

MID 128 - CAT

CAT

PID/SID	FMI	Fault Code	Fault Description
1	11	72	Cylinder 1 Fault
2	11	72	Cylinder 2 Fault
3	11	73	Cylinder 3 Fault
4	11	73	Cylinder 4 Fault
5	11	74	Cylinder 5 Fault
6	11	74	Cylinder 6 Fault
22	13	42	Check Timing Sensor Calibration
30	8	29	Invalid PTO Throttle Signal
	13	29	PTO Throttle Sensor Calibration
41	3	21	Volt Supply Above Normal
	4	21	Volt Supply Below Normal
71	0	1	Idle Shutdown Override
	1	47	Idle Shutdown Occurrence
84	0	41	Vehicle Over speed Warning
	1	31	Loss of Vehicle Speed Signal
	2	36	Invalid Vehicle Speed Signal
	8	36	Vehicle Speed Out of Range
	10	36	Vehicle Speed Rate of Change
91	8	32	Invalid Throttle Signal
	13	28	Throttle Sensor Calibration
100	1	46	Low Oil Pressure Warning
	3	24	Oil Pressure Sensor Open Circuit
	4	24	Oil Pressure Sensor Short Circuit
	11	46	Very Low Oil Pressure
102	0	25	Boost Pressure Sensor Stuck High
	3	25	Boost Pressure Sensor Open Circuit
	4	25	Boost Pressure Sensor Short Circuit
	13	42	Boost Pressure Sensor Calibration
105	0	64	High Intake Manifold Air Temp. Sensor Open Circuit
	3	38	Intake Manifold Air Temp. Sensor Open Circuit

CAT (Continued)

PID/SID	FMI	Fault Code	Fault Description
105	4	38	Intake Manifold Air Temp. Sensor Short Circuit
	11	64	Very High Intake Manifold Air Temp
108	3	26	Atmospheric Press. Sensor Open Circuit
	4	26	Atmospheric Press. Sensor Short Circuit
110	0	61	High Coolant Temperature Warning
	3	27	Coolant Temp Sensor Open Circuit
	4	27	Coolant Temp Sensor Short Circuit
	11	61	Very High Coolant Temperature
111	1	62	Low Coolant Level Warning
	2	12	Coolant Level Sensor Fault
	11	62	Very Low Coolant Level
121	5	14	Retarder Solenoid Lo/Hi Open Circuit
	6	14	Retarder Solenoid Lo/Hi Short Circuit
122	5	14	Retarder Solenoid Med/Hi Open Circuit
	6	14	Retarder Solenoid Med/Hi Short Circuit
168	2	51	Low/Intermittent Battery Power to ECM
174	0	65	High Fuel Temperature Warning
	3	13	Fuel Temperature Sensor Open Circuit
	4	13	Fuel Temperature Sensor Short Circuit
190	0	35	Engine Over speed Warning
	2	34	Loss of Engine RPM Signal
228	3	19	A/C High Pressure Switch Open Circuit
231	11	58	J1939 Data Link Fault
232	3	21	Volt Supply Above Normal
	4	21	Volt Supply Below Normal
244	2	2	Event Recorder Data Lost
249	11	58	Power train Data Link Fault
252	11	59	Incorrect Engine Software
	12	59	Personality Module Fault
253	2	56	Check Customer or System Parameters
254	12	53	ECM Fault

MID 128 - Cummins

Cummins

PID/SID	FMI	Fault Code	Fault Description
1	6	311	Cylinder 1 Fault
		322	Cylinder 1 Fault
	7	1139	Injector Cylinder #1
2	6	315	Cylinder 2 Fault
		331	Cylinder 2 Fault
	7	1141	Injector Cylinder #2
3	6	313	Cylinder 3 Fault
		324	Cylinder 3 Fault
	7	1142	Injector Cylinder #3
4	6	321	Cylinder 4 Fault
		332	Cylinder 4 Fault
	7	1143	Injector Cylinder #4
5	6	312	Cylinder 5 Fault
		323	Cylinder 5 Fault
	7	1144	Injector Cylinder #5
6	6	314	Cylinder 6 Fault
		325	Cylinder 6 Fault
	7	1145	Injector Cylinder #6
9	11	768	Output Device Driver
15	1	583	Fuel Supply Pump Inlet Pressure Sensor
	3	581	Fuel Supply Pump Inlet Pressure Sensor
	4	582	Fuel Supply Pump Inlet Pressure Sensor
17	1	219	Low Oil Level
	2	472	Engine Oil Level #2
		473	Engine Oil Level #2
	4	254	Low Voltage Detected on Fuel Shutoff Solenoid
	7	259	Fuel Shutoff Valve
11	391	Fuel Shutoff Valve	
18	2	468	Fuel Rail Actuator Circuit
	3	276	Fuel Injection Control Valve
		455	Fuel Control Valve Circuit

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
18	4	279	Fuel Injection Control Valve
		378	Fueling Actuator #1
	6	379	Fueling Actuator #1
		277	Fuel Injection Control Valve
	11	514	Fuel Control Valve Circuit
		539	Injector Control Valve Electronic Filter
	13	2311	Fuel Control Valve #1
		493	Fuel Pump Calibration Trim Circuit Error
19	0	349	Transmission Output Shaft Speed
20	2	467	Timing Rail Actuator Circuit
	3	113	Engine Timing Actuator
	4	114	Engine Timing Actuator
	5	394	Timing Actuator #1
	6	395	Timing Actuator #1
	7	112	Engine Timing Actuator
	11	2312	Timing Actuator #1
22	0	555	Engine Blow by - Warning Level
	3	719	Crankcase Pressure Sensor
	4	729	Crankcase Pressure Sensor
23	6	172	Rack Position Sensor
	7	173	Rack Actuator
24	3	166	Rack Position Sensor
25	14	599	OEM Commanded Dual Output Shut-down
26	3	255	Externally Supplied Voltage at of the following: Fuel Shutoff Valve, Fan Clutch, Engine Brake
27	0	9122	Variable Geometry Turbocharger
		957	EGR Position Sensor Circuit
	2	1228	EGR Position Sensor Circuit
		2271	EGR Valve Position Sensor Circuit
	3	2277	Variable Geometry Turbocharger Actuator #1

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
27	3	2385	Variable Geometry Turbocharger
27	4	2272	EGR Valve Position Sensor Circuit
		2278	Variable Geometry Turbocharger Actuator #1
		2384	Variable Geometry Turbocharger
	5	2383	Variable Geometry Turbocharger
	6	2386	Variable Geometry Turbocharger
	7	2387	Variable Geometry Turbocharger
	13	2348	EGR Valve Position
		2388	Variable Geometry Turbocharger
29	2	288	SAE J1939 Data Link Remote Throttle Data
	3	133	Remote Accelerator Pedal Position Sensor
		133	Remote Accelerator Pedal Position Sensor
	4	134	Remote Accelerator Pedal Position Sensor
		134	Remote Accelerator Pedal Position Sensor
30	2	237	External Speed Input
32	4	466	Turbocharger #1 Wastgate Control Circuit
33	3	2181	Fan Clutch Output Device Driver
		2377	Fan Clutch Output Device Driver
	4	245	Clutch Fan Low Voltage
	11	389	Fan Clutch Circuit Error
39	3	584	Starter Relay Circuit
	4	585	Starter Relay Circuit
40	3	527	Auxiliary Input/Output #2
51	3	529	Auxiliary Input/Output #3
	11	779	Auxiliary Equipment Sensor Input #3
	14	2195	Auxiliary Equipment Sensor Input #3
57	3	2557	Auxiliary PWM Driver #1
	4	2558	Auxiliary PWM Driver #1

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
64	2	753	Engine Speed/Position #2
		778	Engine Speed Sensor #2
		2322	Engine Speed Sensor #2
	7	731	Engine Speed Sensor #2
70	3	2555	Inlet Air Heater Driver #1
	4	2556	Inlet Air Heater Driver #1
73	11	278	Fuel Priming Pump
78	3	316	Fuel Supply Pump Actuator
	7	318	Fuel Supply Pump Actuator
83	5	396	Fueling Actuator #2
	6	397	Fueling Actuator #2
84	2	241	Loss of Vehicle Speed Signal
	5	398	Timing Actuator #2
	6	399	Timing Actuator #2
	12	242	Invalid Vehicle Speed Signal
85	4	223	Engine Oil Burn Valve Solenoid
86	4	225	Engine Oil Burn Valve Solenoid
91	2	287	SAE J1939 Data Link Remote Accelerator Pedal
		431	No Voltage Detected at Idle Validation Switch
		551	Voltage Detected simultaneously at Idle Validation Switch
	3	131	High Voltage detected at Throttle Sensor
		515	Accelerator Pedal Position Sensor
	4	132	Low Voltage detected at Throttle Sensor
		516	Accelerator Pedal Position Sensor
	8	147	Accelerator Pedal Position Sensor
		148	Accelerator Pedal Position Sensor
	13	432	Voltage Detected at Idle Validation Switch
93	2	528	OEM Alternate Torque Validation Switch
94	0	449	Fuel Pressure High
		2216	Fuel Pump Deliver Pressure

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
94	1	482	Fuel Pressure Low
		2215	Fuel Pump Deliver Pressure
	2	268	Fuel Pressure Sensor
	3	546	Fuel Delivery Pressure Sensor
	4	547	Fuel Delivery Pressure Sensor
95	0	2372	Fuel Filter Restriction Moderately High - Warning
97	0	418	Water in Fuel Indicator
	3	428	Water in Fuel Indicator
	4	429	Water in Fuel Indicator
98	1	253	Engine Oil Level
		471	Engine Oil Level Low
	2	252	Engine Oil Level
100	1	143	Low Oil Pressure
		415	Low Oil Pressure Warning
	2	435	Engine Oil Pressure Sensor
	3	135	High Voltage detected at Oil Pressure Sensor
	4	141	Low Voltage detected at Oil Pressure Sensor
102	2	433	High Boost Pressure
		2973	Boost Pressure
	3	122	High Voltage Detected at Boost Pressure Sensor
	4	123	Low Voltage Detected at Boost Pressure Sensor
103	0	595	Turbocharger #1 High Speed
		595	Turbocharger Speed #1
	1	687	Turbocharger Speed #1
	10	2345	Turbocharger Speed Invalid
105	0	155	Intake Manifold Air Temperature Above 200 Deg. F
		488	Intake Manifold Air Temperature High
		2964	Intake Manifold #1 Temp

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
105	3	153	High Voltage Detected at Intake Manifold Air Temperature Sensor
	4	154	Low Voltage Detected at Intake Manifold Air Temperature Sensor
108	2	295	Ambient Air Pressure Sensor
	3	221	Atmospheric Pressure Sensor
	4	222	Atmospheric Pressure Sensor
109	1	233	Engine Coolant Pressure Sensor
	3	231	Engine Coolant Pressure Sensor
	4	232	Engine Coolant Pressure Sensor
110	0	151	Coolant Temperature Above 220 Deg F
		1119	Engine Coolant Temp
		2963	Engine Coolant Temp High
	3	144	High Voltage Detected at Coolant Temperature Sensor
	4	145	Low Voltage Detected at Coolant Temperature Sensor
111	1	197	Coolant Level
		235	Low Coolant Level Warning
	2	422	Very Low Coolant Level
	3	195	Coolant Level
	4	196	Coolant Level
112	0	1236	Water Pump Delta P
	1	1233	Water Pump Delta P
		1234	Water Pump Delta P
	2	1235	Water Pump Delta P
	3	1231	Water Pump Delta P
	4	1232	Water Pump Delta P
113	2	524	OEM Alternate Droop Switch
114	2	497	Multiple Unit Synchronization Switch Circuit
117	11	299	Engine Shut Down Commanded by J1939
121	4	243	Retarder Solenoid Low Voltage
126	3	272	High Fuel Pressure Solenoid Valve #1

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
126	4	271	High Fuel Pressure Solenoid Valve #1
	7	275	Fuel Pump Element #1
		281	High Fuel Pressure Solenoid Valve #1
127	3	274	High Fuel Pressure Solenoid Valve #2
	4	273	High Fuel Pressure Solenoid Valve #2
	7	282	High Fuel Pressure Solenoid Valve #2
129	0	485	Injector Metering Rail #2
	1	486	Injector Metering Rail #2
	3	483	Injector Metering Rail #2
	4	484	Injector Metering Rail #2
	7	758	Injector Metering Rail #2
135	3	118	Fuel Timing Pressure
	4	119	Fuel Timing Pressure
151	3	2355	System Diagnostic Code #1
	4	2356	System Diagnostic Code #1
	11	611	Engine Hot Shutdown
152	2	2554	System Diagnostic Code #2
	7	328	Fuel Pumping Element #2
154	3	293	Auxiliary Temperature Sensor Input #1
		527	Auxiliary Input/Output #2
	4	294	Auxiliary Temperature Sensor Input #1
155	3	2273	System Diagnostic Code #5
		2292	System Diagnostic Code #5
	4	2274	System Diagnostic Code #5
		2293	System Diagnostic Code #5
156	2	423	Fuel Timing Pressure
	3	116	Fuel Timing Pressure
	4	117	Fuel Timing Pressure
157	0	553	Injector Metering Rail #1 Pressure High
		2552	Injector Metering Rail #1 Pressure High
	2	554	Fuel Pressure Sensor
	3	451	Injector Metering Rail #1
	4	452	Injector Metering Rail #1

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description	
157	7	755	Injector Metering Rail #1	
166	2	951	Cylinder Power Imbalance Between Cylinders	
167	0	596	Electrical Charging System	
		597	Electrical Charging System	
		598	Electrical Charging System	
168	0	442	High Battery Power to the ECM	
	1	441	Low or Intermittent Battery Power to the ECM	
171	3	249	Ambient Air Temp	
	4	256	Ambient Air Temp	
173	0	777	Turbocharger #1 Turbine Inlet Temperature high	
174	0	261	Fuel Temperature High	
	3	263	Fuel Temperature Sensor	
	4	265	Fuel Temperature Sensor	
	11	264	Fuel Temperature Sensor	
175	0	214	Oil Temperature Above 255 Deg F	
	3	212	High Voltage Detected at Oil Temperature Sensor	
	4	213	Low Voltage Detected at Oil Temperature Sensor	
190	0	234	Engine Speed Greater than 2630 RPM	
		2	115	Loss of Engine RPM Signal
			369	Fuel Pump Control Module
			689	Engine Speed
			2321	Engine Speed
	10	121	Engine Over speed Warning	
11	367	Fuel Pump Control Module		
191	1	489	Transmission Output Shaft Speed	
216	11	211	Additional OEM/Vehicle Diagnostic Codes Have been Logged	
221	3	283	Engine Speed/Position Sensor #1	
		387	Accelerator Pedal Position Sensor	
	4	284	Engine Speed/Position Sensor #1	

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description
		443	Accelerator Pedal Position Sensor
221	11	496	Engine Speed/Position Sensor #2
223	3	293	Auxiliary Temperature Sensor Input #1
		297	Auxiliary Pressure Sensor Input #2
	4	294	Auxiliary Temperature Sensor Input #1
		298	Auxiliary Pressure Sensor Input #2
	11	2194	Auxiliary Equipment Sensor Input #2
	14	292	Auxiliary Temperature Sensor Input #1
296		Auxiliary Pressure Sensor Input #2	
230	2	431	No Voltage Detected at Idle Valid. Switch
	4	551	Voltage Detected simultaneously at Idle Validation Switch
	13	432	Voltage Detected at Idle Valid. Switch
231	2	185	Engine Control Module
		426	SAE J1939 Data Link
	9	285	SAE J1939 Data Link
	13	286	SAE J1939 Data Link
		427	SAE J1939 Data Link
232	1	444	OEM Sensor Supply Voltage
	3	227	Sensor Supply Voltage
		385	OEM Sensor Supply Voltage
		386	Sensor Supply Voltage #1
	4	187	Sensor Supply Voltage
		352	Volt Supply Below Normal
233	2	184	Engine Control Module
		366	Fuel Pump Control Module
	3	373	Fuel Pump Control Module
	4	365	Fuel Pump Control Module
	7	377	Fuel Pump Control Module
	9	364	Fuel Pump Control Module
	11	372	Fuel Pump Control Module
	12	374	Fuel Pump Control Module
	13	376	Fuel Pump Control Module

Cummins (Continued)

PID/SID	FMI	Fault Code	Fault Description	
233	14	329	Fuel System Leakage Error	
237	1	487	Start Assist Device Control Circuit	
	11	381	Intake Air Heater	
		382	Intake Air Heater	
		384	Start Assist Device Control Circuit	
250	2	412	SAE J1708 (J1587) Data Link	
	9	414	Data Comm. Error over J1587 Data Link	
251	2	319	Real Time Clock	
		434	Battery Voltage at AC Below Normal	
	3	361	Fuel Pump Control Module	
	4	362	Fuel Pump Control Module	
	7	363	Fuel Pump Control Module	
252	12	517	Fuel Metering Solenoid	
		2	1117	Power Supply
		253	2	341
253	12	346	Engine Control Module	
		13	342	Engine Control Module
		254	2	375
254	8	368	Fuel Pump Control Module	
		12	111	ECM Fault
	12	343	ECM Fault	
		351	Controller #1	
411	0	2359	System Diagnostic Code #1	
		2359	System Diagnostic Code #1	
		2273	System Diagnostic Code #5	
		2274	System Diagnostic Code #5	
412	0	2961	System Diagnostic Code #4	
		2962	System Diagnostic Code #4	
	3	2375	System Diagnostic Code #4	
		2376	System Diagnostic Code #4	
		441	3	293
441	4	294	Auxiliary Temperature Sensor Input #1	
		11	2197	OEM Temperature

MID 128 - Detroit Diesel

Detroit Diesel

PID/SID	FMI	Fault Code	Fault Description
1	0	61	Injector #1 Response Time Long
		71	Injector #1 Response Time Short
2	0	61	Injector #2 Response Time Long
		71	Injector #2 Response Time Short
3	0	61	Injector #3 Response Time Long
		71	Injector #3 Response Time Short
4	0	61	Injector #4 Response Time Long
		71	Injector #4 Response Time Short
5	0	61	Injector #5 Response Time Long
		71	Injector #5 Response Time Short
6	0	61	Injector #6 Response Time Long
		71	Injector #6 Response Time Short
7	0	61	Injector #7 Response Time Long
		71	Injector #7 Response Time Short
8	0	61	Injector #8 Response Time Long
		71	Injector #8 Response Time Short
9	0	61	Injector #9 Response Time Long
		71	Injector #9 Response Time Short
10	0	61	Injector #10 Response Time Long
		71	Injector #10 Response Time Short
11	0	61	Injector #11 Response Time Long
		71	Injector #11 Response Time Short
12	0	61	Injector #12 Response Time Long
		71	Injector #12 Response Time Short
13	0	61	Injector #13 Response Time Long
		71	Injector #13 Response Time Short
14	0	61	Injector #14 Response Time Long
		71	Injector #14 Response Time Short
15	0	61	Injector #15 Response Time Long
		71	Injector #15 Response Time Short
16	0	61	Injector #16 Response Time Long

Detroit Diesel (Continued)

PID/SID	FMI	Fault Code	Fault Description
16	0	71	Injector #16 Response Time Short
20	3	81	Dual Fuel BOI Input Voltage High
		82	Dual Fuel BOI Input Voltage Low
21	0	41	Too Many SRS (missing TRS)
	1	42	Too Few SRS (missing SRS)
25	11	26	Aux. Engine Shutdown #1 Input Active
26	3	62	Aux. Output #1 Short to Battery (+)
	4	62	Aux. Output #1 Open Circuit
	7	62	Aux. Output #1 Not Responding
40	3	62	Aux. Output #2 Short to Battery (+)
	4	62	Aux. Output #2 Open Circuit
	7	62	Aux. Output #2 Not Responding
47	0	61	Injector #17 Response Time Long
		71	Injector #17 Response Time Short
48	0	61	Injector #18 Response Time Long
		71	Injector #18 Response Time Short
49	0	61	Injector #19 Response Time Long
		71	Injector #19 Response Time Short
50	0	61	Injector #20 Response Time Long
		71	Injector #20 Response Time Short
51	0	65	Throttle Valve Position Above Normal Range
	1	65	Throttle Valve Position Below Normal Range
	3	17	Throttle Valve Input Voltage High
		31	Aux. Output #3 Open Circuit
	4	18	Throttle Valve Input Voltage Low
		31	Aux. Output #3 Short to Ground
	7	65	Throttle Valve Position Not Responding
52	0	44	Intercooler Temp. High
	3	14	Intercooler Sensor Input Voltage High
		31	Aux. Output #4 Open Circuit
	4	15	Intercooler Sensor Input Voltage Low

Detroit Diesel (Continued)

PID/SID	FMI	Fault Code	Fault Description
52	4	31	Aux. Output #4 Short to Ground
53	3	62	Aux. Output #5 Short to Battery (+)
	4	62	Aux. Output #5 Open Circuit
	7	62	Aux. Output #5 Not Responding
54	3	62	Aux. Output #6 Short to Battery (+)
	4	62	Aux. Output #6 Open Circuit
	7	62	Aux. Output #6 Not Responding
55	3	62	Aux. Output #7 Short to Battery (+)
	4	62	Aux. Output #7 Open Circuit
	7	62	Aux. Output #7 Not Responding
56	3	62	Aux. Output #8 Short to Battery (+)
	4	62	Aux. Output #8 Open Circuit
	7	62	Aux. Output #8 Not Responding
57	3	63	PWM Driver #1 Short to Battery
	4	63	PWM Driver #1 Open Circuit
58	3	63	PWM Driver #2 Short to Battery
	4	63	PWM Driver #2 Open Circuit
59	3	63	PWM Driver #3 Short to Battery
	4	63	PWM Driver #3 Open Circuit
60	3	63	PWM Driver #4 Short to Battery
	4	63	PWM Driver #4 Open Circuit
61	11	26	Aux. Engine Shutdown #2 Input Active
70	4	74	Optimized Idle Safety Loop Short to Ground
			Injector #21 Response Time Long
	3	17	Bypass Position Sensor Input Voltage High
			Bypass Position Sensor Input Voltage Low
73	0	61	Injector #22 Response Time Long
			Injector #22 Response Time Short
			External Pump Pressure High

Detroit Diesel (Continued)

PID/SID	FMI	Fault Code	Fault Description	
73	3	86	Pump Pressure Sensor Input Voltage High	
	4	87	Pump Pressure Sensor Input Voltage Low	
74	0	61	Injector #23 Response Time Long	
		71	Injector #23 Response Time Short	
75	0	61	Injector #24 Response Time Long	
		71	Injector #24 Response Time Short	
76	0	66	Engine Knock Sensor Above Normal Range	
		3	66	Engine Knock Sensor Input Voltage High
		4	66	Engine Knock Sensor Input Voltage Low
		7	66	Engine Knock Sensor Torque Reduction
77	0	73	Gas Valve Position Above Normal Ranger	
		1	73	Gas Valve Position Below Normal Ranger
		3	73	Gas Valve Position Input Voltage High
		4	73	Gas Valve Position Input Voltage Low
84	0	72	Vehicle Over speed (fueled)	
		11	72	Vehicle Over speed (Absolute)
		12	54	Vehicle Speed Sensor Failure
91	3	21	Throttle Position Sensor Input Voltage High	
		4	22	Throttle Position Sensor Input Voltage Low
92	0	58	Torque Overload	
94	0	47	Fuel Pressure High	
		1	48	Fuel Pressure Low
		3	37	Fuel Pressure Sensor Input Voltage High
		4	38	Fuel Pressure Sensor Input Voltage Low
98	0	83	Oil Level High	
		1	84	Oil Level Low
		3	81	Oil Level Sensor Input Voltage High
		4	82	Oil Level Sensor Input Voltage Low

Detroit Diesel (Continued)

PID/SID	FMI	Fault Code	Fault Description
100	1	45	Oil Pressure low
	3	35	Oil Pressure Input Sensor Voltage High
	4	36	Oil Pressure Input Sensor Voltage Low
101	0	83	Crankcase Pressure High
	1	84	Crankcase Pressure Low
	3	81	Crankcase Pressure Sensor Input Voltage High
	4	82	Crankcase Pressure Sensor Input Voltage Low
102	0	47	Turbo Boost Pressure High
	3	33	Turbo Boost Pressure Sensor Input Voltage High
	4	34	Turbo Boost Pressure Sensor Input Voltage Low
103	8	64	Turbo Speed Sensor Input Failure
105	0	44	Intake Air Temp. High
	3	27	Intake Air Temp. Sensor Input Voltage High
	4	28	Intake Air Temp. Sensor Input Voltage Low
106	0	47	Air Inlet Pressure High
	1	48	Air Inlet Pressure Low
	3	67	Air Inlet Pressure Sensor Input Voltage High
	4	67	Air Inlet Pressure Sensor Input Voltage Low
108	3	86	Baro. Pressure Sensor Input Voltage High
	4	87	Baro. Pressure Sensor Input Voltage Low
109	1	88	Coolant Pressure Low
	3	67	Coolant Pressure Sensor Input Voltage High
	4	67	Coolant Pressure Sensor Input Voltage Low
110	0	44	Coolant Temp. High
	1	43	Coolant Temp. Low

Detroit Diesel (Continued)

PID/SID	FMI	Fault Code	Fault Description
110	3	14	Coolant Temp. Sensor Input Voltage High
	4	15	Coolant Temp. Sensor Input Voltage Low
111	3	16	Coolant Level Sensor Input Voltage High
	4	13	Coolant Level Sensor Input Voltage Low
121	0	76	Engine Over speed with Engine Brakes
151	14	73	System Diagnostic Code #1 (ESS)
168	0	75	ECM Battery Voltage High
	1	46	ECM Battery Voltage Low
172	3	27	Air Temp. Sensor Input Voltage High
	4	28	Air Temp. Sensor Input Voltage High
173	0	83	Exhaust Temperature High
	3	83	Exhaust Temp. Pressure Sensor Input Voltage High
	4	83	Exhaust Temp. Pressure Sensor Input Voltage Low
174	3	23	Fuel Temp. Sensor Input Voltage High
	4	24	Fuel Temp. Sensor Input Voltage Low
175	0	44	Oil Temp. High
	3	14	Oil Temp. Sensor Input Voltage High
	4	15	Oil Temp. Sensor Input Voltage Low
187	3	12	VSG Sensor Input Voltage High
	4, 7	11	VSG Sensor Input Voltage Low
190	0	85	Engine Over speed
226	11	73	Transmission Neutral Switch (ESS)
227	2	73	Aux. Analog Input #1 Data Erratic (ESS)
	3	73	Aux. Analog Input #1 Voltage High (ESS)
	4	73	Aux. Analog Input #1 Voltage Low (ESS)
230	5	68	TPS Idle Validation Switch Open Circuit
	6	68	TPS Idle Validation Switch Short to Ground
238	3	32	SEL Short to Battery +
	4	32	SEL Open Circuit

Detroit Diesel (Continued)

PID/ SID	FMI	Fault Code	Fault Description
248	8	55	Proprietary Data Fault (master)
	9	55	Proprietary Data Fault (slave)
249	12	57	J1922 Data Link Fault
250	12	56	J1587 Data Link Fault
251	10	--	Clock Module Abnormal Rate
	13	--	Clock Module Fault
253	2	53	Non Volatile Memory Data Incorrect
	12	53	Non Volatile Memory Fault
	13	--	Incompatible Calibration Version
254	0	--	External Failed RAM
	1	--	Internal Failed RAM
	6	--	Entered Boot Via Switches
	12	52	ECM A/D Conversion Fail
289	3	32	CEL Short to Battery +
	4	32	CEL Open Circuit
-	-	25	No Active Codes

MID 128 - International

International

PID/SID	FMI	Fault Code	Fault Description
		111	No Errors Detected - Fault code only
1	4	431	Cylinder 1: High Side Shorted to Low Side
	5	421	Cylinder 1: High Side to Low Side Open
		571	Cylinder Balance limit exceeded
	6	451	Cylinder 1: High Side Shorted to Ground or VBAT
7	461	Cylinder 1: Cylinder Contribution Test Failed	
2	4	432	Cylinder 2: High Side Shorted to Low Side
	5	422	Cylinder 2: High Side to Low Side Open
		572	Cylinder Balance limit exceeded
	6	452	Cylinder 2: High Side Shorted to Ground or VBAT
7	462	Cylinder 2: Cylinder Contribution Test Failed	
3	4	433	Cylinder 3: High Side Shorted to Low Side
	5	423	Cylinder 3: High Side to Low Side Open
		573	Cylinder Balance limit exceeded
	6	453	Cylinder 3: High Side Shorted to Ground or VBAT
7	463	Cylinder 3: Cylinder Contribution Test Failed	
4	4	434	Cylinder 4: High Side Shorted to Low Side
	5	424	Cylinder 4: High Side to Low Side Open
		574	Cylinder Balance limit exceeded
	6	454	Cylinder 4: High Side Shorted to Ground or VBAT
7	464	Cylinder 4: Cylinder Contribution Test Failed	
5	4	435	Cylinder 5: High Side Shorted to Low Side
* - Indicates WARN ENGINE LAMP on when fault is set.			

International (Continued)

PID/SID	FMI	Fault Code	Fault Description
5	5	425	Cylinder 5: High Side to Low Side Open
		575	Cylinder Balance limit exceeded
	6	455	Cylinder 5: High Side Shorted to Ground or VBAT
7	465	Cylinder 5: Cylinder Contribution Test Failed	
6	4	436	Cylinder 6: High Side Shorted to Low Side
	5	426	Cylinder 6: High Side to Low Side Open
		576	Cylinder Balance limit exceeded
	6	456	Cylinder 6: High Side Shorted to Ground or VBAT
7	466	Cylinder 6: Cylinder Contribution Test Failed	
7	4	437	Cylinder 7: High Side Shorted to Low Side
	5	427	Cylinder 7: High Side to Low Side Open
		577	Cylinder Balance limit exceeded
6	457	Cylinder 7: High Side Shorted to Ground or VBAT	
7	467	Cylinder 7: Cylinder Contribution Test Failed	
8	4	438	Cylinder 8: High Side Shorted to Low Side
	5	428	Cylinder 8: High Side to Low Side Open
		578	Cylinder Balance limit exceeded
	6	458	Cylinder 8: High Side Shorted to Ground or VBAT
7	468	Cylinder 8: Cylinder Contribution Test Failed	
21	2	143	Incorrect number of CMP signal transitions per cam revolution
	7	612*	Incorrect ECM installed for CMP timing wheel
	8	144	CMP Signal Noise Detected
* - Indicates WARN ENGINE LAMP on when fault is set.			

International (Continued)

PID/SID	FMI	Fault Code	Fault Description
21	12	145*	CMP Signal Inactive While ICP has increased
22	2	552	IDM incorrect CMPO signal signature
	8	554	IDM Incorrect CKPO signal signature
	11	553	IDM CKPO signal inactive
	12	551	IDM/CMPO signal inactive
27	0	367*	Incorrect position signal when EGR Valve is expected closed
	2	345	Faults detected during VGT portion of the AMS Test
		346	Faults detected during EGR portion of the AMS Test
	3	164*	Exhaust Gas Recirculation Valve Position Signal out of range high
	4	163*	Exhaust Gas Recirculation Valve Position Signal out of range low
	5	353	Variable Geometry Turbo control over duty cycle
	6	354	Variable Geometry Turbo control under duty cycle
	8	366*	EGR valve operating outside of the expected range
	10	361	VGT control input (MAP/EBP) above/below desired level
		365*	EFR Valve Position above/below desired level
	11	264	Exhaust Gas Recirculation OCC self test failed
29	3	214	Remote Throttle Signal Out of Range HIGH
	4	213	Remote Throttle Signal Out of Range LOW
34	0	343	Excessive Exhaust Back Pressure (gauge)
	7	351	Change in exhaust back pressure did not occur when expected
	10	352	Exhaust Back Pressure unable to achieve commanded setpoint

* - Indicates WARN ENGINE LAMP on when fault is set.

International (Continued)

PID/SID	FMI	Fault Code	Fault Description
34	19	342	Exhaust Back Pressure Signal Out of Range High
	20	341	Exhaust Back Pressure Signal Out of Range Low
	29	344	Exhaust Back Pressure Above spec. when engine off or being cranked
35	11	245	Exhaust Pressure Regulator OCC Self Test Failed
36	11	252	Glow Plug Lamp OCC Self Test Fault
38	11	251	Glow Plug Control OCC Self Test Fault
39	11	267	Engine Crank Inhibit OCC self test failed
42	11	241	Injection Control Pressure Regulator OCC Self Test Failed
54	11	262	Change Oil Lamp OCC Fault
55	11	256	Radiator Shutter Enable OCC Fault
56	11	246	Engine Fan-OCC Self Test Fault
62	11	265	Vehicle Retarder Relay OCC Fault
64	12	146	CKP signal inactive
	2	147	Incorrect CKP signal signature
71	14	324	Idle Shutdown Timer Enabled Engine Shutdown
73	3	226	Hydraulic Pressure Sensor Signal Out of Range HIGH
	4	216	Hydraulic Pressure Signal Out of Range LOW
	10	336	Hydraulic Pressure unable to achieve commanded set point
84	3	142	Vehicle Speed Signal Out of Range HIGH
	4	141	Vehicle Speed Signal Out of Range LOW
	8	215	Vehicle Speed Signal Frequency Out of Range HIGH
91	2	133*	Accelerator Pedal Position Signal In Range Fault *M*
	3	132*	Accelerator Pedal Position Signal Out of Range HIGH

* - Indicates WARN ENGINE LAMP on when fault is set.

International (Continued)

PID/SID	FMI	Fault Code	Fault Description
91	4	131*	Accelerator Pedal Position Signal Out of Range LOW
	7	134*	Accelerator Pedal Position and Idle Validation Switch Disagree
100	0	225	Engine Oil Pressure Sensor Signal In-Range Fault
	1	313	Engine Oil Pressure Below Warning Level
	3	212*	Engine Oil Pressure Signal Out of Range HIGH
	4	211*	Engine Oil Pressure Signal Out of Range LOW
	7	314	Engine Oil Pressure Below Critical Level
102	2	123*	Intake Manifold Absolute Pressure In Range Fault
	3	121*	Intake Manifold Absolute Pressure Signal Out of Range HIGH
	4	122*	Intake Manifold Absolute Pressure Signal Out of Range LOW
103	0	355	Variable Geometry Turbo overspeed
105	3	162	Manifold Air Temperature Signal out of range high
	4	161	Manifold Air Temperature Signal out of range low
108	3	151	Barometric Pressure Signal Out of Range HIGH
	4	152	Barometric Pressure Signal Out of Range LOW
110	0	321	Engine Coolant Temperature Above Warning Level
	1	316	Engine Coolant Temperature unable to reach commanded set point
	3	115*	Engine Coolant Temperature Signal Out of Range HIGH
	4	114*	Engine Coolant Temperature Signal Out of Range LOW
	7	322	Engine Coolant Temperature Above Critical Level
* - Indicates WARN ENGINE LAMP on when fault is set.			

International (Continued)

PID/SID	FMI	Fault Code	Fault Description
110	14	325	Power Reduced, Matched to Cooling System Performance
111	1	323	Engine Coolant Level Below Warning/Critical Level
	2	236	ECL Switch Circuit Fault
151	5	513*	Low Side to Bank 1 Open
	6	515*	Bank 1 Low Side Short to Ground or B+
152	5	514*	Low Side to Bank 2 Open
	5	514*	Low Side to Bank 2 Open
	6	521*	Bank 2 Low Side Short to Ground or B+
155	7	543*	EMCM/IDM communications fault
164	0	331*	Injection Control Pressure Above System Working Range
	1	335	ICP Unable to build pressure during cranking
	3	125*	Injection Control Pressure Signal Out of Range HIGH
	4	124*	Injection Control Pressure Signal Out of Range LOW
	7	334	ICP Unable to achieve setpoint in time (poor performance)
	10	333*	Injection Control Pressure Above/Below Desired Level
	13	332*	Injection Control Pressure Above Spec. With Engine Off
168	3	112	Electrical System B+ Voltage Out of Range HIGH
	4	113	Electrical System B+ Voltage Out of Range LOW
171	3	155	Air Inlet Temperature Signal Out of Range HIGH
	4	154	Air Inlet Temperature Signal Out of Range LOW
175	3	312*	Engine Oil Temperature Signal Out of Range High
	4	311*	Engine Oil Temperature Signal Out of Range Low
* - Indicates WARN ENGINE LAMP on when fault is set.			

International (Continued)

PID/ SID	FMI	Fault Code	Fault Description
190	0	315*	Engine Speed Above Warning Level
221	3	533	IDM relay voltage high
	4	534	IDM relay voltage low
230	11	135*	Idle Validation Switch Circuit Fault
233	4	523	IDM VIGN voltage low
238	11	263	Oil Water Lamp OCC Fault
239	11	266	Engine Warning Lamp OCC Fault
240	2	631*	ROM (Read Only Memory) Self Test Fault
	11	661	RAM Programmable Parameter list corrupt
	13	655	Programmable Parameter list level incompatible
	14	624	Field default active
244	2	221	Cruise-PTO Control Switch Circuit Fault
247	2	222	Brake Switch Circuit Fault
248	11	244	Engine to Transmission Data Line OCC Self Test Failed
250	2	231	ATA Data Communication Link Error
252	1	613*	ECM/IDM software not compatible
	13	614*	EFRC/EECM ING configuration mismatch
	14	665	Programmable Parameter memory content corrupt
253	0	622*	Engine using Field Default Rating
	1	621*	Engine using Mfg. Default Rating Program Engine
	13	623*	Invalid Engine Rating Code; Check ECM programming
	14	664	Calibration level incompatible
254	6	525*	Injector Driver Circuit Fault
	8	626	Unexpected reset fault
	12	632	RAM Memory-CPU Self Test Fault
* - Indicates WARN ENGINE LAMP on when fault is set.			

MID 128 - Mack

Mack

PID/ SID	FMI	Fault Code	Fault Description
1	4, 3, 2, 8	8-1	Electronic Unit Pump (EUP) #1
2	4, 3, 2, 8	8-2	Electronic Unit Pump (EUP) #2
3	4, 3, 2, 8	8-3	Electronic Unit Pump (EUP) #3
4	4, 3, 2, 8	8-4	Electronic Unit Pump (EUP) #4
5	4, 3, 2, 8	8-5	Electronic Unit Pump (EUP) #5
6	4, 3, 2, 8	8-6	Electronic Unit Pump (EUP) #6
21	2, 8	3-4	Engine Position Sensor
22	2, 8	3-2	Engine Speed Sensor
33	5, 4, 3, 2, 8	4-2	Fan Clutch Output
98	4, 3	5-7	Engine Oil Level
100	4, 3	1-1	Oil Pressure Sensor
102	4, 3	2-2	Boost Pressure Sensor
105	4, 3	2-3	Intake Air Temperature Sensor
110	4, 3, 5, 10	2-1	Engine Coolant Temperature Sensor
111	3	1-7	Coolant Level
151	4, 3	8-9	Solenoid Boost Voltage
158	4	7-6	Switched Voltage
171	4, 3, 5	1-4	Ambient Air Temperature Sensor
174	4, 3, 5	1-3	Fuel Temperature Sensor
175	4, 3, 5	2-7	Engine Oil Temperature Sensor
190	2	N/A	Engine Speed Sensor
		3-3	Redundant Engine Speed
231	8	6-4	J1939 Link
233	12	6-6	Fuel Control Module
250	8	6-3	J1708/J1587 Link
254	8	6-5	All Communications Lost - Engine Shutdown