	I°F		
TData	07DF 0175 0000						
TCtrl	82			RCtrl	22		
RPOS	2808			MTCH	417500		
MATH	X	0001	/	0001	+	FFD8	
Output Format	10			Ave	00		
Left/Right	31						
Range	-40°F to 419°F						
Description	Turbocharger A Compressor Inlet Temperature						

75b	Turbocharger A Compressor Outlet Temperature	Yes

Abbr1	TrbA			Abbr2	O°F		

TData	07DF 0175 0000						
TCtrl	82		RCtrl	22			
RPOS	3008		MTCH	417500			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Turbocharger A Compressor Outlet Temperature						
76	Turbocharger B Compressor Inlet Temperature					Yes	
Abbr1	TrbB		Abbr2	I°F			
TData	07DF 0176 0000						
TCtrl	82		RCtrl	22			
RPOS	2808		MTCH	417600			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Turbocharger B Compressor Inlet Temperature						
76b	Turbocharger B Compressor Outlet Temperature					Yes	
Abbr1	TrbB		Abbr2	O°F			
TData	07DF 0176 0000						
TCtrl	82		RCtrl	22			
RPOS	3008		MTCH	417600			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Turbocharger B Compressor Outlet Temperature						
77	Charge Air Cooler Temperature - Bank 1, Sensor 1					Yes	
Abbr1	CAT		Abbr2	B1S1			

TData	07DF 0177 0000						
TCtrl	82		RCtrl	21			
RPOS	2008		MTCH	417700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Charge Air Cooler Temperature Bank 1, Sensor 1						
77b	Charge Air Cooler Temperature - Bank 1, Sensor 2					No	
Abbr1	CAT		Abbr2	B1S2			
TData	07DF 0177 0000						
TCtrl	82		RCtrl	21			
RPOS	2808		MTCH	417700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Charge Air Cooler Temperature Bank 1, Sensor 2						
77c	Charge Air Cooler Temperature - Bank 2, Sensor 1					No	
Abbr1	CAT		Abbr2	B2S1			
TData	07DF 0177 0000						
TCtrl	82		RCtrl	21			
RPOS	3008		MTCH	417700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Charge Air Cooler Temperature Bank 2, Sensor 1						
77d	Charge Air Cooler Temperature - Bank 2, Sensor 2					No	
Abbr1	CAT		Abbr2	B2S2			

TData	07DF 0177 0000						
TCtrl	82		RCtrl	21			
RPOS	3808		MTCH	417700			
MATH	X	0001	/	0001	+	FFD8	
Output Format	10		Ave	00			
Left/Right	31						
Range	-40°F to 419°F						
Description	Charge Air Cooler Temperature Bank 2, Sensor 2						

78	Exhaust Gas Temperature - Bank 1, Sensor 1	Yes

Abbr1	EGT		Abbr2	1°F			
TData	07DF 0178 0000						
TCtrl	82		RCtrl	22			
RPOS	2810		MTCH	417800			
MATH	X	0001	/	000A	+	FFD8	
Output Format	10		Ave	00			
Left/Right	50						
Range	-40°F to 11,756 °F						
Description	Exhaust Gas Temperature Bank 1, Sensor 1						

78b	Exhaust Gas Temperature - Bank 1, Sensor 2	Yes

Abbr1	EGT		Abbr2	2°F			
TData	Not supported						
TCtrl			RCtrl				
RPOS			MTCH				
MATH	X		/		+		
Output Format			Ave				
Left/Right							
Range							
Description	Not supported						

78c	Exhaust Gas Temperature - Bank 1, Sensor 3	Yes

Abbr1	EGT		Abbr2	3°F	
TData	07E0 0178 0000				
TCtrl	92		RCtrl	10	
RPOS	1010		MTCH	210000	
MATH	X	0001	/ 000A	+	FFD8
Output Format	10		Ave	00	
Left/Right	50				
Range	-40°F to 11,756 °F				
Description	Exhaust Gas Temperature Bank 1, Sensor 3				

78d	Exhaust Gas Temperature - Bank 1, Sensor 4	Yes

Abbr1	EGT		Abbr2	4°F	
TData	07E0 0178 0000				
TCtrl	92		RCtrl	10	
RPOS	2010		MTCH	210000	
MATH	X	0001	/ 000A	+	FFD8
Output Format	10		Ave	00	
Left/Right	50				
Range	-40°F to 11,756 °F				
Description	Exhaust Gas Temperature Bank 1, Sensor 4				

79	Exhaust Gas Temperature - Bank 2, Sensor 1	Yes

Abbr1	EGT		Abbr2	1°F	
TData	07DF 0179 0000				
TCtrl	82		RCtrl	22	
RPOS	2810		MTCH	417900	
MATH	X	0001	/ 000A	+	FFD8
Output Format	10		Ave	00	
Left/Right	50				
Range	-40°F to 11,756 °F				
Description	Exhaust Gas Temperature Bank 2, Sensor 1				

79b	Exhaust Gas Temperature - Bank 2, Sensor 2	Yes

Abbr1	EGT		Abbr2		2°F		
TData	No t supported						
TCtrl			RCtrl				
RPOS			MTCH				
MATH	X		/		+		
Output Format			Ave				
Left/Right							
Range							
Description	No t supported						

79c	Exhaust Gas Temperature - Bank 2, Sensor 3	Yes

Abbr1	EGT		Abbr2		3°F		
TData	07E0 0179 0000						
TCtrl	92		RCtrl		10		
RPOS	1010		MTCH		210000		
MATH	X	0001	/	000A	+	FFD8	
Output Format	10		Ave		00		
Left/Right	50						
Range	-40°F to 11,756 °F						
Description	Exhaust Gas Temperature Bank 2, Sensor 3						

79d	Exhaust Gas Temperature - Bank 2, Sensor 4	Yes

Abbr1	EGT		Abbr2		4°F		
TData	07E0 0179 0000						
TCtrl	92		RCtrl		10		
RPOS	2010		MTCH		210000		
MATH	X	0001	/	000A	+	FFD8	
Output Format	10		Ave		00		
Left/Right	50						
Range	-40°F to 11,756 °F						
Description	Exhaust Gas Temperature Bank 2, Sensor 4						

7A	Diesel Particulate Filter Delta Pressure -	Yes

	Bank 1		
Abbr1	DPF	Abbr2	B1
TData	07DF 017A 0000		
TCtrl	82	RCtrl	22
RPOS	2890	MTCH	417A00
MATH	X 0001	/ 0064	+ 0000
Output Format	11	Ave	00
Left/Right	31		
Range	-47.53 to 47.53 PSI		
Description	Diesel Particulate Filter Bank 1 Delta Pressure		

7Ab	Diesel Particulate Filter Inlet Pressure - Bank 1	Yes

Abbr1		Abbr2	
TData	No T SUPPORTED		
TCtrl		RCtrl	
RPOS		MTCH	
MATH	X	/	+
Output Format		Ave	
Left/Right			
Range			
Description			

7Ac	Diesel Particulate FilterOutlet Pressure - Bank 1	Yes

Abbr1	DPFO	Abbr2	1PSI
TData	07E0 017A 0000		
TCtrl	92	RCtrl	10
RPOS	1010	MTCH	210000
MATH	X 0001	/ 0064	+ 0000
Output Format	11	Ave	00
Left/Right	22		
Range	0 to 95 PSI		
Description	Diesel Particulate Filter Bank 1 Outlet Pressure		

7B	Diesel Particulate Filter Delta Pressure - Bank 2						Yes
Abbr1	DPFD		Abbr2	B2			
TData	07DF 017B 0000						
TCtrl	82		RCtrl	22			
RPOS	2890		MTCH	417B00			
MATH	X	0001	/	0064	+	0000	
Output Format	11		Ave	00			
Left/Right	31						
Range	-47.5 to 47.5 PSI						
Description	Diesel Particulate Filter Bank 2 Delta Pressure						

7Bb	Diesel Particulate Filter Inlet Pressure - Bank 2						Yes
Abbr1			Abbr2				
TData	No t supported						
TCtrl			RCtrl				
RPOS			MTCH				
MATH	X		/		+		
Output Format			Ave				
Left/Right							
Range							
Description	No t supported						

7Bc	Diesel Particulate Filter Outlet Pressure - Bank 2						Yes
Abbr1	DPFO		Abbr2	2PSI			
TData	07E0 017B 0000						
TCtrl	92		RCtrl	10			
RPOS	1010		MTCH	210000			
MATH	X	0001	/	0064	+	0000	
Output Format	11		Ave	00			
Left/Right	22						
Range	0 to 95 PSI						

Description	Diesel Particulate Filter Bank 2 Outlet Pressure						
7C	DPF Inlet Temperature - Bank 1					Yes	
Abbr1	DPFI		Abbr2	1°F			
TData	07DF 017C 0000						
TCtrl	82		RCtrl	22			
RPOS	2810		MTCH	417C00			
MATH	X	0001	/	0064	+	FFD8	
Output Format	10		Ave	00			
Left/Right	50						
Range	-40°F to 11,756 °F						
Description	DPF Bank 1 Inlet Temperature Sensor						
7Cb	DPF Outlet Temperature - Bank 1					Yes	
Abbr1			Abbr2				
TData	Not supported						
TCtrl			RCtrl				
RPOS			MTCH				
MATH	X		/		+		
Output Format			Ave				
Left/Right							
Range							
Description	Not supported						
7Cc	DPF Inlet Temperature - Bank 2					Yes	
Abbr1	DPFI		Abbr2	2°F			
TData	07E0 017C 0000						
TCtrl	92		RCtrl	10			
RPOS	1010		MTCH	210000			
MATH	X	0001	/	0064	+	FFD8	
Output Format	10		Ave	00			
Left/Right	50						
Range	-40°F to 11,756 °F						
Description	DPF Bank 1 Inlet Temperature Sensor						

7Cd	DPF Outlet Temperature - Bank 2			Yes
Abbr1	DPFO	Abbr2	2°F	
TData	07E0 017C 0000			
TCtrl	92	RCtrl	10	
RPOS	2010	MTCH	210000	
MATH	X 0001	/ 0064	+ FFD8	
Output Format	10	Ave	00	
Left/Right	50			
Range	-40°F to 11,756 °F			
Description	DPF Bank 2 Outlet Temperature Sensor			

7F	Total Idle Run Time			Yes
Abbr1	TIRT	Abbr2		
TData	07E0 017F 0000			
TCtrl	92	RCtrl	10	
RPOS	1020	MTCH	210000	
MATH	X 0001	/ 0001	+ 0000	
Output Format	0B 0C	Ave	00	
Left/Right	50 41			
Range	0 to 137,491 hours 0 to 5728.8 days			
Description	This is incremented in seconds when the accelerator pedal is No t pressed, idle RPM, speed less than 1 MPH No te that this is potentially a huge number, larger than UG can display. For all practical purposes, the maximum is 99,999 hours Alternatively, Output Format can be set to days (0C), then the maximum is 5,728.8 days. If so, set Left/Right to 41			

80	Supported next 32 PIDs					No
84	Manifold Surface Temperature					No
Abbr1	Man		Abbr2	°F		
TData	07DF 0184 0000					
TCtrl	82		RCtrl	21		
RPOS	1808		MTCH	418400		
MATH	X	0001	/	0001	+	FFD8
Output Format	10		Ave	00		
Left/Right	31					
Range	-40°F to 419°F					
Description	Manifold Surface Temperature					
85a	Average Reagent Consumption					Yes
Abbr1	DEF		Abbr2	Rate		
TData	07DF 0185 0000					
TCtrl	82		RCtrl	22		
RPOS	2810		MTCH	418500		
MATH	X	0001	/	00C8	+	0000
Output Format	14		Ave	00		
Left/Right	31					
Range	0 to 86.6 gallons/hour					
Description	Average reagent consumption in gallons per hour by the engine system either over the previous complete 48 hour period of engine operation or the period needed for a demanded reagent consumption of at least 4 gallons, whichever is longer. No TE: consumption shall indicate zero g/h when the engine is No t running.					
85b	Reagent Tank Level %					Yes
Abbr1	DEF		Abbr2	Lvl%		
TData	07E0 0185 0000					
TCtrl	92		RCtrl	10		
RPOS	1008		MTCH	210000		

MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave		00		
Left/Right	31						
Range	0 to 100%						
Description	No minal reagent tank liquid fill capacity as a percent of maximum						
86a	PM Mass Concentration - Bank 1					No	
Abbr1	PM		Abbr2		MC1		
TData	07DF 0186 0000						
TCtrl	82		RCtrl		21		
RPOS	2010		MTCH		418600		
MATH	X	0001	/	0050	+	0000	
Output Format	00		Ave		00		
Left/Right	32						
Range	0 mg/m3 to 819.19 mg/m3						
Description	PM Sensor Mass Concentration Bank 1						
86b	PM Mass Concentration - Bank 2					No	
Abbr1	PM		Abbr2		MC2		
TData	07DF 0186 0000						
TCtrl	82		RCtrl		21		
RPOS	3010		MTCH		418600		
MATH	X	0001	/	0050	+	0000	
Output Format	00		Ave		00		
Left/Right	32						
Range	0 mg/m3 to 819.19 mg/m3						
Description	PM Sensor Mass Concentration Bank 2						
87	Intake Manifold Absolute Pressure A					No	
Abbr1	MAP		Abbr2		APSI		
TData	07DF 0187 0000						
TCtrl	82		RCtrl		21		
RPOS	2010		MTCH		418700		
MATH	X	0001	/	0020	+	0000	
Output Format	11		Ave		00		

Left/Right	31						
Range	0 to 297 PSI						
Description	Intake Manifold Absolute Pressure A						
87b	Intake Manifold Absolute Pressure B						No
Abbr1	MAP		Abbr2	BPSI			
TData	07DF 0187 0000						
TCtrl	82		RCtrl	21			
RPOS	3010		MTCH	418700			
MATH	X	0001	/	0020	+	0000	
Output Format	11		Ave	00			
Left/Right	31						
Range	0 to 297 PSI						
Description	Intake Manifold Absolute Pressure B						
8Ba	Trigger for DPF Regen %						Yes
Abbr1	DPF		Abbr2	Rgn%			
TData	07DF 018B 0000						
TCtrl	82		RCtrl	22			
RPOS	3008		MTCH	418B00			
MATH	X	0064	/	00FF	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0%(Clean) to 100% (Regen No w)						
Description	The No rmalized DPF loading, time, distance, drive cycles or other criteria before the next DPF regen, where 0% means the DPF is clean (a complete regen just occurred) and 100% means the DPF is ready to be regenerated. When there are multiple criteria to trigger a regen, the one that is closest to triggering the regen shall be displayed.						
8Bb	Average Distance Between DPF Regens						Yes

Abbr1	DPF		Abbr2	Dst			
TData	07E0 018B 0000						
TCtrl	92		RCtrl	10			
RPOS	1010		MTCH	210000			
MATH	X	7FFF	/	CDFD	+	0000	
Output Format	00		Ave	00			
Left/Right	50						
Range	0 to 40721 miles						
Description	Average distance between sucessful DPF Regens						

8Bc	Diesel Particulate Filter (DPF) Regen Status	Yes

Abbr1	DPF		Abbr2	RG			
TData	07DF 018B 0000						
TCtrl	82		RCtrl	22			
RPOS	2801		MTCH	418B00			
MATH	X	0001	/	0001	+	0000	
Output Format	0D		Ave	00			
Left/Right	30						
Range	0 or 1						
Description	1 = DPF Regen in progress 0 = DPF Regen No t in progress						

8Ca	O2 Sensor Concentration % Bank 1 Sensor 1	Yes

Abbr1	O2%		Abbr2	B1S1			
TData	07DF 018C 0000						
TCtrl	82		RCtrl	22			
RPOS	2810		MTCH	418C00			
MATH	X	0001	/	028F	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						

Description	O2 Sensor Concentration % Bank 1 Sensor 1						
8Cb	O2 Sensor Concentration Bank 1 Sensor 2					Yes	
Abbr1			Abbr2				
TData	No T SUPPORTED						
TCtrl			RCtrl				
RPOS			MTCH				
MATH	X		/		+		
Output Format			Ave				
Left/Right							
Range							
Description							

8Cc	O2 Sensor Concentration % Bank 2 Sensor 1					Yes	
Abbr1	O2%		Abbr2	B2S1			
TData	07E0 018C 0000						
TCtrl	92		RCtrl	10			
RPOS	1010		MTCH	210000			
MATH	X	0001	/	028F	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						
Description	O2 Sensor Concentration % Bank 2 Sensor 1						

8Cd	O2 Sensor Concentration % Bank 2 Sensor 2					Yes	
Abbr1	O2%		Abbr2	B2S2			
TData	07E0 018C 0000						
TCtrl	92		RCtrl	10			
RPOS	2010		MTCH	210000			
MATH	X	0001	/	028F	+	0000	
Output Format	00		Ave	00			
Left/Right	31						
Range	0 to 100%						

Description	O2 Sensor Concentration % Bank 2 Sensor 2						
8E	Engine Friction Torque %					No	
Abbr1	EF		Abbr2	Trq%			
TData	07DF 018E 0000						
TCtrl	82		RCtrl	21			
RPOS	1810		MTCH	418E00			
MATH	X	0001	/	0001	+	FF83	
Output Format	00		Ave	00			
Left/Right	40						
Range	-125% to 130%						
Description	Friction Torque is the torque required to drive the engine alone as “fully equipped”. Friction torque is the percent of engine reference torque						
8Fa	Particulate Matter (PM) Sensor Output Bank 1 Sensor 1					Yes	
Abbr1	PM		Abbr2	B1S1			
TData	07DF 018F 0000						
TCtrl	82		RCtrl	22			
RPOS	3090		MTCH	418F00			
MATH	X	0001	/	0064	+	0000	
Output Format	00		Ave	00			
Left/Right	40						
Range	-327.7 to 327.7%						
Description	100% shall represent manufacturer defined sensor soot load level when sensor regeneration is needed. 0% shall represent fully cleaned / regenerated sensor. No description of the meaning of values greater than 100% or less than 0%						
8Fb	Particulate Matter (PM) Sensor Output Bank 2 Sensor 1					Yes	
Abbr1	PM		Abbr2	B2S1			

TData	07E0 018F 0000						
TCtrl	92		RCtrl		10		
RPOS	1090		MTCH		210000		
MATH	X	0001	/	0064	+	0000	
Output Format	00		Ave		00		
Left/Right	40						
Range	-327.7 to 327.7%						
Description	100% shall represent manufacturer defined sensor soot load level when sensor regeneration is needed. 0% shall represent fully cleaned / regenerated sensor. No description of the meaning of values greater than 100% or less than 0%						

Some of the gauges above have subscripts, such as 14b, 14c, etc. This means that the particular gauge has multi-parts for multi-sensors/multi-banks. Only the primary number will be output with Factory Test and the vehicle may support one or more of the gauges. Some vehicles may support the gauge only to report that it does not support the gauge. If the code is entered correctly, but a static value is displayed, the vehicle likely does not support the gauge.