MBE - Fault Codes for EPA98 engines (non-EGR)

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
Grid Heater	45	PID 45	3	VCU	Open Circuit
			4		Shorted to Ground
			14		Special Instructions. What fault condition triggers this fault?
			12	PLD	Grid Heater defect
Vehicle Speed Sensor	84	PID 84	1	VCU	Antitamper fault 1
			5		Antitamper fault 2
			0		Data valid but above normal operational range
			4		Shorted to Ground
			3		Open Circuit
			14		Speed signal not plausible
Accelerator Position Percentage	91	PID 91	3	VCU	Voltage Above Normal or Shorted to High Source
			2		Data Erratic
			4		Voltage Below Normal or Shorted to Low Source
Fuel Pressure	94	PID 94	3	PLD	Open Circuit
			4		Shorted to Ground
			0		Sensor data over MAX
			1		Sensor data under MIN
			2		Sensor data not correct
			14		measured data not correct
Engine Oil Level	98	PID 98	14	VCU	Data Valid but Very Low
			0		Data Valid but Above Normal
			1		Data Valid but Below Normal
Engine Oil Level	98	PID 98	3	PLD	Oil Level Sensor Min
			4		Oil Level Sensor Max
			5		Open Circuit
			2		Reading Erroneous
			2		Oil Level to High or to Low

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
Engine Oil Pressure	100	PID 100	14	VCU	Data Valid but Very Low
			1		Data Valid but Below Normal
Engine Oil Pressure	100	PID 100	3	PLD	Open Circuit
			2		Data Erratic
			4		Shorted To Ground
			14		Oil Pressure to Low
Boost Pressure	102	PID 102	0	PLD	Above Normal
			1		Below Normal
			2		Data Erratic
			3		Open Circuit
			4		Shorted to Ground
			13		regulator for same speed at limit
			13		control target out of range
			13		Boost Pressure out of range
			13		Boost Pressure out of range
			13		Boost Pressure out of range
			13		Boost Brake Torque out of range
Intake Manifold Temperature	105	PID 105	3	PLD	Open Circuit
			4		Shorted to Ground
			0		Data valid but Above Normal
Air Filter Sensor	107	PID 107	0	VCU	Data valid but above normal
			3		Open Circuit
			4		Shorted to Ground
Engine Coolant Temperature	110	PID 110	14	VCU	Data Valid but Very High
			0		Data Valid but Above Normal
Engine Coolant Temperature	110	PID 110	4	PLD	Shorted To Ground
			3		Open Circuit
			0		Coolant Temperature to High

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
Coolant Level	111	PID 111	1	VCU	Data Valid but Below Normal
			3		Open Circuit
			4		Shorted to Ground
			14		Data Valid but very low
Battery Voltage – Switched	158	PID 158	0	VCU	Data Valid but Above Normal
			1		Data Valid but Below Normal
Battery Voltage – Switched	158	PID 158	2	PLD	No Match of PLD and VCU Signals
			0		Above Normal
Battery Voltage	168	PID 168	3	PLD	Voltage Above Normal
			4		Voltage Below Normal
Fuel Temperature	174	PID 174	3	PLD	Open Circuit
			4		Shorted to Ground
Engine Oil Temperature	175	PID 175	3	PLD	Open Circuit
			4		Shorted to Ground
Engine Speed	190	PID 190	0	PLD	Above Normal
Cruise Control - VCU internal error	527	SID 254	12	VCU	
Idle Validation Switch	558	SID 230	5	VCU	Open Circuit
			12		Both IVS Contacts Closed
			1		Wiring idle validation switch GAS1 and GAS2 twisted or open circuit at potentiometer ground FP-
Cruise Control Switch Contact SET+COAST	599	SID 242	12	VCU	Both SET and RES contacts closed at the same time
Cruise Control Switch Contact RES+ACC	601	SID 243	12	VCU	Both SET and RES contacts closed at the same time
Anti Theft Device	609	SID 233	2	PLD	Wrong Key
			14		Counter Overflow
			9		No Transponder Code on Hardwire
			2		No Transponder Code on proprietary Data Link

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
			11		Self Locking Active
			0		No Additional Key Can Be Learned
PLD EEPROM	609	SID 233	14	PLD	Checksum Error 3
			14		Checksum Error 2
PLD Bad Device (used only if starter control by PLD is programmed in PLD EEPROM)	609	SID 233	12	PLD	Starter Driver Stage Failed (Non-Conductive)
			12		Starter Driver Path 1 Failed (Conductive)
			12		Starter Driver Path 2 Failed (Conductive)
PLD Bad Device (all PWM outputs will be switched off if one HS driver fails)	609	SID 233	12	PLD	High Side Driver Failed (Conductive)
			12		HighSide PVB1 defect
			12		HighSide PVB2 defect
			12		High Side PV5 defect
PLD Bad Device	609	SID 233	12	PLD	RAM Area for CAN Failed
			11		data map manipulated / delayed "switch off" defect
PLD Programming Wrong	609	SID 233	14	PLD	Wrong # Of Cylinders Programmed
			14		# Of Cylinders Does Not Match Engine Type
			14		Calibration PWM Outputs Not Valid
			14		Set of Maps Erroneous
			14		Wrong Hardware Reference
PLD Bad Device (used only if starter control by PLD is programmed in PLD EEPROM)	609	SID 233	12	PLD	Redundant Starter Driver Failed
			12		Starter Driver Voltage Reading Not Plausible

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
PLD Bad Device	609	SID 233	12	PLD	Limp Home Controller Failed
			11		Delayed switch Off system failed or data map manipulated
PLD EEPROM	609	SID 233	14	PLD	Checksum Error 1
PLD Bad Device Press. Sensor	609	SID 233	12	PLD	Open Circuit
			12		Shorted to ground
Throttle Pedal Supply	620	SID 232	2	VCU	Data Erratic
			3		Above Normal
			4		Below Normal
Proprietary Data Link	625	SID 248	14	VCU	CAN High Line Filed
			14		CAN Low Line Filed
			2		No Communication to PLD
			2		PLD Data Erroneous
Proprietary Data Link	625	SID 248	2	PLD	VCU Data Erroneous
			2		No Communication to VCU
			14		CAN_Low Line Failed
			14		CAN_High Line Failed
			14		Calibration not valid What is behind this fault?
VCU Internal Error	629	SID 254	12	VCU	Checksum Fault
Crankshaft Position Sensor	636	SID 21	1	PLD	Signal Voltage to Low
			7		No Match of Camshaft and Crankshaft Signals
			8		Time Out
			14		Pin’s Swapped
			4		Shorted to Ground
			3		Open Circuit
Injector Cylinder #1	651	SID 1	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
			4		Shorted to Ground
			4		Shorted to Ground
			3		Shorted to Ubat
			3		Shorted to Ubat
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #2	652	SID 2	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #3	653	SID 3	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #4	654	SID 4	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #5	655	SID 5	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #6	656	SID 6	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #7	657	SID 7	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or 3Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Injector Cylinder #8	658	SID 8	6	PLD	Shorted Circuit
			7		No Plunger
			5		Current Below Normal or Open Circuit
			12		Idle Smoothness Governor at Limit
			14		Single Cylinder Correction at Limit
Engine Starter Motor Relay (used only if starter control by PLD is programmed in PLD EEPROM)	677	SID 39	7	PLD	Starter Does Not Engage
			14		Relay Jammed
			3		Shorted to High Source (Extern Current)
			6		Shorted to Ground
			5		Open Circuit
Engine Starter Motor Relay (Starter Lockout)	677	SID 39	6	VCU	Shorted to Ground
			5		Open Circuit
Auxiliary PWM Driver #1 (Exhaust Flap or Variable Geometry Turbocharger)	697	SID 57	6	PLD	High Side Line Shorted to Ground
			3		Shorted to Ub
			5		Open Circuit
			3		Shorted to UB on PWM Bank 1
			4		Shorted to Ground on PWM Bank 1
Auxiliary PWM Driver #2 (Constant Throttle Valve or Decompression Engine Retarded)	698	SID 58	6	PLD	High Side Line Shorted to Ground
			3		Shorted to Ub
			3		High Side Line Shorted to High Source
			5		Low Side Line Shorted to Ground or Open Circuit (PLD SW Verison 51)

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
Auxiliary PWM Driver #3 (Dual Sp. Fan Low Stage or Single Sp. Fan)	699	SID 59	6	PLD	High Side Line Shorted to Ground
			5		Open Circuit
			3		Shorted to Ub
Auxiliary PWM Driver #4 (Dual Speed Fan High Stage or Single Sp. Fan)	700	SID 60	6	PLD	High Side Line Shorted to Ground
			5		Open Circuit
			3		Shorted to Ub
Camshaft Position Sensor	723	SID 64	8	PLD	Time Out
			14		Pin's Swapped
			4		Shorted to Ground
			3		Open Circuit
Grid Heater	730	SID 38	0	VCU	No increasing boost temperature after activation
			1		Grid Heater relay permanently closed
			2		Grid Heater relay permanently open
			3		Open Circuit
			4		Shorted to Ground
Throttle Select	969	SID 29	TBD		Can currently not be detected
Throttle Inhibit	972	SID 29	TBD		Can currently not be detected
Remote Throttle Pedal Supply	974	SID 29	3	VCU	Open Load
			4		Shorted To Ground
			2		Out of Range
Fan Speed	986	SID 159	0	PLD	Time out
Accessory bus shutdown	1004	SID 56	3	VCU	Open Circuit
			4		Shorted to Ground
Gear output 1	1005	SID 43	3	VCU	Open Circuit
			4		Shorted to Ground
Gear output 2	1006	SID 44	3	VCU	Open Circuit
			4		Shorted to Ground

Text	SPN	PID/ SID	FMI	VCU PLD	FMI text
J1939 Data Link	639	SID 231	2	VCU	PGN ETC1 was received at least one time and is no missing
Auxiliary I/O #05 (PWM)	705	SID 53	3	PLD	Shorted to Ubat
			4		Shorted to Ground
			11		Shorted to UB on Bank 2
			11		Shorted to Ground on Bank 2
Auxiliary I/O #06 (PWM)	706	SID 54	3	PLD	Open Circuit
Turbo Charger 1 / 2	103	PID 103	7	PLD	no revolution on Charger 1
			14		no revolution on Charger 2
Oil separator	611	SID 151	12	PLD	Oil separator defect
			4		Diagnosis Shorted to Ground