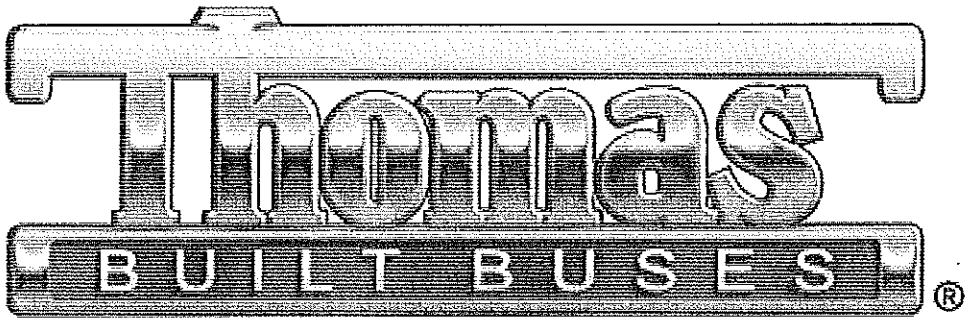


Dash Retrieved Fault Codes

Conventional FS65
Saf-T-Liner C2
Saf-T-Liner HDX, HD, ER
Saf-T-Liner EF
All years

NOTE:PRE-2010 EMISSIONS

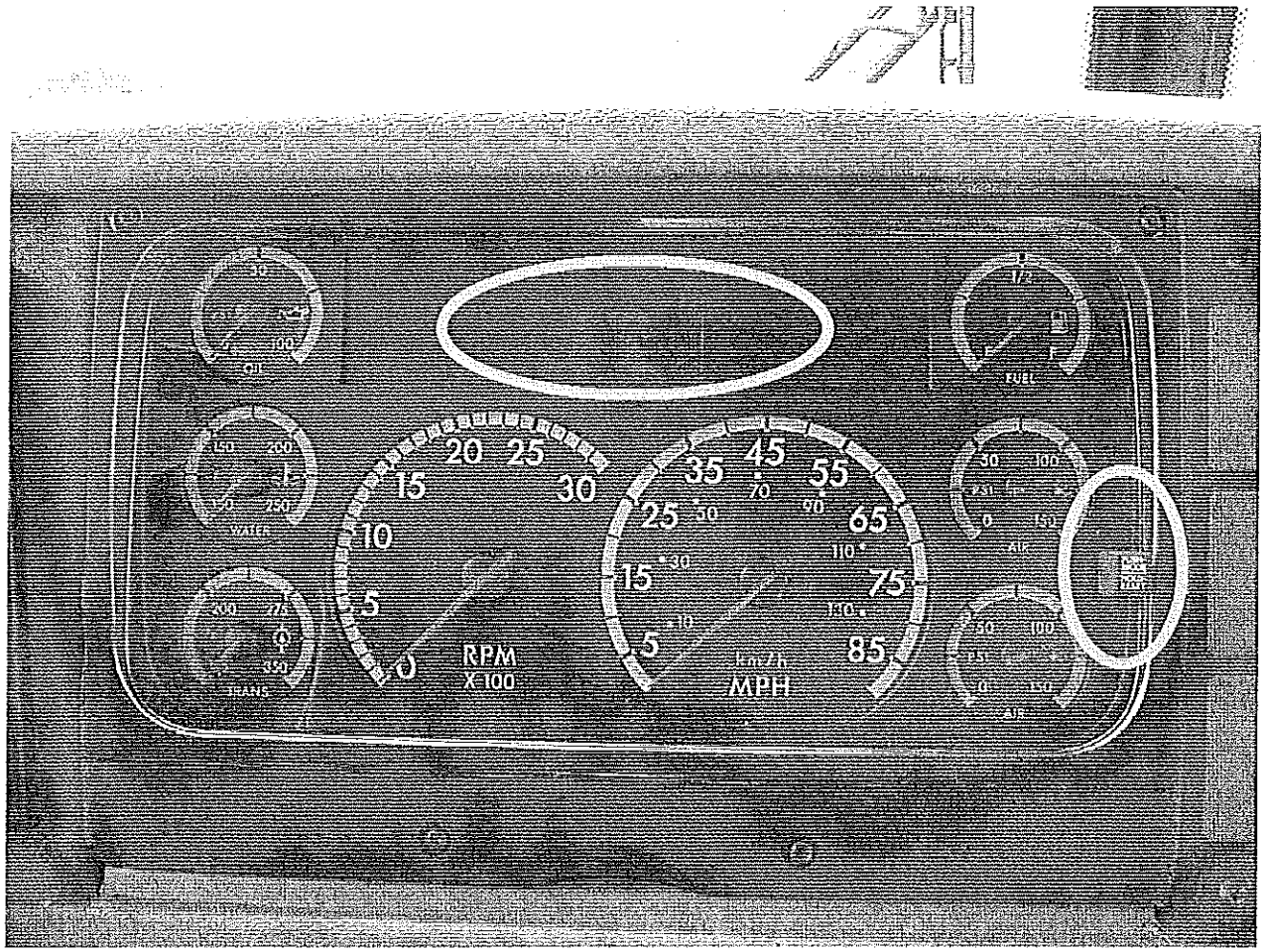
Table of Contents

Your ICU dash will display the MID numbers for the modules that have an active fault.

The complete SAE formatted fault code can be retrieved via the dash. example: MID, PID or SID, FMI

All ICU model dashes will display J1587 formatted fault codes; some models are connected to J1939 as well.

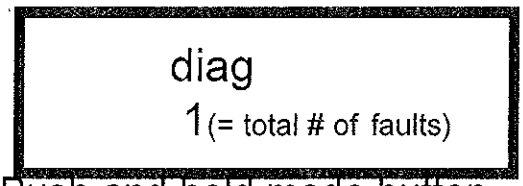
ICU dashes can not be used to clear historic fault codes.



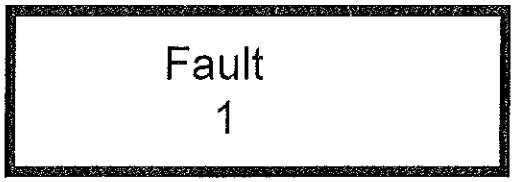
Locate the LCD display in the center of the dash and the reset/mode button to the right

How to retrieve active fault codes
(ICU3 and ICU4 dash models)

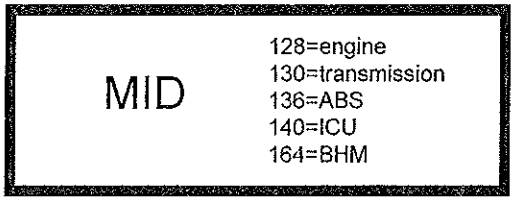
1. Set parking brake
2. Ignition key to "on" position
3. Push and release mode button



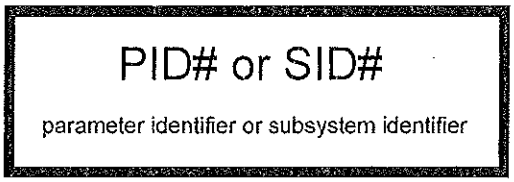
4. Push and hold mode button



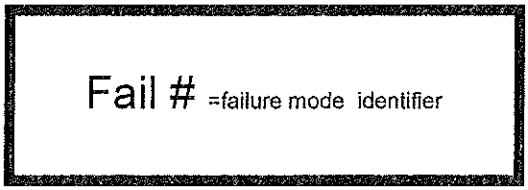
5. Push and release mode button



6. Push and release mode button

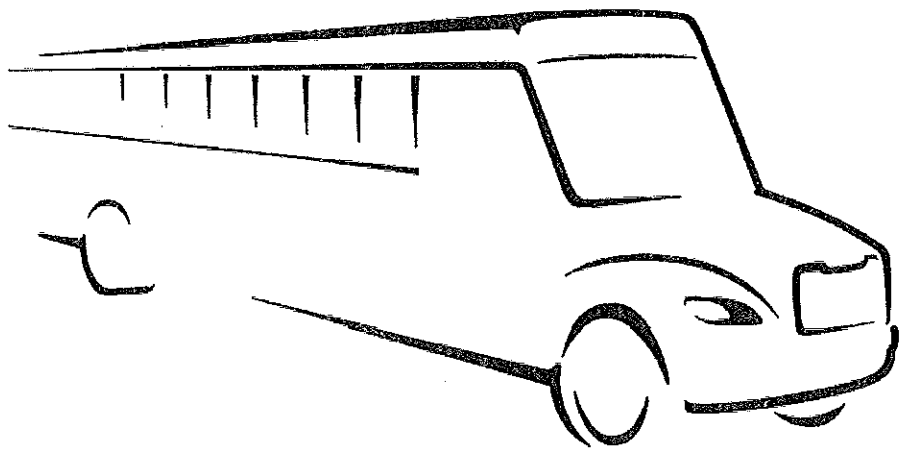


7. Push and release mode button



8. For multiple codes repeat steps 4-7

Saf-T-Liner C2
Fault Codes



		BH164	Bulkhead Module
PID/SID	FMI		
0	7	backlighting/dimmer	switch not responding
1	7	clutch switch	switch not responding
3	7	head light switch	disagreement between park and on, both closed
4	2	stalk switch	high beam input switch failure
5	7	ignition switch	switch not responding
6	7	marker switch	switch not responding
7	2	wiper switch	disagreement between high and low; both on
8	2	wiper switch	disagreement between wiper off and high/low on
9	7	wiper switch	park function not responding
10	2	ICU3	hazard switch CAN error
11	2	stalk switch	left turn input failure
12	2	stalk switch	right turn input failure
13	2	stalk switch	washer switch input failure
14	2	stalk switch	wiper switch on/off input failure
15	2	stalk switch	wiper switch low input failure
16	2	stalk switch	wiper switch high input failure
17	2	J1939	wheel speed error message
18	7	wake-up	modules are kept awake
19	7	wake-up	modules are kept awake
20	7	smart switch	extra smart switch
21	7	smart switch	duplicate smart switch
22	7	smart switch	missing smart switch
25	7	CHM	unexpected air pressure feedback
26	7	CHM	no air pressure feedback
31	7	CHM	suspension proportioning valve feedback
32	7	CHM	no feedback from suspension proportioning valve
33	7	cigar lighter	output failure to lightler
34	7	ignition switch	mismatch between ICU and BHM on key position
35	2	hazard switch	mismatch between ICU & BHM on hazard switch position
36	2	wiper switch	mismatch between ICU & BHM on wiper switch position
37	9	J1939	missing J1939 from Transmission
38	9	J1939	missing J1939 from chassis hub module
39	7	remote switch	remote switch stuck
42	7	PTO	PTO not responding
43	7	PTO	PTO not responding
50	3	BHM B1.A	voltage above normal or shorted to high
50	4	BHM B1.A	voltage below normal or shorted low
51	5	BHM B1.F, B1.P, B2.K, B2.L, B6.A8	current below normal or open circuit
51	6	BHM B1.F, B1.P, B2.K, B2.L, B6.A8	current above normal or shorted to ground
52	3	BHM B1.J	voltage above normal or shorted to high
52	4	BHM B1.J	voltage below normal or shorted low
53	5	BHM B1.K, B5.C	current below normal or open circuit
53	6	BHM B1.K, B5.C	current above normal or shorted to ground
54	5	BHM B1.L	current below normal or open circuit
54	6	BHM B1.L	current above normal or shorted to ground
55	3	BHM B1.N	voltage above normal or shorted to high
55	4	BHM B1.N	voltage below normal or shorted low
56	5	BHM B1.R	current below normal or open circuit
56	6	BHM B1.R	current above normal or shorted to ground

PID/SID	FMI	BH164	Bulkhead Module
57	5	BHM B2.M	current below normal or open circuit
57	6	BHM B2.M	current above normal or shorted to ground
58	3	BHM B3.D	voltage above normal or shorted to high
58	4	BHM B3.D	voltage below normal or shorted low
59	3	BHM B3.E	voltage above normal or shorted to high
59	4	BHM B3.E	voltage below normal or shorted low
59	5	BHM B3.E	current below normal or open circuit
59	6	BHM B3.E	current above normal or shorted to ground
60	5	BHM B3.F	current below normal or open circuit
60	6	BHM B3.F	current above normal or shorted to ground
61	5	BHM B3.G	current below normal or open circuit
61	6	BHM B3.G	current above normal or shorted to ground
62	5	BHM B3.H	current below normal or open circuit
62	6	BHM B3.H	current above normal or shorted to ground
63	5	BHM B4.B	current below normal or open circuit
63	6	BHM B4.B	current above normal or shorted to ground
64	3	BHM B4.E, B4.F	voltage above normal or shorted to high
64	4	BHM B4.E, B4.F	voltage below normal or shorted low
64	5	BHM B4.E, B4.F	current below normal or open circuit
64	6	BHM B4.E, B4.F	current above normal or shorted to ground
65	3	BHM B4.G	voltage above normal or shorted to high
65	4	BHM B4.G	voltage below normal or shorted low
66	3	BHM B4.K	voltage above normal or shorted to high
66	4	BHM B4.K	voltage below normal or shorted low
67	3	BHM B4.M, B5.E	voltage above normal or shorted to high
67	4	BHM B4.M, B5.E	voltage below normal or shorted low
67	5	BHM B4.M, B5.E	current below normal or open circuit
67	6	BHM B4.M, B5.E	current above normal or shorted to ground
68	5	BHM B5.A, B7.A12	current below normal or open circuit
68	6	BHM B5.A, B7.A12	current above normal or shorted to ground
69	5	BHM B6.A9, B6.A10	current below normal or open circuit
69	6	BHM B6.A9, B6.A10	current above normal or shorted to ground
70	5	BHM B5.B	current below normal or open circuit
70	6	BHM B5.B	current above normal or shorted to ground
71	5	BHM B5.D	current below normal or open circuit
71	6	BHM B5.D	current above normal or shorted to ground
72	5	BHM B5.F	current below normal or open circuit
72	6	BHM B5.F	current above normal or shorted to ground
72	3	BHM B5.F	voltage above normal or shorted to high
72	4	BHM B5.F	voltage below normal or shorted low
73	3	BHM B5.G	voltage above normal or shorted to high
73	4	BHM B5.G	voltage below normal or shorted low
73	5	BHM B5.G	current below normal or open circuit
73	6	BHM B5.G	current above normal or shorted to ground
74	3	BHM B5.H, B7.A1	voltage above normal or shorted to high
74	4	BHM B5.H, B7.A1	voltage below normal or shorted low
74	5	BHM B5.H, B7.A1	current below normal or open circuit
74	6	BHM B5.H, B7.A1	current above normal or shorted to ground
75	5	CHM C1.A, C1.H, C1.J	current below normal or open circuit

		BH164	Bulkhead Module
PID/SID	FMI		
75	6	CHM C1.A, C1.H, C1.J	current above normal or shorted to ground
76	5	CHM C1.G, C2.H, C3.N	current below normal or open circuit
76	6	CHM C1.G, C2.H, C3.N	current above normal or shorted to ground
77	5	CHM C1.L	current below normal or open circuit
77	6	CHM C1.L	current above normal or shorted to ground
78	5	CHM C1.N	current below normal or open circuit
78	6	CHM C1.N	current above normal or shorted to ground
79	5	CHM C1.P, C2.E, C3.R	current below normal or open circuit
79	6	CHM C1.P, C2.E, C3.R	current above normal or shorted to ground
80	3	CHM C2.A	voltage above normal or shorted to high
80	4	CHM C2.A	voltage below normal or shorted low
81	3	CHM C2.F, C4.C, C4.D, C4.L, C4.M	voltage above normal or shorted to high
81	4	CHM C2.F, C4.C, C4.D, C4.L, C4.M	voltage below normal or shorted low
81	5	CHM C2.F, C4.C, C4.D, C4.L, C4.M	current below normal or open circuit
81	6	CHM C2.F, C4.C, C4.D, C4.L, C4.M	current above normal or shorted to ground
82	3	CHM C3.A	voltage above normal or shorted to high
82	4	CHM C3.A	voltage below normal or shorted low
82	5	CHM C3.A	current below normal or open circuit
82	6	CHM C3.A	current above normal or shorted to ground
83	5	CHM C3.C, C3.D	current below normal or open circuit
83	6	CHM C3.C, C3.D	current above normal or shorted to ground
84	3	CHM C3.E	voltage above normal or shorted to high
84	4	CHM C3.E	voltage below normal or shorted low
85	3	CHM C3.F	voltage above normal or shorted to high
85	4	CHM C3.F	voltage below normal or shorted low
86	3	CHM C3.J	voltage above normal or shorted to high
86	4	CHM C3.J	voltage below normal or shorted low
87	5	CHM C3.K	current below normal or open circuit
87	6	CHM C3.K	current above normal or shorted to ground
88	5	CHM C3.L	current below normal or open circuit
88	6	CHM C3.L	current above normal or shorted to ground
89	5	CHM C4.F	current below normal or open circuit
89	6	CHM C4.F	current above normal or shorted to ground
90	3	CHM C4.J	voltage above normal or shorted to high
90	4	CHM C4.J	voltage below normal or shorted low
91	5	CHM C4.K	current below normal or open circuit
91	6	CHM C4.K	current above normal or shorted to ground
92	3	CHM C4.P	voltage above normal or shorted to high
92	4	CHM C4.P	voltage below normal or shorted low
93	3	CHM C5.A	voltage above normal or shorted to high
93	4	CHM C5.A	voltage below normal or shorted low
94	3	CHM C5.B	voltage above normal or shorted to high
94	4	CHM C5.B	voltage below normal or shorted low
95	3	CHM C5.F	voltage above normal or shorted to high
95	4	CHM C5.F	voltage below normal or shorted low
96	3	CHM C5.G	voltage above normal or shorted to high
96	4	CHM C5.G	voltage below normal or shorted low
97	3	CHM C5.H	voltage above normal or shorted to high
97	4	CHM C5.H	voltage below normal or shorted low

		BH164	Bulkhead Module
PID/SID	FMI		
98	3	CHM C5.J	voltage above normal or shorted to high
98	4	CHM C5.J	voltage below normal or shorted low
99	3	CHM C5.L	voltage above normal or shorted to high
99	4	CHM C5.L	voltage below normal or shorted low
100	3	CHM C5.M	voltage above normal or shorted to high
100	4	CHM C5.M	voltage below normal or shorted low
101	5	EXM1 C1.A, C1.H, C1.C, C1.N, C1.L, C1.G, C1.P	current below normal or open circuit
101	6	EXM1 C1.A, C1.H, C1.C, C1.N, C1.L, C1.G, C1.P	current above normal or shorted to ground
101	5	EXM1 C2.F, C2.E, C2.H	current below normal or open circuit
101	6	EXM1 C2.F, C2.E, C2.H	current above normal or shorted to ground
101	3	EXM1 C2.A, C2.F	voltage above normal or shorted to high
101	4	EXM1 C2.A, C2.F	voltage below normal or shorted low
101	5	EXM1 C3.A, C3.C, C3.D,C3.K, C3.L, C3.R, C3.N	current below normal or open circuit
101	6	EXM1 C3.A, C3.C, C3.D,C3.K, C3.L, C3.R, C3.N	current above normal or shorted to ground
101	3	EXM1 C3.A, C3.C, C3.E, C3.F	voltage above normal or shorted to high
101	4	EXM1 C3.A, C3.C, C3.E, C3.F	voltage below normal or shorted low
101	3	EXM1 C4.C, C4.D, C4.L, C4.M, C4.P	voltage above normal or shorted to high
101	4	EXM1 C4.C, C4.D, C4.L, C4.M, C4.P	voltage below normal or shorted low
101	5	EXM1 C4.C, C4.D, C4.F, C4.K, C4.L, C4.M	current below normal or open circuit
101	6	EXM1 C4.C, C4.D, C4.F, C4.K, C4.L, C4.M	current above normal or shorted to ground
101	3	EXM1 C5.A, C5,B,C5.C, C5.F, C5.G, C5.H, C5.L, C5.M	voltage above normal or shorted to high
101	4	EXM1 C5.A, C5,B,C5.C, C5.F, C5.G, C5.H, C5.L, C5.M	voltage below normal or shorted low
101	5	EXM2 C1.A, C1.H, C1.C, C1.N, C1.L, C1.G, C1.P	current below normal or open circuit
102	6	EXM2 C1.A, C1.H, C1.C, C1.N, C1.L, C1.G, C1.P	current above normal or shorted to ground
102	5	EXM2 C2.F, C2.E, C2.H	current below normal or open circuit
102	6	EXM2 C2.F, C2.E, C2.H	current above normal or shorted to ground
102	3	EXM2 C2.A, C2.F	voltage above normal or shorted to high
102	4	EXM2 C2.A, C2.F	voltage below normal or shorted low
102	5	EXM2 C3.A, C3.C, C3.D,C3.K, C3.L, C3.R, C3.N	current below normal or open circuit
102	6	EXM2 C3.A, C3.C, C3.D,C3.K, C3.L, C3.R, C3.N	current above normal or shorted to ground
102	3	EXM2 C3.A, C3.C, C3.E, C3.F	voltage above normal or shorted to high
102	4	EXM2 C3.A, C3.C, C3.E, C3.F	voltage below normal or shorted low
102	3	EXM2 C4.C, C4.D, C4.L, C4.M, C4.P	voltage above normal or shorted to high
102	4	EXM2 C4.C, C4.D, C4.L, C4.M, C4.P	voltage below normal or shorted low
102	5	EXM2 C4.C, C4.D, C4.F, C4.K, C4.L, C4.M	current below normal or open circuit
102	6	EXM2 C4.C, C4.D, C4.F, C4.K, C4.L, C4.M	current above normal or shorted to ground
102	3	EXM2 C5.A, C5,B,C5.C, C5.F, C5.G, C5.H, C5.L, C5.M	voltage above normal or shorted to high
102	4	EXM2 C5.A, C5,B,C5.C, C5.F, C5.G, C5.H, C5.L, C5.M	voltage below normal or shorted low
107	6	SHM J1.A, J1.E	current above normal or shorted to ground
108	6	SHM J3.G	current above normal or shorted to ground
109	6	SHM J3.M	current above normal or shorted to ground
110	5	SHM J3.F	current below normal or open circuit
110	6	SHM J3.F	current above normal or shorted to ground
111	5	SHM J3.K	current below normal or open circuit
111	6	SHM J3.K	current above normal or shorted to ground

W

A

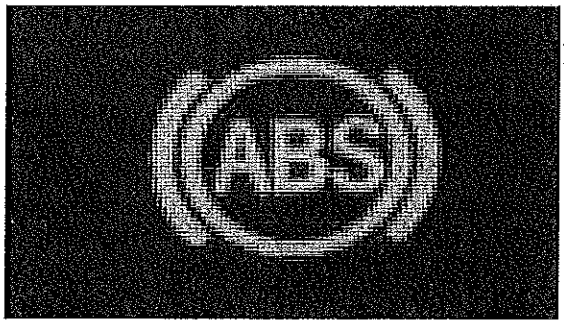
B

C

O

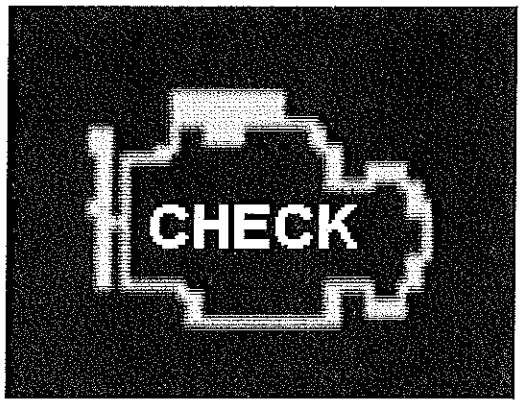
ABS

FAULT CODES

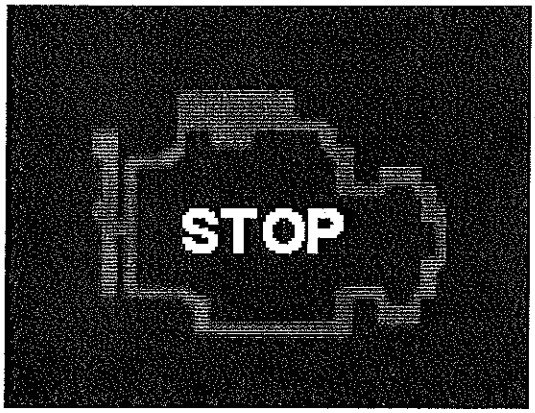


		ABS136	WABCO
PID/SID	FMI		
0	1	LF wheel sensor	air gap exceeding normal limits, wheel bearing
1	2	LF tone ring	missing or incorrect number of teeth
1	3	LF wheel sensor	dc voltage detected, voltage shorted to battery
1	4	LF wheel sensor	circuit shorted to ground
1	5	LF wheel sensor	circuit open
1	6	LF wheel sensor	sensor wires shorted together
1	7	LF tone ring	missing or incorrect number of teeth
1	8	LF slip	16 sec slip detected, check air gap and modulators
1	9	LF harness	mismatch of harness or sensor pars
1	10	LF wheel sensor	loss of wheel sensor signal
1	11	LF abnormal speed	check tone ring, air gap and sensor wiring
1	12	LF frequency too high	incorrect frequency to ecm from sensor
2	1	RF wheel sensor	air gap exceeding normal limits, wheel bearing
2	2	RF tone ring	missing or incorrect number of teeth
2	3	RF wheel sensor	dc voltage detected, voltage shorted to battery
2	4	RF wheel sensor	circuit shorted to ground
2	5	RF wheel sensor	circuit open
2	6	RF wheel sensor	sensor wires shorted together
2	7	RF tone ring	missing or incorrect number of teeth
2	8	RF slip	16 sec slip detected, check air gap and modulators
2	9	RF harness	mismatch of harness or sensor pars
2	10	RF wheel sensor	loss of wheel sensor signal
2	11	RF abnormal speed	check tone ring, air gap and sensor wiring
2	12	RF frequency too high	incorrect frequency to ecm from sensor
3	1	LR wheel sensor	air gap exceeding normal limits, wheel bearing
3	2	LR tone ring	missing or incorrect number of teeth
3	3	LR wheel sensor	dc voltage detected, voltage shorted to battery
3	4	LR wheel sensor	circuit shorted to ground
3	5	LR wheel sensor	circuit open
3	6	LR wheel sensor	sensor wires shorted together
3	7	LR tone ring	missing or incorrect number of teeth
3	8	LR slip	16 sec slip detected, check air gap and modulators
3	9	LR harness	mismatch of harness or sensor pars
3	10	LR wheel sensor	loss of wheel sensor signal
3	11	LR abnormal speed	check tone ring, air gap and sensor wiring
3	12	LR frequency too high	incorrect frequency to ecm from sensor
4	1	RR wheel sensor	air gap exceeding normal limits, wheel bearing
4	2	RR tone ring	missing or incorrect number of teeth
4	3	RR wheel sensor	dc voltage detected, voltage shorted to battery
4	4	RR wheel sensor	circuit shorted to ground
4	5	RR wheel sensor	circuit open
4	6	RR wheel sensor	sensor wires shorted together
4	7	RR tone ring	missing or incorrect number of teeth
4	8	RR slip	16 sec slip detected, check air gap and modulators
4	9	RR harness	mismatch of harness or sensor pars
4	10	RR wheel sensor	loss of wheel sensor signal
4	11	RR abnormal speed	check tone ring, air gap and sensor wiring
4	12	RR frequency too high	incorrect frequency to ecm from sensor

PID/SID	FMI	ABS136	WABCO
7	3	LF modulator valve	inlet and outlet shorted or crcuit shorted to another modulator
7	5	LF modulator valve	inlet or outlet circuit is open
7	6	LF modulator valve	inlet or outlet circuit is shorted to ground
8	3	RF modulator valve	inlet and outlet shorted or crcuit shorted to another modulator
8	5	RF modulator valve	inlet or outlet circuit is open
8	6	RF modulator valve	inlet or outlet circuit is shorted to ground
9	3	LR modulator valve	inlet and outlet shorted or crcuit shorted to another modulator
9	5	LR modulator valve	inlet or outlet circuit is open
9	6	LR modulator valve	inlet or outlet circuit is shorted to ground
10	3	RR modulator valve	inlet and outlet shorted or crcuit shorted to another modulator
10	5	RR modulator valve	inlet or outlet circuit is open
10	6	RR modulator valve	inlet or outlet circuit is shorted to ground
13	3	DBR retarder	output is shorted to battery supply
13	5	DBR retarder	output is open
13	6	DBR retarder	output is shorted to ground
14	4	ECU	low or loss of supply voltage to ECU
14	5	ECU	Loss of ground to ECU
14	7	ECU	ECU internal failure
231	2	ECU	J1939 data invalid
231	5	ECU	J1939 circuit open
231	6	ECU	J1939 circuit open
231	7	ECU	incorrect message from driveline retarder
231	8	ECU	incorrect message from engine retarder
231	9	ECU	incorrect torque message from engine
231	10	ECU	incorrect message from exhaust retarder
231	12	ECU	internal J1939 failure
251	3	ECU	supply voltage to ecm too high
253	2	ecu	parameters are incorrect; internal ecu failure
253	12	ECU	parameters are incorrect; internal ecu failure
254	5	ECU	loss of modulator/sensor harness connections
254	8	sensors	slipping, check air gap, one axle faster than other
254	12	ECU	internal ecu failure
254	13	ECU	internal ecu failure
254	14	ECU	internal ecu failure



Mercedes Engine



ECU128 Mercedes

PID/SID	J1587	FMI	
SID	1	5	Injector Cylinder 1; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	1	6	Injector Cylinder #1 Needle Control Valve; Valve Shorted Circuit
SID	1	7	Injector Cylinder 1; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	1	10	Injector Cylinder #1 Needle Control Valve Abnormal Rate of Change
SID	1	14	Injector Cylinder #1 Needle Control Valve Abnormal Operation
SID	1	31	Engine Smoothness Control / Cylinder #1 Value Out of Range
SID	1	31	Cylinder 1 Misfire detected
SID	2	5	Injector Cylinder 2; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	2	6	Injector Cylinder #2 Needle Control Valve; Valve Shorted Circuit
SID	2	7	Injector Cylinder 2; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	2	10	Injector Cylinder #2 Needle Control Valve Abnormal Rate of Change
SID	2	14	Injector Cylinder #2 Needle Control Valve Abnormal Operation
SID	2	31	Engine Smoothness Control / Cylinder #2 Value Out of Range
SID	2	31	Cylinder 2 Misfire detected
SID	3	5	Injector Cylinder 3; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	3	6	Injector Cylinder #3 Needle Control Valve; Valve Shorted Circuit
SID	3	7	Injector Cylinder 3; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	3	10	Injector Cylinder #3 Needle Control Valve Abnormal Rate of Change
SID	3	14	Injector Cylinder #3 Needle Control Valve Abnormal Operation
SID	3	31	Engine Smoothness Control / Cylinder #3 Value Out of Range
SID	3	31	Cylinder 3 Misfire detected
SID	4	5	Injector Cylinder 4; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	4	6	Injector Cylinder #4 Needle Control Valve; Valve Shorted Circuit
SID	4	7	Injector Cylinder 4; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	4	10	Injector Cylinder #4 Needle Control Valve Abnormal Rate of Change
SID	4	14	Injector Cylinder #4 Needle Control Valve Abnormal Operation
SID	4	31	Engine Smoothness Control / Cylinder #4 Value Out of Range
SID	4	31	Cylinder 4 Misfire detected
SID	5	5	Injector Cylinder 5; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	5	6	Injector Cylinder #5 Needle Control Valve; Valve Shorted Circuit
SID	5	7	Injector Cylinder 5; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	5	10	Injector Cylinder #5 Needle Control Valve Abnormal Rate of Change
SID	5	14	Injector Cylinder #5 Needle Control Valve Abnormal Operation
SID	5	31	Engine Smoothness Control / Cylinder #5 Value Out of Range
SID	5	31	Cylinder 5 Misfire detected
SID	6	5	Injector Cylinder 6; Nozzle Control Valve or Spill Control Valve; Jammed Closed
SID	6	6	Injector Cylinder #6 Needle Control Valve; Valve Shorted Circuit
SID	6	7	Injector Cylinder 6; Nozzle Control Valve or Spill Control Valve; Jammed Open or Leakage
SID	6	10	Injector Cylinder #6 Needle Control Valve Abnormal Rate of Change
SID	6	14	Injector Cylinder #6 Needle Control Valve Abnormal Operation
SID	6	31	Engine Smoothness Control / Cylinder #6 Value Out of Range
SID	7	6	Injector Cylinder #7 Needle Control Valve; Valve Shorted Circuit
SID	7	10	Injector Cylinder #7 Needle Control Valve Abnormal Rate of Change
SID	7	14	Injector Cylinder #7 Needle Control Valve Abnormal Operation
SID	7	31	Engine Smoothness Control / Cylinder #7 Value Out of Range
SID	8	6	Injector Cylinder #8 Needle Control Valve; Valve Shorted Circuit
SID	8	10	Injector Cylinder #8 Needle Control Valve Abnormal Rate of Change
SID	8	14	Injector Cylinder #8 Needle Control Valve Abnormal Operation
SID	8	31	Engine Smoothness Control / Cylinder #8 Value Out of Range
SID	21	1	Crankshaft Position Sensor Signal Voltage Too Low
SID	21	2	No Match of Camshaft and Crankshaft Signals
SID	21	3	Crankshaft Position Sensor Open Circuit
SID	21	4	Crankshaft Position Sensor Short to Ground
SID	21	8	Crankshaft Position Sensor Time Out
SID	21	14	Crankshaft Position Sensor Pins Swapped

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PID/SID	J1587	FMI	
SID	26	3	Digital Output 4 09 Circuit Failed High
SID	26	4	Digital Output 4 09 Circuit Failed Low
PID	27	3	EGR Valve Position Circuit Failed High
SID	27	3	Turbo Control Circuit Failed High
PID	27	4	EGR Valve Position Circuit Failed Low
SID	27	4	Turbo Control Circuit Failed Low
SID	27	5	Turbo Control Circuit Open
PID	27	7	EGR Valve Stuck Open
SID	32	3	Waste Gate Circuit Failed High
SID	32	4	Waste Gate Circuit Failed Low
SID	32	5	Waste Gate Circuit Failed Open
SID	32	7	Smart Remote Actuator 1 (Wastegate); Failsafe Mode; Motor On
SID	32	8	Smart Remote Actuator 1 (Wastegate); Internal Test Running
SID	32	9	Smart Remote Actuator 1 (Wastegate); Failsafe Mode; Motor Off
SID	32	11	Smart Remote Actuator 1 (Wastegate); Restricted Operability
SID	32	14	Smart Remote Actuator 1 (Wastegate); No Failsafe Mode; Motor Off
SID	32	15	Smart Remote Actuator 1 (Wastegate); Temperature Warning
SID	32	16	Smart Remote Actuator 1 (Wastegate); Temperature Fault
SID	32	31	Smart Remote Actuator 1 (Wastegate); Unknown Error Code
SID	33	3	Fan Stage 1 Circuit Failed High
SID	33	4	Fan Stage 1 Circuit Failed Low
SID	33	5	Fan Stage 1 Circuit Failed Open
SID	39	2	Starter Switch Inconsistent
SID	39	3	Engine Starter Relay Shorted to High Source
SID	39	4	Engine Starter Relay Open Load Failure
SID	39	5	Engine Starter Relay Open Circuit
SID	39	7	Engine Starter Relay - Starter Does Not Engage
SID	39	7	Engine Starter Relay Jammed
SID	39	14	Starter Electronic Fault / ECU internal (Main)
SID	39	14	Starter Jammed (Tooth to Tooth Jam)
SID	39	31	Starter Electronic Fault / ECU internal (Res)
SID	40	3	Constant Throttle Valve Circuit Failed High
SID	40	4	Constant Throttle Valve Circuit Failed Low
SID	40	5	Constant Throttle Valve Circuit Failed Open
SID	40	3	Digital Output 3 17 Circuit Failed High
SID	40	4	Digital Output 3 17 Circuit Failed Low
PID	43	2	Ignition Switch Not Plausible
PID	45	0	Grid Heater Permanently On
PID	45	3	Grid Heater Circuit Failed High
PID	45	4	Grid Heater Circuit Failed Low
PID	45	7	Grid Heater Defect
PID	45	14	Grid Heater Special Instructions
PID	51	0	Intake Air Throttle Position Low
PID	51	1	Intake Air Throttle Position High
PID	51	2	Intake Throttle Position Deviation Error
PID	51	2	Intake Throttle Valve; Spring Response Time Not Plausible
SID	51	3	Intake Air Throttle Circuit Failed High
SID	51	3	Water Pump 1 Circuit Failed High
SID	51	4	Intake Air Throttle Circuit Failed Low
SID	51	4	Water Pump 1 Circuit Failed Low
SID	51	5	Water Pump 1 Circuit Failed Open
PID	51	7	Intake Throttle Auto Calibration Error

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PID/SID	J1587	FMI	
PID	51	7	Intake Throttle Valve; Stuck
PID	51	8	Intake Throttle Valve; Current Deviation Too High
PID	51	14	Intake Throttle Valve; Integrated Absolute Error Plausibility
SID	51	3	Digital Output 3 09 Circuit Failed High
SID	51	4	Digital Output 3 09 Circuit Failed Low
SID	52	3	Digital Output 4 07 Circuit Failed High
SID	52	4	Digital Output 4 07 Circuit Failed Low
SID	53	3	Electrostatic Oil Separator Circuit Failed High
SID	53	4	Electrostatic Oil Separator Circuit Failed Low
SID	53	5	Electrostatic Oil Separator Circuit Failed Open
SID	53	3	Digital Output 1 13 Circuit Failed High
SID	53	4	Digital Output 1 13 Circuit Failed Low
SID	54	3	Digital Output 3 10 Circuit Failed High
SID	54	4	Digital Output 3 10 Circuit Failed Low
SID	55	3	Turbo Compound Valve Circuit Failed High
SID	55	4	Turbo Compound Valve Circuit Failed Low
SID	55	5	Turbo Compound Valve Circuit Failed Open
SID	55	3	Digital Output 2 10 Circuit Failed High (CEL / AWL Lamp)
SID	55	4	Digital Output 2 10 Circuit Failed Low (CEL / AWL Lamp)
SID	56	3	Digital Output 3 12 Circuit Failed High
SID	56	4	Digital Output 3 12 Circuit Failed Low
SID	57	3	Actuator Turbo Compound Bypass Circuit Failed High
SID	57	4	Actuator Turbo Compound Bypass Circuit Failed Low
SID	57	5	Actuator Turbo Compound Bypass Circuit Failed Open
SID	59	3	Intake Throttle Valve Circuit Failed High
SID	59	4	Intake Throttle Valve Circuit Failed Low
SID	59	5	Intake Throttle Valve Circuit Failed Open
SID	59	14	Intake Air Throttle Control Electrical Fault
SID	60	3	Fan Stage 2 Circuit Failed High
SID	60	4	Fan Stage 2 Circuit Failed Low
SID	60	5	Fan Stage 2 Circuit Failed Open
SID	64	1	Camshaft Position Sensor Signal Voltage Too Low
SID	64	3	Camshaft Position Sensor Open Circuit
SID	64	4	Camshaft Position Sensor Short to Ground
SID	64	8	Camshaft Position Sensor Time Out
SID	64	14	Camshaft Position Sensor Pins Swapped
SID	70	3	Gridheater Circuit Failed High
SID	70	4	Gridheater Circuit Failed Low
SID	70	5	Gridheater Circuit Failed Open
PID	70	2	Park Brake Status Not Plausible (Vehicle Moving)
SID	79	3	Jake Brake Stage 1 Circuit Failed High
SID	79	4	Jake Brake Stage 1 Circuit Failed Low
SID	79	5	Jake Brake Stage 1 Circuit Failed Open
SID	80	3	Jake Brake Stage 2 Circuit Failed High
SID	80	4	Jake Brake Stage 2 Circuit Failed Low
SID	80	5	Jake Brake Stage 2 Circuit Failed Open
SID	81	3	Exhaust Brake Circuit Failed High
SID	81	4	Exhaust Brake Circuit Failed Low
SID	81	5	Exhaust Brake Circuit Failed Open
PID	84	0	Vehicle Speed Above Programmable Threshold1 While Driving
PID	84	2	VSS Anti Tamper Detection via Virtual Gear Ratio
PID	84	3	Vehicle Speed Sensor Circuit Failed High
PID	84	4	Vehicle Speed Sensor Circuit Failed Low
PID	84	6	VSS Anti-Tamper Detection via ABS Vehicle Speed Comparison
PID	84	8	VSS Anti Tamper Detection via Fixed Frequency Device
PID	84	11	Vehicle Speed Above Programmable Threshold2 While Driving

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PID/SID	J1587	FMI	
PID	84	13	J1939 Wheel-Based Vehicle Speed Signal from Source#1 is missing
PID	84	13	J1939 Wheel-Based Vehicle Speed Signal from Source#2 is missing
PID	84	13	J1939 Wheel-Based Vehicle Speed Signal from Source#3 is missing
PID	84	19	J1939 Wheel-Based Vehicle Speed Signal from Source#1 is erratic
SID	84	19	J1939 Wheel-Based Vehicle Speed Signal from Source#2 is erratic
PID	84	19	J1939 Wheel-Based Vehicle Speed Signal from Source#3 is erratic
PID	84	20	Vehicle Speed Sensor Drifted High Error (VSS signal not plausible)
PID	84	21	Vehicle Speed Failure
PID	91	3	Accelerator Pedal Circuit Failed High
PID	91	3	Accelerator Pedal Signal Circuit Failed High
PID	91	4	Accelerator Pedal Circuit Failed Low
PID	91	7	Pwm Accelerator Pedal Idle Not Recognized
PID	91	8	Pwm Accelerator Pedal Signal 1 Frequency Out Of Range
PID	91	13	Accelerator Pedal Learn Error
PID	91	14	Pwm Accelerator Pedal Not Learned
PID	91	31	Pwm Accelerator Pedal Learned Range to Large
PID	91	8	Pwm Accelerator Pedal Signal 2 Frequency Out Of Range
PID	91	14	Pwm Accelerator Pedal GAS1 and GAS2 Signal Missing
PID	94	3	Fuel Compensation Pressure Sensor Circuit Failed High
PID	94	4	Fuel Compensation Pressure Sensor Circuit Failed Low
PID	94	31	Fuel Cut Off Valve Pressure Not Plausible
PID	97	3	Water in Fuel Circuit Failed High
PID	97	4	Water in Fuel Circuit Failed Low
PID	98	3	Oil Level Circuit Failed High
PID	98	4	Oil Level Circuit Failed Low
PID	98	13	Oil Level Mesaurement; Configuration Error
PID	98	14	Oil Level Mesaurement; Oil Level Too Low or Too High
PID	98	0	Oil Level High
PID	98	1	Oil Level Very Low
PID	98	18	Oil Level Low
PID	100	1	Engine Oil Pressure Low
PID	100	2	Oil Pressure Plausibility - Engine Running
PID	100	3	Engine Oil Pressure Circuit Failed High
PID	100	4	Engine Oil Pressure Circuit Failed Low
PID	100	20	Oil Pressure Plausibility - Stop
PID	100	1	Oil Pressure Very Low
PID	100	18	Oil Pressure Low
PID	103	0	Turbo Charger Speed Above Threshold (Low Box)
PID	103	1	Turbo Charger Speed Below Threshold (High Box)
PID	103	2	Turbocharger Speed Not Plausible
PID	103	3	Turbo Charger Speed Sensor Circuit Failed High
PID	103	4	Turbo Charger Speed Sensor Circuit Failed Low
PID	105	2	Intake Manifold Temperature Plausibility Error
PID	105	3	Intake Manifold Temperature Circuit Failed High
PID	105	4	Intake Manifold Temperature Circuit Failed Low
PID	105	14	Difference Intake Manifold Temperature and EGR Temp. Less Than Threshold (Low Box)
PID	105	14	Difference Intake Manifold and I Cooler Temperature Out Less Than Threshold (Low Box)
PID	105	20	Intake Manifold Temperature Drift (Low Box)
PID	105	21	Intake Manifold Temperature Drift (High Box)
PID	105	31	Difference Intake Manifold and I Cooler Temperature Out Less Than Threshold (High Box)
PID	106	0	Inlet Manifold Pressure Failed High
PID	106	1	Inlet Manifold Pressure Failed Low
PID	106	3	Intake Manifold Pressure Circuit Failed High
PID	106	3	Inlet Manifold Pressure Sampling Range Failed
PID	106	4	Intake Manifold Pressure Circuit Failed Low
PID	106	20	Ambient and Inlet Manifold Pressure Difference (Low Box)

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PID/SID	J1587	FMI	
PID	106	20	Intake Manifold Pressure Plausibility (Low Box)
PID	106	21	Ambient and Inlet Manifold Pressure Difference (High Box)
PID	106	21	Intake Manifold Pressure Plausibility Error; Pressure Too Low (High Box)
PID	107	0	Air Filter Restriction High
PID	107	9	J1939 PROP11 message is missing
PID	108	2	Ambient Pressure Plausibility Fault (High Box) 1
PID	108	3	Barometric Pressure Circuit Failed High
PID	108	4	Barometric Pressure Circuit Failed Low
PID	108	20	Ambient Pressure Plausibility Fault (High Box) 2
PID	110	0	Coolant Temperature High
PID	110	2	Engine Coolant Sensor (OUT); General Temp. Plausibility Error
PID	110	3	Engine Coolant Outlet Temperature Circuit Failed High
PID	110	3	Engine Coolant Inlet Temperature Circuit Failed High
PID	110	4	Engine Coolant Outlet Temperature Circuit Failed Low
PID	110	4	Engine Coolant Inlet Temperature Circuit Failed Low
PID	110	14	Coolant Temperature / Engine Oil Temperature Plausibility Fault
PID	110	0	Coolant Temperature Very High
PID	110	16	Coolant Temperature High
PID	111	1	Coolant Level Very Low
PID	111	3	Coolant Level Circuit Failed High
PID	111	4	Coolant Level Circuit Failed Low
PID	111	18	Coolant Level Low
SID	123	3	Digital Output 4 10 Circuit Failed Open
SID	123	4	Digital Output 4 10 Circuit Failed Low
SID	123	7	Optimized Idle Safety Loop Faulted
PID	132	1	Air Mass Flow Too Low
PID	132	7	Intake Air Throttle Valve Closure Detection- Positive Torque
PID	132	14	Intake Air Throttle Valve Closure Detection -Braking Condition
SID	146	0	EGR Valve Position Feedback Failed (High Box)
SID	146	1	EGR Valve Position Feedback Failed (Low Box)
SID	146	2	EGR Valve Position Feedback Failed
PID	146	3	EGR Valve Circuit Failed High
PID	146	4	EGR Valve Circuit Failed Low
PID	146	5	EGR Valve Circuit Failed Open
SID	146	7	EGR Valve Position Incorrect
SID	146	7	Smart Remote Actuator 3 (EGR); Failsafe Mode; Motor On
SID	146	8	Smart Remote Actuator 3 (EGR); Internal Test Running
SID	146	9	Smart Remote Actuator 3 (EGR); Failsafe Mode; Motor Off
SID	146	11	Smart Remote Actuator 3 (EGR); Restricted Operability
SID	146	14	EGR Valve Position Positive Torque Error
SID	146	14	Smart Remote Actuator 3 (EGR); No Failsafe Mode; Motor Off
SID	146	15	Smart Remote Actuator 3 (EGR); Temperature Warning
SID	146	16	Smart Remote Actuator 3 (EGR); Temperature Fault
SID	146	31	Smart Remote Actuator 3 (EGR); Unknown Error Code
SID	147	7	Turbo Actuator; Failsafe Mode; Motor On
SID	147	8	Turbo Actuator; Internal Test Running
SID	147	9	Turbo Actuator; Failsafe Mode; Motor Off
SID	147	11	Turbo Actuator; Restricted Operability
SID	147	14	Turbo Actuator; No Failsafe Mode; Motor Off
SID	147	15	Turbo Actuator; Temperature Warning
SID	147	16	Turbo Actuator; Temperature Fault
SID	147	31	Turbo Actuator; Unknown Error Code
SID	155	0	Engine Air Flow Out of Range Low
SID	155	0	Soot Level Very High
SID	155	0	Turbocharger Compressor Inlet Differential Pressure Too High (Low Box)
SID	155	1	EDV Failed Self Test

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PID/SID	J1587	FMI	
SID	155	1	Turbocharger Compressor Inlet Differential Pressure Too Low (High Box)
SID	155	2	Engine Coolant Sensor (IN); General Temp. Plausibility Error
SID	155	3	Service Push Button Circuit Failed High
SID	155	3	Compressor Differential Pressure Outlet Failed High
SID	155	3	Flap In Front of EGR Cooler Circuit Failed High
SID	155	3	Water Pump 2 Circuit Failed High
SID	155	3	Switchable Air Compressor Circuit Failed High
SID	155	3	EGR Pressure Failed High
SID	155	3	Proportional Valve Bank 1 Circuit Failed High
SID	155	3	Proportional Valve Bank 2 Circuit Failed High
SID	155	3	Compressor Differential Pressure Inlet Failed High
SID	155	3	Oil Separator Circuit Failed High
SID	155	4	Compressor Differential Pressure Outlet Failed Low
SID	155	4	Flap In Front of EGR Cooler Circuit Failed Low
SID	155	4	Water Pump 2 Circuit Failed Low
SID	155	4	Switchable Air Compressor Circuit Failed Low
SID	155	4	EGR Pressure Failed Low
SID	155	4	Proportional Valve Bank 2 Circuit Failed Low
SID	155	4	Compressor Differential Pressure Inlet Failed Low
SID	155	4	Oil Separator Circuit Failed Low
SID	155	5	Flap In Front of EGR Cooler Circuit Failed Open
SID	155	5	Switchable Air Compressor Circuit Failed Open
SID	155	5	Turbocharger Compressor Inlet Differential Pressure Sampling Range Failure
SID	155	6	Rail Pressure Governor Error; Current Too High
SID	155	6	Current Flow on HS1 IM1 Too High
SID	155	7	Smart Remote Actuator 2; Failsafe Mode; Motor On
SID	155	7	FCV Failed Self Test
SID	155	7	Oil Separator; Max. Duration Time Reached
SID	155	8	Smart Remote Actuator 2; Internal Test Running
SID	155	9	Smart Remote Actuator 2; Failsafe Mode; Motor Off
SID	155	11	Smart Remote Actuator 2; Restricted Operability
SID	155	13	Turbocharger Compressor Outlet Differential Pressure Sensor Out Of Calibration 1
SID	155	13	Turbocharger Compressor Outlet Differential Pressure Sensor Out Of Calibration 2
SID	155	13	Turbocharger Compressor Inlet Differential Pressure Sensor Out Of Calibration 1
SID	155	13	Turbocharger Compressor Inlet Differential Pressure Sensor Out Of Calibration 2
SID	155	14	Fuel Pressure Too High/Too Low
SID	155	14	Smart Remote Actuator 2; No Failsafe Mode; Motor Off
SID	155	14	Rail Pressure Governor; Valve Stays Open
SID	155	14	Rail Pressure Governor; Leakage in High Pressure Too High
SID	155	14	Rail Pressure Governor Sensor; Signal Drift
SID	155	14	Rail Pressure Governor Sensor; Sensor Supply Line Broken
SID	155	14	High Pressure Pump; Leakage or TDC Position Wrong
SID	155	15	Smart Remote Actuator 2; Temperature Warning
SID	155	15	DPF Zone 3 Condition
SID	155	15	DPF Ash Clean Request
SID	155	16	Smart Remote Actuator 2; Temperature Fault
SID	155	16	Soot Level High
SID	155	16	DPF Ash Derate Request
SID	155	31	Smart Remote Actuator 2; Unknown Error Code
SID	155	31	Cylinder 6 Misfire Detected
SID	155	31	Cylinder 7 Misfire Detected
SID	155	31	Cylinder 8 Misfire Detected
SID	155	31	DPF Zone 2 Condition
SID	155	13	20ms ECU OS Task Locked in an Endless Loop
SID	155	13	20ms ECU OS Task Timed out Prior to Completion
SID	155	13	1000ms ECU OS Task Locked in an Endless Loop

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PID/SID	J1587	FMI	
SID	155	13	1000ms ECU OS Task Timed out Prior to Completion
SID	155	14	MCM Fault Codes Unavailable via J1939 and J1587
SID	155	14	MCM Fault Code Table Inconsistant - Upgrade MCM Software
SID	155	14	Insufficient Static Fault Code Storrage Memory - Upgrade CPC Software
SID	155	14	MCM Fault Code Table Inconsistant - Upgrade MCM Software
SID	155	19	Adaptive Cruise Control Message Not Received
SID	155	9	DPF Regen Inhibit MUX Switch Message Stopped Arriving
SID	155	13	DPF Regen Inhibit MUX Switch Message Contains SNV Indicator
SID	155	14	DPF Regen Inhibit MUX Switch Message Not Received this Ign Cycle
SID	155	19	DPF Regen Inhibit MUX Switch Message Contains Data Error Indicator
SID	155	9	DPF Regen Force MUX Switch Message Stopped Arriving
SID	155	13	DPF Regen Force MUX Switch Message Contains SNV Indicator
SID	155	14	DPF Regen Force MUX Switch Message Not Received this Ign Cycle
SID	155	19	DPF Regen Force MUX Switch Message Contains Data Error Indicator
SID	156	4	Ether Start; Shorted to Ground
SID	156	5	Water Pump 2 Circuit Failed Open
SID	156	14	Misfire Detected
SID	157	3	Ether Start; Shorted to Battery
SID	157	4	RCP Test Function 1 Circuit Failed Low
SID	158	3	RCP Test Function 1 Circuit Failed High
SID	158	5	Ether Start; Open Load
SID	159	5	RCP Test Function 1 Circuit Failed Open
SID	160	4	RCP Test Function 2 Circuit Failed Low
SID	161	3	RCP Test Function 2 Circuit Failed High
SID	162	5	RCP Test Function 2 Circuit Failed Open
SID	163	4	Volute Control Valve; Shorted to Ground
PID	163	13	J1939 Transmission Current Gear Signal is missing
PID	163	19	J1939 Transmission Current Gear Signal is erratic
PID	164	3	Rail Pressure Governor Sensor Circuit Failed High
PID	164	3	Rail Pressure Governor (High Side) Error
SID	164	3	Volute Control Valve; Shorted to Battery
PID	164	4	Rail Pressure Governor Sensor Circuit Failed Low
PID	164	4	Rail Pressure Governor (Low Side) Error
PID	164	5	Rail Pressure Governor Error; Current Governor; Current Too Low
PID	164	7	Rail Pressure Governor Error; Pressure Governor; Pressure Not Plausible
PID	164	14	Rail Pressure Governor Error; Open Loop Error
SID	165	5	Volute Control Valve; Open Load
SID	166	4	Volute Shut Off Valve; Shorted to Ground
SID	167	3	Volute Shut Off Valve; Shorted to Battery
PID	168	0	Battery Voltage High
PID	168	1	Battery Voltage Low
SID	168	5	Volute Shut Off Valve; Open Load
PID	168	0	Battery Voltage Very Low
PID	168	0	Battery Voltage High
PID	168	14	Opt Idle Detected Charging System or Battery Failure
PID	168	14	ECU powerdown not completed (Main Battery Terminal Possibly Floating)
PID	168	18	Battery Voltage Low
SID	169	4	Function 30 Circuit Failed Low
SID	170	3	Function 30 Circuit Failed High
PID	171	3	Ambient Temperature Circuit Failed High
PID	171	4	Ambient Temperature Circuit Failed Low
SID	171	5	Function 30 Circuit Failed Open
PID	171	2	Ambient Temperature Sensor Data Erratic
PID	171	9	J1587 Ambient Air Temp Sensor Data Message Stopped Arriving
PID	171	14	J1587 Ambient Air Temp Sensor Data Not Received This Ign Cycle
SID	172	4	Function 31 Circuit Failed Low

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PID/SID	J1587	FMI	
SID	173	3	Function 31 Circuit Failed High
PID	174	0	Fuel Temperature Too High
PID	174	2	Fuel Temperature Sensor; General Temp. Plausibility
PID	174	3	Fuel Temperature Circuit Failed High
PID	174	4	Fuel Temperature Circuit Failed Low
SID	174	5	Function 31 Circuit Failed Open
PID	175	2	Engine Oil Temperature Sensor; General Temp. Plausibility
PID	175	3	Engine Oil Temperature Circuit Failed High
PID	175	4	Engine Oil Temperature Circuit Failed Low
PID	175	14	Engine Oil Temperature Sensor Plausibility Fault
PID	187	3	Idle Volume Sensor Shorted to Battery
PID	187	4	Idle Volume Sensor Shorted to Ground
PID	190	0	Engine Speed High
SID	203	2	Throttle inhibit switch signal not plausible due to excess vehicle speed
SID	211	3	Multiplexer 2 Channel 1; Shorted High
SID	211	3	Multiplexer 2 Channel 2; Shorted High
SID	211	3	3V Sensor Supply Bank 1 Circuit Failed High
SID	211	3	Multiplexer 3 Channel 1; Shorted High
SID	211	3	Multiplexer 3 Channel 2; Shorted High
SID	211	3	3V Sensor Supply Bank 2 Circuit Failed High
SID	211	4	3V Sensor Supply Bank 1 Circuit Failed Low
SID	211	4	3V Sensor Supply Bank 2 Circuit Failed Low
SID	211	3	Accelerator Pedal Supply Voltage Circuit Failed High
SID	211	3	Accelerator Pedal Supply Voltage Circuit Failed High
SID	211	4	Accelerator Pedal Supply Voltage Circuit Failed Low
SID	211	4	Pwm Accelerator Pedal Supply Voltage Missing
SID	212	3	5V Sensor Supply Bank 1 Circuit Failed High
SID	212	3	Multiplexer 1 Channel 1; Shorted High
SID	212	3	Multiplexer 1 Channel 2; Shorted High
SID	212	3	5V Sensor Supply Bank 2 Circuit Failed High
SID	212	4	5V Sensor Supply Bank 1 Circuit Failed Low
SID	212	4	5V Sensor Supply Bank 2 Circuit Failed Low
SID	230	2	Idle Validation Switch Inputs Reversed
SID	230	3	Idle Validation Switch 1 Circuit Failed High
SID	230	4	Idle Validation Switch 1 Circuit Failed Low
SID	230	5	Idle Validation Switch 2 Circuit Failed Low
SID	230	6	Idle Validation Switch 2 Circuit Failed High
SID	231	9	J1939 Retarder Fluid Message is missing
SID	231	9	J1939 EEC2 Message is missing
SID	231	9	J1939 ETC1 Message is missing
SID	231	13	J1939 Transmission Output Shaft Speed Signal is missing
SID	231	19	J1939 Transmission Output Shaft Speed Signal is erratic
SID	231	9	J1939 ETC2 Message is missing
SID	231	9	J1939 CCVS Message from Source #1 is missing
SID	231	9	J1939 CCVS Message from Source #2 is missing
SID	231	9	J1939 CCVS Message from Source #3 is missing
SID	231	14	J1939 Data Link Failure
SID	231	9	J1939 EBC2 Message from ABS is missing
SID	231	13	J1939 Front Axle Speed Signal is missing
SID	231	19	J1939 Front Axle Speed Signal is erratic
SID	231	9	J1939 EBC1 Message is missing
SID	231	13	J1939 Engine Retarder Selection Signal Missing
SID	231	19	J1939 Engine Retarder Selection Signal Erratic
SID	231	9	J1939 PTO Message Not Received This Ignition Cycle
SID	231	9	J1939 CM1 Message is missing
SID	231	9	Adaptive Cruise Control Device Reporting Error

ECU128 Mercedes

PID/SID	J1587	FMI	
SID	231	9	J1939 TCO1 Message is missing
SID	231	13	J1939 Tachograph Vehicle Speed Signal is missing
SID	231	19	J1939 Tachograph Vehicle Speed Signal is erratic
SID	231	9	J1939 ERC1 Message is missing
SID	231	9	J1939 TCFG2 Message is missing
SID	231	9	J1939 ETC7 Message is missing
SID	231	9	J1939 ESS Message is missing
SID	233	12	CPC2 Hardware Failure
SID	234	13	J1939 Park Brake Switch Signal from Source #1 is missing
SID	234	13	J1939 Park Brake Switch Signal from Source #2 is missing
SID	234	13	J1939 Park Brake Switch Signal from Source #3 is missing
SID	234	19	J1939 Park Brake Switch Signal from Source #1 is erratic
SID	234	19	J1939 Park Brake Switch Signal from Source #2 is erratic
SID	234	19	J1939 Park Brake Switch Signal from Source #3 is erratic
SID	242	13	J1939 Cruise Control Accelerate Switch Signal from Source #1 is missing
SID	242	13	J1939 Cruise Control Accelerate Switch Signal from Source #2 is missing
SID	242	13	J1939 Cruise Control Accelerate Switch Signal from Source #3 is missing
SID	242	19	J1939 Cruise Control Accelerate Switch Signal from Source #1 is erratic
SID	242	19	J1939 Cruise Control Accelerate Switch Signal from Source #2 is erratic
SID	242	19	J1939 Cruise Control Accelerate Switch Signal from Source #3 is erratic
SID	243	4	Cruise Control SET and RESUME Circuits Failed Low
SID	243	13	J1939 Cruise Control Coast Switch Signal from Source #1 is missing
SID	243	13	J1939 Cruise Control Coast Switch Signal from Source #2 is missing
SID	243	13	J1939 Cruise Control Coast Switch Signal from Source #3 is missing
SID	243	19	J1939 Cruise Control Coast Switch Signal from Source #1 is erratic
SID	243	19	J1939 Cruise Control Coast Switch Signal from Source #2 is erratic
SID	243	19	J1939 Cruise Control Coast Switch Signal from Source #3 is erratic
SID	244	13	J1939 Cruise Control Enable Switch Signal from Source #1 is missing
SID	244	13	J1939 Cruise Control Enable Switch Signal from Source #2 is missing
SID	244	13	J1939 Cruise Control Enable Switch Signal from Source #3 is missing
SID	244	19	J1939 Cruise Control Enable Switch Signal from Source #1 is erratic
SID	244	19	J1939 Cruise Control Enable Switch Signal from Source #2 is erratic
SID	244	19	J1939 Cruise Control Enable Switch Signal from Source #3 is erratic
SID	246	2	Service Brake Status Not Plausible
SID	246	13	J1939 Service Brake Switch Signal from Source #1 is missing
SID	246	13	J1939 Service Brake Switch Signal from Source #2 is missing
SID	246	13	J1939 Service Brake Switch Signal from Source #3 is missing
SID	246	19	J1939 Service Brake Switch Signal from Source #1 is erratic
SID	246	19	J1939 Service Brake Switch Signal from Source #2 is erratic
SID	246	19	J1939 Service Brake Switch Signal from Source #3 is erratic
PID	247	0	MCM Engine Hours Data higher than expected
PID	247	1	MCM Engine Hours Data lower than expected
PID	247	9	MCM Engine Hours Data not received or stopped arriving
PID	247	10	MCM Engine Hours Data increasing at an implausible rate
PID	247	14	MCM Reported Ash Mileage is Lower then the CPC Stored Value
SID	248	2	Invalid Data on Engine CAN Link
SID	248	9	No Data Received from Engine CAN Link
SID	248	9	Engine CAN Low Wire Defect - (wire 1)
SID	248	9	Engine CAN High Wire Defect - (wire 2)
SID	248	2	ECAN ID_1629 Diagnostic Message Reporting Data Not Available
SID	248	4	ECAN Link Circuit Failure
SID	248	9	ECAN ID_1629 Diagnostic Message No Longer Being Received
SID	248	9	Incorrect MCM System ID Received
SID	248	9	MCM System ID Not Received or Stopped Arriving
SID	248	10	ECAN ID_1629 Reporting Inconsistent Number of Frames
SID	248	13	ECAN ID_1629 Diagnostic Message Not Received This Ignition Cycle

ECU128 Mercedes

PID/SID	J1587	FMI	
SID	248	14	ECAN ID_1629 Diagnostic Message Reporting an Unknown MUID
SID	250	14	J1708 Data Link Failure
SID	251	4	Proportional Valve Bank 1 Circuit Failed Low
SID	253	12	EEPROM Read / Write Operation Failed
SID	253	13	Calibration Data Not Plausible
SID	253	13	Calibration Data Not Plausible (CPLD)
SID	253	2	EEPROM Checksum Failure
SID	253	2	EEPROM Checksum Failure for the SCR Block
SID	253	13	SCR Number Out of Range
SID	254	14	XFLASH Static Fault Code Memory Page Read Write Failure
SID	254	2	CPC Hardware/Software Mismatch
SID	254	12	DDEC Data Xflash Write Error. Replace CPC2.
SID	257	3	MIL Lamp Circuit Failed High
SID	257	4	MIL Lamp Circuit Failed Low
SID	257	5	MIL Lamp Circuit Failed Open
SID	257	3	Digital Output 3 16 Circuit Failed High
SID	257	4	Digital Output 3 16 Circuit Failed Low
SID	258	3	Digital Output 4 06 Circuit Failed High
SID	258	4	Digital Output 4 06 Circuit Failed Low
SID	259	3	Turbo Brake Sleeve Circuit Failed High
SID	259	4	Turbo Brake Sleeve Circuit Failed Low
SID	259	5	Turbo Brake Sleeve Circuit Failed Open
SID	259	3	Digital Output 1 05 Circuit Failed High
SID	259	4	Digital Output 1 05 Circuit Failed Low
SID	260	3	Digital Output 1 04 Circuit Failed High
SID	260	4	Digital Output 1 04 Circuit Failed Low
SID	261	3	Function 20 Circuit Failed High
SID	261	4	Function 20 Circuit Failed Low
SID	261	5	Function 20 Circuit Failed Open
SID	261	3	Digital Output 3 07 Circuit Failed High
SID	261	4	Digital Output 3 07 Circuit Failed Low
SID	261	5	Digital Output 3 07 Open Circuit
SID	261	7	TOP2 Shift Failure
SID	262	3	EGR Water Cooling Regulator Circuit Failed High
SID	262	4	EGR Water Cooling Regulator Circuit Failed Low
SID	262	5	EGR Water Cooling Regulator Circuit Failed Open
SID	262	3	Digital Output 3 08 Circuit Failed High
SID	262	4	Digital Output 3 08 Circuit Failed Low
SID	262	5	Digital Output 3 08 Open Circuit
SID	263	3	High Side Digital Output # 1 Circuit Failed High
SID	263	3	High Side Digital Output # 2 Circuit Failed Open
SID	263	4	High Side Digital Output # 1 Circuit Failed Low
SID	263	3	Digital Output 4 10 Circuit Failed High
SID	264	4	High Side Digital Output # 2 Circuit Failed Low
SID	269	0	VNT Valve Position Feedback; Position Too Low (High Box)
SID	269	1	VNT Valve Position Feedback; Position Too High (Low Box)
SID	269	2	VNT Valve Position Feedback Failed
SID	269	3	Position Waste Gate (VNT) Failed High
SID	269	4	Position Waste Gate (VNT) Failed Low
SID	269	9	Turbo Actuator (CAN3) Communication Error
SID	272	2	Charge Air Cooler Outlet Temperature Sensor Plausibility Error
SID	272	3	Charge Air Cooler Outlet Temperature Circuit Failed High
SID	272	4	Charge Air Cooler Outlet Temperature Circuit Failed Low
SID	272	20	Charge Air Outlet Temperature Drift (Low box)
SID	272	21	Charge Air Outlet Temperature Drift (High box)

ECU128 Mercedes

PID/SID	J1587	FMI	
SID	273	2	Turbocharger/Supercharger Boost System Performance
SID	273	3	Turbocharger Compressor Outlet Pressure Circuit Failed High
SID	273	3	Charge Air Cooler Outlet Pressure Circuit Failed High
SID	273	4	Turbocharger Compressor Outlet Pressure Circuit Failed Low
SID	273	4	Charge Air Cooler Outlet Pressure Circuit Failed Low
SID	277	0	EGR Flow Target Error Diagnostic - High Flow
SID	277	1	EGR Flow Target Error Diagnostic - Low Flow
PID	314	2	Compressor Pressure Plausibility Fault (High Box)
SID	314	3	Turbocharger Compressor Inlet Pressure Circuit Failed High
SID	314	4	Turbocharger Compressor Inlet Pressure Circuit Failed Low
PID	314	5	Compressor Inlet Pressure Plausibility Fault (Delta)
SID	314	20	Compressor Inlet Pressure Plausibility Error; Pressure Too High (High Box)
SID	317	3	Injector Needle Control Valve Cylinder 1;2;3 Shorted to Battery
SID	317	3	Injector Needle Control Valve Cylinder 4;5;6 Shorted to Battery
SID	317	3	Switching Power Supply Voltage Failed High
SID	317	3	Injector Needle Control Valve Bank 3; Shorted to Battery
SID	317	3	Injector Spill Control Valve Cylinder 1;2;3 Shorted to Battery
SID	317	3	Injector Spill Control Valve Cylinder 4;5;6 Shorted to Battery
SID	317	3	Injector Spill Control Valve ("Amplifier") Bank 6; Shorted to Battery
SID	317	4	Injector Needle Control Valve Cylinder 1; 2; 3 Shorted to Ground
SID	317	4	Injector Needle Control Valve Cylinder 4; 5; 6 Shorted to Ground
SID	317	4	Switching Power Supply Voltage Failed Low
SID	317	4	Injector Needle Control Valve Bank 3; Shorted to Ground
SID	317	4	Injector Spill Control Valve Cylinder 1; 2; 3 Shorted to Ground
SID	317	4	Injector Spill Control Valve Cylinder 4; 5; 6 Shorted to Ground
SID	317	4	Injector Spill Control Valve ("Amplifier") Bank 6; Shorted to Ground
SID	318	2	DOC Inlet Temperature Sensor - Plausibility Error
PID	318	3	DOC Inlet Temperature Circuit Failed High
PID	318	4	DOC Inlet Temperature Circuit Failed Low
SID	318	10	DOC Inlet Temperature Sensor Stuck
SID	320	0	DPF Outlet Temperature High
SID	320	2	DPF Outlet Temperature Sensor - Plausibility Error
SID	320	3	DPF Oulet Temperature Circuit Failed High
SID	320	4	DPF Oulet Temperature Circuit Failed Low
SID	320	10	DPF Outlet Temperature Sensor Stuck
SID	320	14	Abnormal DPF Temperature Rise 2
SID	322	0	DOC Outlet Temperature Too High
SID	322	2	DOC Outlet Temperature Sensor - Plausibility Error
PID	322	3	DOC Outlet Temperature Circuit Failed High
PID	322	4	DOC Outlet Temperature Circuit Failed Low
SID	322	10	DOC Outlet Temperature Sensor Stuck
PID	322	14	Abnormal DOC Temperature Rise 2
SID	322	31	Abnormal DOC Temperature Rise 1
SID	323	31	Abnormal DPF Temperature Rise 1
SID	324	0	DPF Pressure Out of Range High
SID	324	1	Active Regen Temp Out of Range Low
SID	324	1	DPF Pressure Out of Range Low
SID	324	9	Abnormal Soot Rate
SID	324	16	DPF Pressure - Out of Range High
SID	332	1	Doser Fuel Supply Pressure Abnormal
SID	332	2	Doser Fuel Line Pressure Abnormal
SID	332	2	HC-Doser Fuel Pressure Not Plausible
SID	332	3	Doser Fuel Line Pressure Sensor Circuit Failed High
SID	332	4	Doser Fuel Line Pressure Sensor Circuit Failed Low
SID	332	14	Doser FLP Sensors Failed Self Test
SID	332	14	Doser Fuel Line Pressure Failed Self Test

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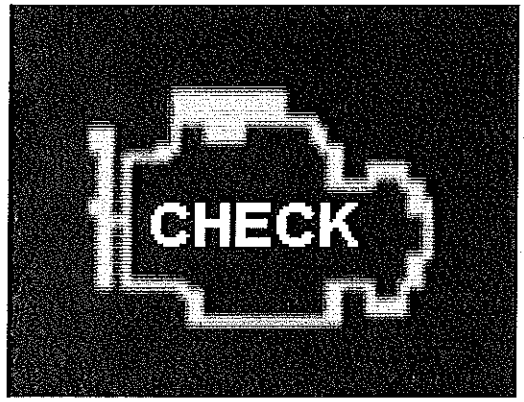
PID/SID	J1587	FMI	
SID	333	3	HC Doser Circuit Failed High
SID	333	4	HC Doser Circuit Failed Low
SID	333	5	HC Doser Circuit Failed Open
SID	333	14	Doser Metering and Safety Unit Valve Seals Check
SID	334	3	Fuel Cut Off Valve Circuit Failed High
SID	334	4	Fuel Cut Off Valve Circuit Failed Low
SID	334	5	Fuel Cut Off Valve Circuit Failed Open
PID	351	2	Coolant Temp/Compressor Inlet Temp Plausibility Error
PID	351	2	Turbocharger Compressor Inlet Temp. Sensor; General Temp. Plausibility Error
PID	351	3	Turbocharger Compressor Inlet Temperature Circuit Failed High
PID	351	4	Turbocharger Compressor Inlet Temperature Circuit Failed Low
PID	354	3	Relative Humidity Circuit Failed High
PID	354	4	Relative Humidity Circuit Failed Low
SID	362	6	Injector Cylinder #1 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	362	10	Injector Cylinder #1 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	362	14	Injector Cylinder #1 Spill Control Valve Abnormal Operation
SID	363	6	Injector Cylinder #2 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	363	10	Injector Cylinder #2 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	363	14	Injector Cylinder #2 Spill Control Valve Abnormal Operation
SID	364	6	Injector Cylinder #3 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	364	10	Injector Cylinder #3 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	364	14	Injector Cylinder #3 Spill Control Valve Abnormal Operation
SID	365	6	Injector Cylinder #4 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	365	10	Injector Cylinder #4 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	365	14	Injector Cylinder #4 Spill Control Valve Abnormal Operation
SID	366	6	Injector Cylinder #5 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	366	10	Injector Cylinder #5 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	366	14	Injector Cylinder #5 Spill Control Valve Abnormal Operation
SID	367	6	Injector Cylinder #6 Spill Control Valve ("Amplifier"); Valve Shorted Circuit
SID	367	10	Injector Cylinder #6 Spill Control Valve ("Amplifier") Abnormal Rate of Change
SID	367	14	Injector Cylinder #6 Spill Control Valve Abnormal Operation
SID	370	2	DPF Inlet Pressure Sensor Drifted High In Range Fault (High Box)
PID	370	3	DPF Inlet Pressure Circuit Failed High
PID	370	4	DPF Inlet Pressure Circuit Failed Low
SID	370	10	DPF Inlet Pressure Sensor Stuck
SID	370	20	DPF Inlet Pressure Sensor Drifted High In Range Fault (Low Box)
SID	370	21	DPF Inlet Pressure Sensor Drifted Low In Range Fault (Low Box)
SID	370	21	DPF Inlet Pressure Sensor Drifted Low In Range Fault (High Box)
SID	371	0	DPF System Back Pressure Too High
SID	371	2	DPF Outlet Pressure Sensor Plausibility Error
SID	371	2	DPF Outlet Pressure Sensor Drifted Low In Range Fault (High Box)
SID	371	3	DPF Outlet Pressure Circuit Failed High
SID	371	4	DPF Outlet Pressure Circuit Failed Low
SID	371	10	DPF Outlet Pressure Sensor Stuck
SID	371	14	DPF Outlet Pressure Sensor Drifted High In Range Fault (High Box)
SID	371	20	DPF Outlet Pressure Sensor Drifted High In Range Fault (Low Box)
SID	371	21	DPF Outlet Pressure Sensor Drifted Low In Range Fault (Low Box)
PID	372	2	Remote Accelerator Pedal Supply Voltage Out of Range
PID	372	3	Remote Accelerator Pedal Circuit Failed High
PID	372	4	Remote Accelerator Pedal Circuit Failed Low
SID	382	0	Regen Temperature - Out of Range High
SID	382	1	Regen Temperature - Out of Range Low
PID	404	2	Turbocharger Compressor Outlet Temp. Sensor; General Temp. Plausibility Error
PID	404	3	Turbocharger Compressor Outlet Temperature Circuit Failed High
PID	404	4	Turbocharger Compressor Outlet Temperature Circuit Failed Low

ECU128 Mercedes

PID/SID	J1587	FMI	
PID	404	20	Turbocharger Out Temperature; Temperature Too High (Low Box)
PID	404	21	Turbocharger Out Temperature; Temperature Too Low (High Box)
PID	411	0	EGR Differential Pressure Failed (High Box)
PID	411	1	EGR Differential Pressure Failed (Low Box)
PID	411	3	EGR Delta Pressure Sensor Circuit High
PID	411	4	EGR Delta Pressure Sensor Circuit Low
PID	411	5	EGR Sampling Range Failed
PID	411	13	EGR Delta Pressure Sensor Out Of Calibration 1
PID	411	13	EGR Delta Pressure Sensor Out Of Calibration 2
PID	412	0	EGR Temperature Very High
PID	412	2	EGR Temperature Sensor; General Temp. Plausibility Error
PID	412	3	EGR Temperature Sensor Circuit Failed High
PID	412	4	EGR Temperature Sensor Circuit Failed Low
PID	412	16	EGR Temperature Sensor / Temperature Too High
PID	412	20	EGR Temperature Drift (High Box)
PID	412	21	EGR Temperature Drift (Low Box)



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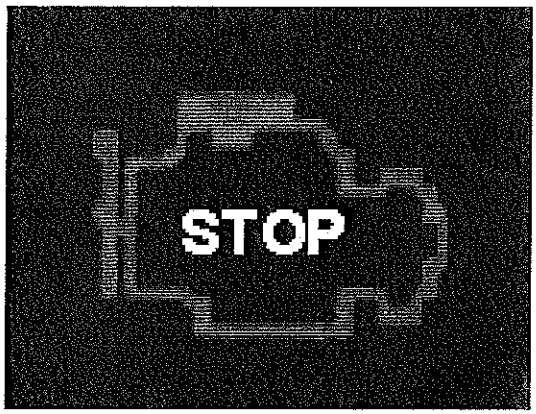
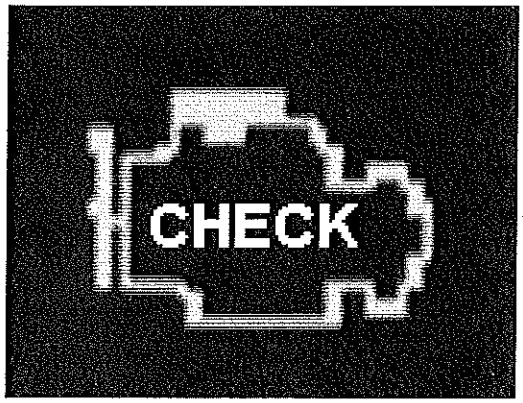
FAULT CODES



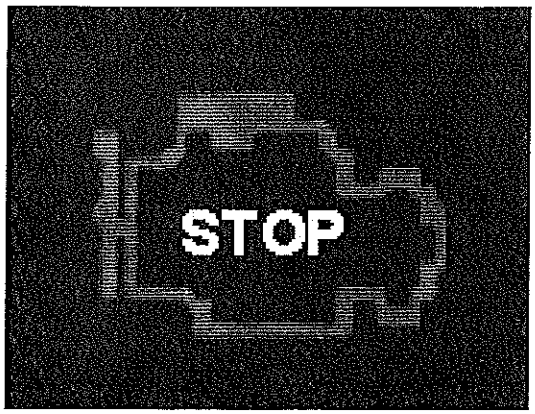
		ECU128	Cummins
PID/SID	FMI		
1	5	injector solenoid cyl#1	current below normal or open
2	5	injector solenoid cyl#2	current below normal or open
3	5	injector solenoid cyl#3	current below normal or open
4	5	injector solenoid cyl#4	current below normal or open
5	5	injector solenoid cyl#5	current below normal or open
6	5	injector solenoid cyl#6	current below normal or open
18	11	fuel injection control	error on fuel injection control valve
21	3	ECM failure	ecm internal temp above normal
21	4	ECM failure	ecm internal temp below normal
27	0	VGT actuator	data above normal range
27	11	VGT actuator	VGT not interpreting J1939 from ECM
27	4	EGR	EGR valve voltage below normal
27	7	VGT actuator	VGT unable to close
27	13	VGT actuator	out of calibration
27	12	VGT actuator	internal VGT failure
27	11	VGT actuator	mismatch between VGT and ECM calibration
27	9	VGT actuator	J1939 failure between VGT and ECM
33	4	fan control circuit	voltage below normal or shorted low
33	3	fan control circuit	voltage above normal or open circuit
39	3	starter relay	voltage above normal or shorted high
39	4	starter relay	voltage below normal or shorted low
51	11	auxiliary sensor	input failure
51	14	auxiliary sensor	engine protection sensor input
64	7	speed sensor	misalignment between crank and cam speed
64	2	speed sensor	erratic/incorrect data signal from crank and cam
64	2	camshaft speed/position	erratic data signal
70	3	intake heater	voltage above normal or shorted high
70	4	intake heater	voltage below normal or shorted low
79	3	engine brake	voltage above normal or shorted high
79	4	engine brake	voltage below normal or shorted low
80	4	engine brake	voltage below normal or shorted low
80	3	engine brake	voltage above normal or shorted high
81	0	particulate trap inlet	excessive black smoke detected
84	2	wheel speed sensor	erratic/incorrect data signal
84	10	wheel speed sensor	abnormal rate of change
91	3	throttle position	voltage above normal or shorted high
91	4	throttle position	voltage below normal or open circuit
91	2	accelerator pedal	oem transmitted pedal fault
91	2	accelerator pedal	erratic data signal
97		water in fuel	data above normal range
97	3	water in fuel	voltage above normal or shorted high
97	4	water in fuel	voltage below normal or shorted low
98	2	engine oil level	erratic/incorrect data signal
98	1	engine oil level	level below normal range
98	1	engine oil level	level below normal range
98	4	engine oil level	voltage below normal or shorted low
98	0	engine oil level	level above normal range
100	3	oil pressure sensor	voltage above normal or shorted high
100	4	oil pressure sensor	voltage below normal or open circuit
100	1	oil pressure sensor	pressure below normal range
100	1	oil pressure sensor	oil pressure below protection limits
100	2	oil pressure sensor	erratic/incorrect data signal
101	0	crankcase pressure	pressure above normal range
101	0	crankcase pressure	pressure above normal range
101	3	crankcase pressure	voltage above normal or shorted high

		ECU128	Cummins
PID/SID	FMI		
101	4	crankcase pressure	voltage below normal or shorted low
101	2	crankcase pressure	erratic data signal
101	0	crankcase pressure	change crankcase breather
102	3	intake mfld pres sensor	voltage above normal or shorted high
102	4	intake mfld pres sensor	voltage below normal or open circuit
102	2	intake mfld pres sensor	data does not match current conditions
103	2	turbo speed	erratic/incorrect data signal
103	1	turbo speed	speed below normal range
103	0	turbo 1	turbo1 speed above normal range
103	10	turbo 1	turbo 1 speed abnormal rate of change
105	3	intake mfld tem sensor	voltage above normal or shorted high
105	4	intake mfld tem sensor	voltage below normal or open circuit
105	0	intake mfld tem sensor	temperature above protection limit
108	3	barometric pres sensor	voltage above normal or shorted high
108	4	barometric pres sensor	voltage below normal or shorted low
108	2	barometric pres sensor	erratic/incorrect data signal
110	3	coolant temp sensor	voltage above normal or shorted high
110	4	coolant temp sensor	voltage below normal or open circuit
110	0	coolant temp sensor	temperature above normal range
110	0	coolant temp sensor	temperature above protection limit
110	11	coolant temp sensor	EGR closed to reduce coolant temperature
111	3	coolant level sensor	voltage above normal or shorted high
111	4	coolant level sensor	voltage below normal or open circuit
111	1	coolant level sensor	level below normal range
111	1	coolant level sensor	level below normal range
115	11	oil change interval	change interval condition
126	4	fuel pump pressure	voltage below normal or shorted low
126	3	fuel pump pressure	voltage above normal or shorted high
126	7	fuel pump pressure	pumping imbalance or out of adjustment
126	3	electric lift pump	supply voltage high
126	4	electric lift pump	supply voltage low
131	3	Exhaust Gas Pressure	voltage above normal or shorted high
131	4	Exhaust Gas Pressure	voltage belwo normal or shorted low
131	2	Exhaust Gas Pressure	erratic data signal
145	2	cruise	erratic data signal
146	5	EGR	EGR control current below normal
146	4	EGR	EGR control current below normal
146	7	EGR	EGR control not responding,valve stuck
157	3	injector rail pressure	voltage above normal or shorted high
157	4	injector rail pressure	voltage beloe normal or shorted low
157	0	injector rail pressure	pressure above normal range
157	0	injector rail pressure	pressure above normal range
157	2	injector rail pressure	erratic/incorrect data signal
157	1	injector rail pressure	pressure below normal range
157	0	injector rail pressure	pressure above normal range
167	0	charging voltage	voltage above normal
167	1	charging voltage	voltage below normal
167	1	charging voltage	voltage below normal
168	1	ECM failure	supply voltage low
168	0	ECM failure	suply voltage high
171	3	ambient air tem sensor	voltage below normal or shorted low
171	4	ambient air tem sensor	voltage below normal or shorted low
190	2	position/speed signals	position/speed signals are incorrect/intermittent
190	0	crankshaft speed	engine speed above protection limits
190	2	crankshaft speed/position	loss of data signal
190	2	crankshaft speed	erratic data signal

		ECU128	Cummins
PID/SID	FMI		
212	4	sensor supply	voltage below normal or shorted low
212	3	sensor supply	voltage above normal or shorted high
231	9	J1939 data	not receiving J1939 data
231	13	J1939 data	J1939 configuration
231	9	J1939 data	loss of data signal
232	4	speed sensor	voltage below normal or shorted low
232	3	speed sensor	voltage above normal or shorted high
232	3	sensor supply	voltage above normal or shorted high
232	4	sensor supply	voltage below normal or shorted low
232	3	sensor supply	voltage above normal or shorted high
232	4	sensor supply	voltage below normal or shorted low
251	12	injector power supply	low voltage for injector power supply
251	2	ECM failure	igniton power lost to ecm
254	12	ECM failure	check ECM supply voltage; replace ECM
254	12	ECM failure	check ECM supply voltage; replace ECM
324	3	ATD	ATD differential pressure voltage above normal
324	4	ATD	ATD differential pressure voltage below normal
324	2	ATD	ATD differential pressure signal erratic
324	0	ATD	ATD differential pressure above limits
324	0	ATD	ATD differential pressure above limits, derate
324	0	ATD	ATD differential pressure above normal range
324	0	ATD	ATD soot load above limits
326	11	ATD	ATD temp and pressure sensors reversed
326	4	ATD	ATD temp voltage below normal or shorted low
326	3	ATD	ATD temp voltage above normal or shorted high
326	2	ATD	ATD temp erratic data
327	4	ATD	ATD temp voltage below normal or shorted low
327	3	ATD	ATD temp voltage above normal or shorted high
327	2	ATD	ATD temp erratic data
327	0	ATD	ATD temp data above normal range
327	0	ATD	ATD temp data above normal range
327	1	ATD	ATD temp does not reach limit for parked regen
327	1	ATD	ATD temp does not reach limit for parked regen
328	3	ATD	ATD temp voltage above normal or shorted high
328	4	ATD	ATD temp voltage below normal or shorted low
328	2	ATD	ATD temp data erratic
328	0	ATD	ATD temp data above normal range
328	0	ATD	ATD temp data above normal range
351	3	turbo inlet temp	voltage above normal or shorted high
351	4	turbo inlet temp	volltage below normal or shorted low
372	2	accelerator pedal	oem transmitted pedal fault
372	1	ambient air density	data below normal range
411	2	EGR	EGR delta pressure data erratic
411	1	EGR	EGR delta pressure below normal range
411	3	EGR	EGR delta pressure sensor voltage above normal
411	4	EGR	EGR delta pressure sensor voltage below normal
411	0	EGR	EGR delta pressure above normal
412	3	EGR	EGR temp sensor voltage above normal
412	4	EGR	EGR temp sensor voltage below normal
412	0	EGR	EGR temp above normal range



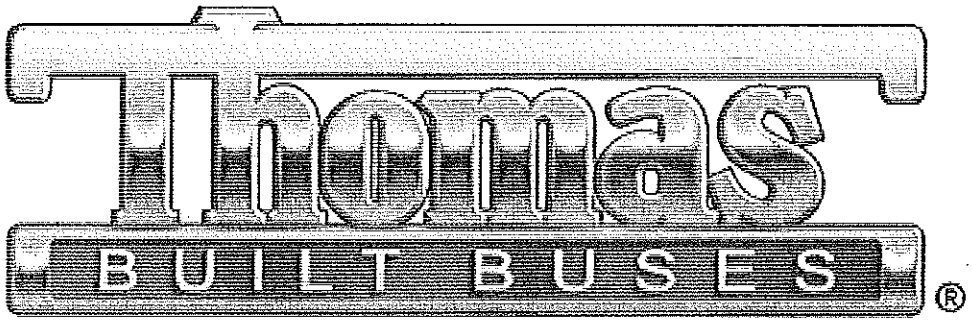
CATERPILLAR



		ECU128	Caterpillar
PID/SID	FMI		
1	11	injector solenoid cyl#1	current below normal or open
2	11	injector solenoid cyl#2	current below normal or open
3	11	injector solenoid cyl#3	current below normal or open
4	11	injector solenoid cyl#4	current below normal or open
5	11	injector solenoid cyl#5	current below normal or open
6	11	injector solenoid cyl#6	current below normal or open
22	13	ECU	speed signal calibration not performed
30	8	PTO	PTO throttle signal invalid
30	13	PTO	PTO throttle signal out of calibration
32	5	turbo wastegate solenoid	current below normal
32	6	turbo wastegate solenoid	current above normal or shorted to ground
32	11	turbo wastegate solenoid	current mismatch
41	3	8 volt supply	voltage above normal or shorted high
41	4	8 volt supply	voltage below normal or shorted low
42	11	Injection Actuation Pump	output failure
43	2	ECU	key switch
64	2	speed sensor	loss of signal
64	11	speed sensor	erratic data signal
70	5	intake heater	current beow normal
70	6	intake heater	current above normal or shorted to ground
71	1	idle	idle shutdown
71	14	PTO	PTO shutdown
84	0	vehicle speed sensor	over speed warning
84	1	vehicle speed sensor	loss of signal
84	2	vehicle speed sensor	erratic/incorrect data signal
84	8	vehicle speed sensor	signal out of normal range
84	10	vehicle speed sensor	abnormal rate of change
84	14	vehicle speed sensor	quick stop occurance
91	8	throttle position	invalid signal
91	13	throttle position	out of calibration
94	1	fuel pressure	low fuel pressure
94	3	fuel pressure	voltage above normal
94	4	fuel pressure	voltage below normal
94	11	fuel pressure	low cranking fuel pressure
96	3	fuel level	voltage above normal
96	4	fuel level	voltage below normal
100	1	oil pressure sensor	low pressure warning
100	3	oil pressure sensor	voltage above normal
100	4	oil pressure sensor	voltage below normal
100	11	oil pressure sensor	very low oil pressure
102	1	intake mfld pres sensor	low boost pressure
102	3	intake mfld pres sensor	voltage above normal or shorted high
102	4	intake mfld pres sensor	voltage below normal or open circuit
102	2	intake mfld pres sensor	data does not match current conditions
102	7	intake mfld pres sensor	not responding
105	3	intake mfld tem sensor	voltage above normal or shorted high
105	4	intake mfld tem sensor	voltage below normal or open circuit
105	0	intake mfld tem sensor	temperature above protection limit
105	11	intake mfld tem sensor	very high intake air temperature

		ECU128	Caterpillar
PID/SID	FMI		
108	3	barometric pres sensor	voltage above normal or shorted high
108	4	barometric pres sensor	voltage below normal or shorted low
108	2	barometric pres sensor	erratic/incorrect data signal
110	3	coolant temp sensor	voltage above normal or shorted high
110	4	coolant temp sensor	voltage below normal or open circuit
110	0	coolant temp sensor	temperature above normal range
110	11	coolant temp sensor	very high coolant temperature
111	2	coolant level sensor	invalid signal
111	3	coolant level sensor	voltage above normal or shorted high
111	4	coolant level sensor	voltage below normal or open circuit
111	1	coolant level sensor	level below normal range
111	11	coolant level sensor	very low coolant level
128	3	sec fuel level	voltage below normal or shorted low
128	4	sec fuel level	voltage above normal or shorted high
164	2	injection actuation pressure	erratic signal
164	3	injection actuation pressure	voltage above normal
164	4	injection actuation pressure	voltage below normal
164	0	injection actuation pressure	excessive pressure
164	11	injection actuation pressure	system failure
168	2	ECM failure	supply voltage intermittent
168	1	ECM failure	supply voltage low
168	0	ECM failure	supply voltage high
173	0	exhaust temperature	derate for high exhaust temperature
173	11	exhaust temperature	derate for very high exhaust temperature
186	4	PTO	PTO shutdown switch v oltage low
186	14	PTO	PTO shutdown switch occurance
190	0	engine speed	overspeed warning
190	2	engine speed	loos of data signal
190	11	engine speed	erratic signal
224	11	theft deterent	active signal
224	14	theft deterent	active signal when cranking
231	2	J1939 data	incorrect data fron J1939
231	11	J1939 data	J1939 configuration
231	12	J1939 data	loss of data signal
231	14	J1939 data	transmission data link derate
232	3	5 volt supply	voltage above normal
232	4	5 volt supply	voltage below normal
232	3	sensor supply	voltage above normal or shorted high
232	4	sensor supply	voltage below normal or shorted low
246	11	brake pedal switch1	switch not responding
247	11	brake pedal switch2	switch not responding
251	12	injector power supply	low voltage for injector power supply
251	2	ECM failure	igniton power lost to ecm
252	11	ECU	incorrect engine software
253	2	ECU	customer or system parameters
253	14	ECU	OEM parameter not programmed
311	14	ATD	active regeneration inhibited due to low exhaust temperature
314	3	clean gas induction	CGI pressure sensor voltage above normal
314	4	clean gas induction	CGI pressure sensor voltage below normal

		ECU128	Caterpillar
PID/SID	FMI		
315	2	clean gas induction	CGI temp high
315	3	clean gas induction	CGI temp sensor voltage above normal
315	4	clean gas induction	CGI temp sensor voltage below normal
316	0	clean gas induction	CGI flow rate high
316	3	clean gas induction	CGI temp sensor voltage above normal
316	4	clean gas induction	CGI temp sensor voltage below normal
316	11	clean gas induction	CGI flow rate high
316	14	clean gas induction	CGI flow rate low
317	5	clean gas induction	CGI actuator shaft current below normal
317	6	clean gas induction	CGI actuator shaft current above normal
324	0	ATD	ATD differential pressure above limits
320	0	ATD	ATD filter temperature high
320	1	ATD	ATD filter temperature high
320	11	ATD	ATD filter temperature very high
320	3	ATD	ATD filter temperature sensor voltage above normal
320	4	ATD	ATD filter temperature sensor voltage below normal
324	11	ATD	ATD differntial pressure, high filter restriction
324	3	ATD	ATD differential pressure voltage above normal
324	4	ATD	ATD differential pressure voltage below normal
324	2	ATD	ATD differential pressure signal erratic
324	1	ATD	ATD differential pressure , filter restricted
324	0	ATD	ATD differential pressure above limits
327	2	ATD	ATD exhaust gas temperature 2 data drifted high
327	3	ATD	ATD exhaust gas temperature 2 voltage above normal
327	4	ATD	ATD exhaust gas temperature 2 voltage below normal
332	3	aftertreatment fuel pressure control	aftertreatment fuel pressure sensor voltage above normal
332	4	aftertreatment fuel pressure control	aftertreatment fuel pressure sensor voltage below normal
332	11	aftertreatment fuel pressure control	aftertreatment fuel presuure high
333	5	aftertreatment fuel pressure control	ARD solenoid current abovenormal
333	6	aftertreatment fuel pressure control	ARD solenoid current above normal
334	5	aftertreatment fuel actuator	ARD solenoid current below normal
334	6	aftertreatment fuel actuator	ARD solenoid current above normal
335	5	aftertreatment ignition	ARD ignition current below normal
335	6	aftertreatment ignition	ARD ignition current above normal
336	3	aftertreatment 2 fuel pressure	sensor voltage above normal
336	4	aftertreatment 2 fuel pressure	sensor voltage below normal
336	11	aftertreatment 2 fuel pressure	fuel pressure high
341	5	aftertreatment purge air actuator	ARD purge air current below normal
341	6	aftertreatment purge air actuator	ARD purge air current above normal
349	1	aftertreatment purge air actuator	ARD purge air pressure low
349	7	aftertreatment purge air actuator	ARD purge pressure not responding
350	5	aftertreatment air pressure control	ARD solenoid current below normal
350	6	aftertreatment air pressure control	ARD solenoid current above normal
350	7	aftertreatment air pressure control	ARD solenoid not responding
356	11	ATD	ARD failed to ignite
357	11	ATD	ARD loss of ignition
360	11	aftertreatment	parked regen manually disabled
373	3	ATD secondary differntial pressure	sensor voltage above normal
373	4	ATD secondary differntial pressure	sensor voltage below normal



J1939 Fault Codes

for

2010
Saf-T-Liner HDX
Saf-T-Liner EF
Saf-T-Liner C2

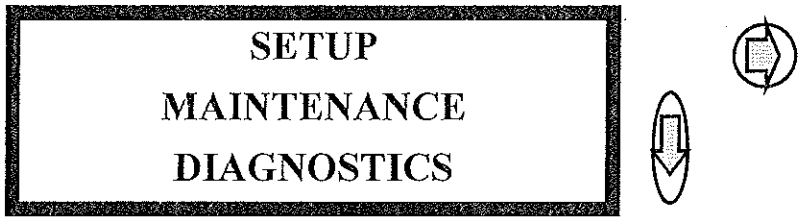
Retrieving codes HDX/EF

- Retrieving codes from the Dash

- The parking brake must be set
- Press and hold the right arrow for 3 seconds
- This will access the auxiliary screens

Auxiliary Screens

- Diagnostics

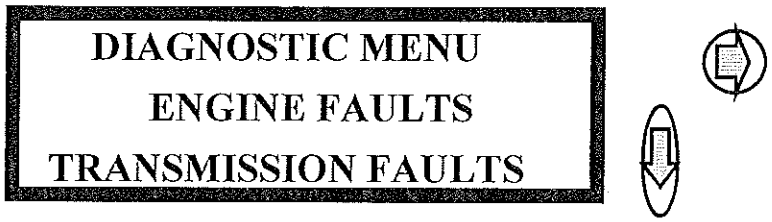


To view the DIAGNOSTICS menu, Scroll down using the down arrow to diagnostics and then press the **Right arrow**.

Once in the menu use the down arrow to scroll down and the right arrow to enter that item.

Auxiliary Screens

- Diagnostics Available



The following options are available under the DIAGNOSTICS menu.

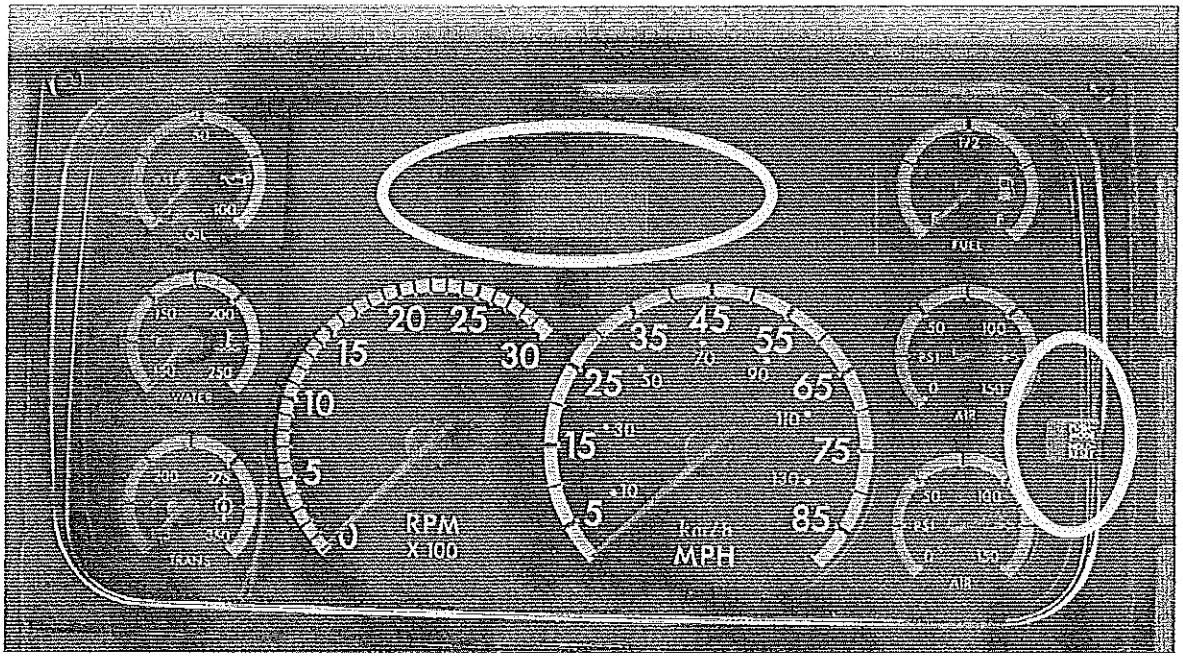
- ENGINE FAULTS
- TRANSMISSION FAULTS
- ABS FAULTS
- CHECK OUTPUTS
- CHECK DATA INPUTS
- ODOMETER DIAGNOSTICS
- CHECK GAUGES
- CHECK WARNING LAMPS
- CHECK LCD
- CHECK BINARY INPUTS
- CHECK ANALOG INPUTS
- CHECK DATA LINK
- VERSION INFORMATION
- EXIT

Retrieving codes 2010 C2

Your ICU dash will display the numbers for the modules that have an active fault.

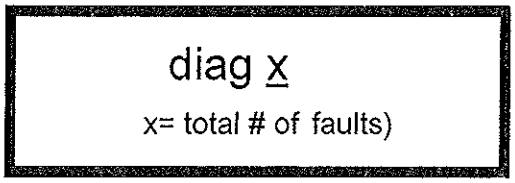
The complete SAE fault code can be retrieved.

ICU dashes can not be used to clear historic fault codes.

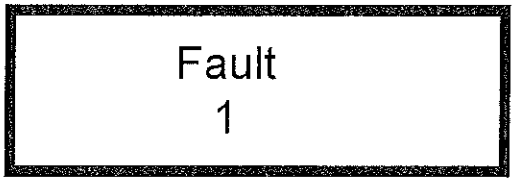


How to retrieve active fault codes
(ICU3 and ICU4 dash models)

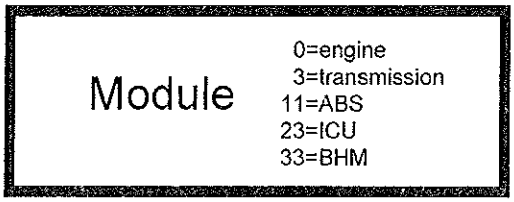
1. Set parking brake
2. Ignition key to "on" position
3. Push and release mode button



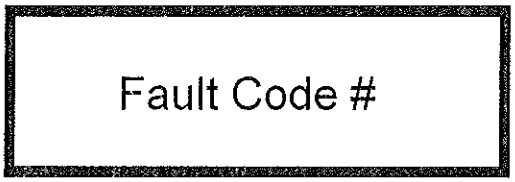
4. Push and hold mode button



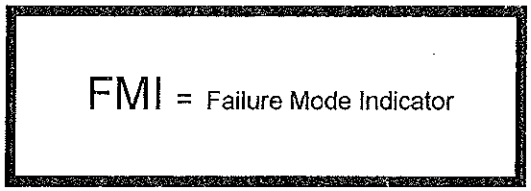
5. Push and release mode button



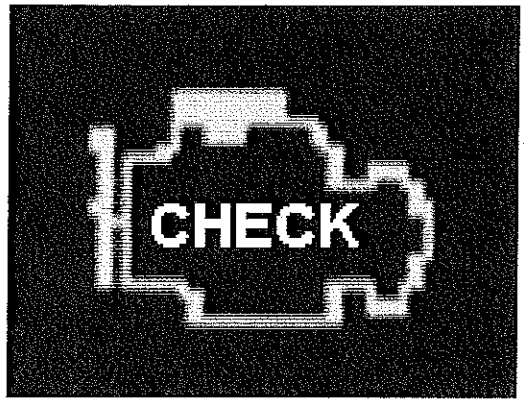
6. Push and release mode button



7. Push and release mode button



8. For multiple codes repeat steps 4-7



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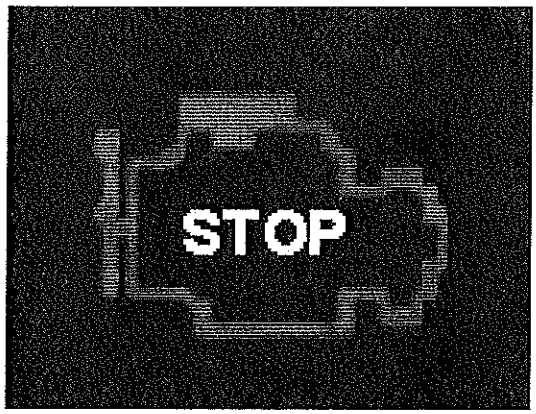
FAULT CODES



Cummins

SPN	FMI	Item	Cause	ISB	ISC	ISL
27	4	EGR valve	Voltage below normal or shorted low	y	y	y
81	16	DPF intake pressure	Data valid but above normal range	y	y	y
84	2	Wheel based Vehicle speed	data erratic or intermittent	y	y	y
84	9	Wheel based Vehicle speed	Abnormal update rate	y	y	y
84	10	Wheel based Vehicle speed	Tampering has been detected	y	y	y
91	2	Accelerator Pedal position 1	data erratic or intermittent	y	y	y
91	3	Accelerator Pedal	Voltage above normal or shorted high	y	y	y
91	4	Accelerator Pedal	Voltage below normal or shorted low	y	y	y
91	9	Accelerator Pedal position 1	Abnormal update rate	y	y	y
91	19	Accelerator Pedal position 1	Received Network Data in error	y	y	y
95	16	Fuel filter differential pressure	Data valid but above normal range	y	y	y
97	3	Water in fuel	Voltage above normal or shorted high	y	y	y
97	4	Water in fuel	Voltage below normal or shorted low	y	y	y
97	15	Water in fuel	data valid but above normal range, least severe	y	y	y
97	16	Water in fuel	Data valid but above normal range	y	y	y
98	0	Engine Oil Level	data valid but above normal range, most severe	y	y	y
98	1	Engine Oil Level	Data valid but below normal range, most severe	y	y	y
98	2	Engine Oil Level	data erratic or intermittent	y	y	y
98	3	Engine Oil Level	Voltage above normal or shorted high	y	y	y
98	4	Engine Oil Level	Voltage below normal or shorted low	y	y	y
98	17	Engine Oil Level	Data valid but below normal, least severe	y	y	y
100	1	Engine Oil Pressure Sensor	Data valid but below normal range, most severe	y	y	y
100	2	Engine Oil Pressure Sensor	data erratic or intermittent	n	y	y
100	3	Engine Oil Pressure Sensor	Voltage above normal or shorted high	n	y	y
100	4	Engine Oil Pressure Sensor	Voltage below normal or shorted low	n	y	y
100	18	Engine Oil Pressure Sensor	Data valid but below normal range	n	y	y
101	0	Crankcase Pressure	data valid but above normal range, most severe	y	y	y
101	2	Crankcase Pressure	data erratic or intermittent	y	y	y
101	3	Crankcase Pressure	Voltage above normal or shorted high	y	y	y
101	4	Crankcase Pressure	Voltage below normal or shorted low	y	y	y
101	15	Crankcase Pressure	data valid but above normal range, least severe	y	y	y
101	16	Crankcase Pressure	Data valid but above normal range	y	y	y
102	3	Intake Manifold #1 Pressure Sensor	Voltage above normal or shorted high	y	y	y
102	4	Intake Manifold #1 Pressure Sensor	Voltage below normal or shorted low	y	y	y
103	2	Turbocharger speed	data erratic or intermittent	y	y	y
103	10	Turbocharger speed	abnormal rate change	y	y	y
103	15	Turbocharger speed	data valid but above normal range, least severe	y	y	y
103	16	Turbocharger speed	Data valid but above normal range	y	y	y
103	18	Turbocharger speed	Data valid but below normal range	y	y	y
105	0	Intake Manifold tempature	data valid but above normal range, most severe	y	y	y
105	2	Engine Oil Pressure Sensor	data erratic or intermittent	y	y	y
105	3	Intake Manifold tempature	Voltage above normal or shorted high	y	y	y
105	4	Intake Manifold tempature	Voltage below normal or shorted low	y	y	y
105	15	Engine intake manifold temperature	data valid but above normal range, least severe	y	y	y
110	0	Engine Coolant Tempature Sensor	data valid but above normal range, most severe	y	y	y
110	3	Engine Coolant Tempature Sensor	Voltage above normal or shorted high	y	y	y
110	4	Engine Coolant Tempature Sensor	Voltage below normal or shorted low	y	y	y
110	15	Engine Coolant Tempature Sensor	data valid but above normal range, least severe	y	y	y
110	16	Engine Coolant Tempature Sensor	Data valid but above normal range	y	y	y
110	31	Engine Coolant Tempature Sensor	condition exists	y	y	y
111	3	Engine Coolant Level	Voltage above normal or shorted high	y	y	y
111	4	Engine Coolant Level	Voltage below normal or shorted low	y	y	y
111	17	Engine Coolant Level	Data valid but below normal, least severe	y	y	y
111	18	Engine Coolant Level	Data valid but below normal range	y	y	y
157	0	Engine Injector metering rail 1	data valid but above normal range, most severe	y	y	y
157	3	Engine Injector metering rail 1	Voltage above normal or shorted high	y	y	y

Cummins

SPN	FMI	Item	Cause	ISB	ISC	ISL
157	4	Engine Injector metering rail 1	Voltage below normal or shorted low	y	y	y
157	16	Engine Injector metering rail 1	Data valid but above normal range	y	y	y
167	1	Charging system	Data valid but below normal range, most severe	y	y	y
167	16	Charging system	Data valid but above normal range	y	y	y
167	18	Charging system	Data valid but below normal range	y	y	y
168	16	Batt power input 1	Data valid but above normal range	y	y	y
168	18	Batt power input 1	Data valid but below normal range	y	y	y
190	0	Engine Speed Sensor	data valid but above normal range, most severe	y	y	y
190	2	Engine Speed Sensor	data erratic or intermittent	y	y	y
190	2	Engine speed	data erratic or intermittent	y	y	y
191	9	Transmission Output shaft speed	Abnormal update rate	n	y	y
251	10	Time abnormal rate of change	abnormal rate change	y	y	y
411	2	EGR Differential Pressure	data erratic or intermittent	y	y	y
411	3	EGR Differential Pressure	Voltage above normal or shorted high	y	y	y
411	4	EGR Differential Pressure	Voltage below normal or shorted low	y	y	y
411	18	EGR Differential Pressure	Data valid but below normal range	y	y	y
412	2	EGR Temperature	data erratic or intermittent	y	y	y
412	3	EGR Temperature	Voltage above normal or shorted high	y	y	y
412	4	EGR Temperature	Voltage below normal or shorted low	y	y	y
412	15	EGR Temperature	data valid but above normal range, least severe	y	y	y
412	16	EGR Temperature	Data valid but above normal range	y	y	y
444	16	Batt power input 2	Data valid but above normal range	y	y	y
444	18	Batt power input 2	Data valid but below normal range	y	y	y
558	9	Accelerator Pedal 1	Abnormal update rate	y	y	y
558	19	Accelerator Pedal 1	Received Network Data in error	y	y	y
612	2	Engine Speed Sensor	lost both signals/connected backwards	y	y	y
627	2	Power Supply	data erratic or intermittent	y	y	y
627	12	Power Supply	Bad device	y	y	y
629	12	Engine Control Module	Bad device	y	y	y
630	12	Calibration Memory	Bad device	y	y	y
633	31	Engine fuel actuator 1 control	condition exists	y	y	y
639	2	J1939 Network	data erratic or intermittent	y	y	y
639	9	J1939 Network	Abnormal update rate	y	y	y
639	9	J1939 Network	Abnormal update rate	y	y	y
639	13	J1939 Network	Out of calibration	y	y	y
641	7	VG Turbo actuator 1	mechanical system not responding	y	y	y
641	9	VG Turbo actuator 1	Abnormal update rate	y	y	y
641	11	VG Turbo actuator 1	root cause unknown	y	y	y
641	12	VG Turbo actuator 1	Bad device	y	y	y
641	13	VG Turbo actuator 1	Out of calibration	y	y	y
641	15	VG Turbo actuator 1	data valid but above normal range, least severe	y	y	y
641	31	VG Turbo actuator 1	condition exists	y	y	y
647	3	Engine fan Clutch	Voltage above normal or shorted high	y	y	y
647	4	Engine fan Clutch	Voltage below normal or shorted low	y	y	y
651	5	Injector cylinder #1	Current below normal or open circuit	y	y	y
652	5	Injector cylinder #2	Current below normal or open circuit	y	y	y
653	5	Injector cylinder #3	Current below normal or open circuit	y	y	y
654	5	Injector cylinder #4	Current below normal or open circuit	y	y	y
655	5	Injector cylinder #5	Current below normal or open circuit	y	y	y
656	5	Injector cylinder #6	Current below normal or open circuit	y	y	y
677	3	Starter motor relay	Voltage above normal or shorted high	y	y	y
677	4	Starter motor relay	Voltage below normal or shorted low	y	y	y
703	11	Auxiliary I/O #3	root cause unknown	y	y	y
703	14	Auxiliary I/O #3	Special instructions	y	y	y
723	2	Engine speed 2	data erratic or intermittent	y	y	y
723	2	Engine speed 2	data erratic or intermittent	y	y	y

Cummins

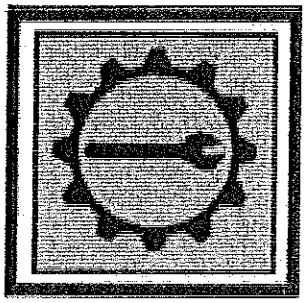
SPN	FMI	Item	Cause	ISB	ISC	ISL
729	3	Engine intake heater	Voltage above normal or shorted high	y	y	y
729	4	Engine intake heater	Voltage below normal or shorted low	y	y	y
974	3	Remote Accelerator Pedal	Voltage above normal or shorted high	y	y	y
974	4	Remote Accelerator Pedal	Voltage below normal or shorted low	y	y	y
974	19	Remote Accelerator Pedal	Received Network Data in error	y	y	y
1136	2	Engine ECU tempature	data erratic or intermittent	y	y	y
1136	3	Engine ECU tempature	Voltage above normal or shorted high	y	y	y
1136	4	Engine ECU tempature	Voltage below normal or shorted low	y	y	y
1172	2	Turbocharger intake tempature	data erratic or intermittent	y	y	y
1172	3	Turbocharger intake tempature	Voltage above normal or shorted high	y	y	y
1172	4	Turbocharger intake tempature	Voltage below normal or shorted low	y	y	y
1176	2	Turbocharge intake pressure	data erratic or intermittent	y	y	y
1176	3	Turbocharge intake pressure	Voltage above normal or shorted high	y	y	y
1176	4	Turbocharge intake pressure	Voltage below normal or shorted low	y	y	y
1209	2	Exhuast gas pressure	data erratic or intermittent	y	y	y
1209	3	Exhuast gas pressure	Voltage above normal or shorted high	y	y	y
1209	4	Exhuast gas pressure	Voltage below normal or shorted low	y	y	y
1231	2	J1939 Network 2	data erratic or intermittent	y	y	y
1235	2	J1939 Network 3	data erratic or intermittent	y	y	y
1347	3	Engine Fule Pump Pressurizing Assm	Voltage above normal or shorted high	y	y	y
1347	4	Engine Fule Pump Pressurizing Assm	Voltage below normal or shorted low	y	y	y
1378	31	Engine oil change interval	condition exists	y	y	y
1569	31	Engine protection Torque derate	condition exists	y	y	y
1590	2	Adaptive Cruise Control Mode	data erratic or intermittent	y	y	y
1761	1	SCR Tank level	Data valid but below normal range, most severe	y	y	y
1761	3	SCR Tank level	Voltage above normal or shorted high	y	y	y
1761	4	SCR Tank level	Voltage below normal or shorted low	y	y	y
1761	17	SCR Tank level	Data valid but below normal, least severe	y	y	y
1761	18	SCR Tank level	Data valid but below normal range	y	y	y
2623	3	Accelerator Pedal channel 2	Voltage above normal or shorted high	y	y	y
2623	4	Accelerator Pedal channel 2	Voltage below normal or shorted low	y	y	y
2791	4	EGR valve control	Voltage below normal or shorted low	y	y	y
2797	13	Engine Injector group 1	Out of calibration	n	y	y
3031	2	SCR Tank Temperature	data erratic or intermittent	y	y	y
3031	3	SCR Tank Temperature	Voltage above normal or shorted high	y	y	y
3031	4	SCR Tank Temperature	Voltage below normal or shorted low	y	y	y
3031	18	SCR Tank Temperature	Data valid but below normal range	y	y	y
3216	4	Aftertreatment intake NOX	Voltage below normal or shorted low	y	y	y
3226	2	Aftertreatment outlet NOX	data erratic or intermittent	y	y	y
3226	4	Aftertreatment outlet NOX	Voltage below normal or shorted low	y	y	y
3226	9	Aftertreatment outlet NOX	Abnormal update rate	y	y	y
3226	10	Aftertreatment outlet NOX	abnormal rate change	y	y	y
3228	2	Aftertreatment outlet gas sensor	data erratic or intermittent	y	y	y
3242	2	DPF intake gas temperature	data erratic or intermittent	y	y	y
3242	3	DPF intake gas temperature	Voltage above normal or shorted high	y	y	y
3242	4	DPF intake gas temperature	Voltage below normal or shorted low	y	y	y
3242	15	DPF intake gas temperature	data valid but above normal range, least severe	y	y	y
3242	16	DPF intake gas temperature	Data valid but above normal range	y	y	y
3246	2	DPF outlet gas temperature	data erratic or intermittent	y	y	y
3246	3	DPF outlet gas temperature	Voltage above normal or shorted high	y	y	y
3246	4	DPF outlet gas temperature	Voltage below normal or shorted low	y	y	y
3246	15	DPF outlet gas temperature	data valid but above normal range, least severe	y	y	y
3246	16	DPF outlet gas temperature	Data valid but above normal range	y	y	y
3251	0	DPF differential pressure	data valid but above normal range, most severe	y	y	y
3251	2	DPF differential pressure	data erratic or intermittent	y	y	y
3251	3	DPF differential pressure	Voltage above normal or shorted high	y	y	y

Cummins

SPN	FMI	Item	Cause	ISB	ISC	ISL
3251	4	DPF differential pressure	Voltage below normal or shorted low	y	y	y
3251	15	DPF differential pressure	data valid but above normal range, least severe	y	y	y
3251	16	DPF differential pressure	Data valid but above normal range	y	y	y
3360	2	DEF Controller	data erratic or intermittent	y	y	y
3360	9	DEF Controller	Abnormal update rate	y	y	y
3360	12	DEF Controller	Bad device	y	y	y
3360	19	DEF Controller	Data in error	y	y	y
3361	2	DEF Dosing Unit	data erratic or intermittent	y	y	y
3361	3	DEF Dosing unit	Voltage above normal or shorted high	y	y	y
3361	4	DEF Dosing unit	Voltage below normal or shorted low	y	y	y
3361	5	DEF Dosing unit	Current below normal or open circuit	y	y	y
3361	7	DEF Dosing unit	mechanical system not responding	y	y	y
3361	9	DEF Dosing Unit	Abnormal update rate	y	y	y
3361	11	DEF dosing unit	root cause unknown	y	y	y
3361	12	DEF Dosing Unit	Bad device	y	y	y
3362	7	DEF dosing unit input	mechanical system not responding	y	y	y
3363	3	SCR Tank Heater	Voltage above normal or shorted high	y	y	y
3363	4	SCR Tank Heater	Voltage below normal or shorted low	y	y	y
3363	5	SCR Tank Heater	Current below normal or open circuit	y	y	y
3363	16	SCR Tank Heater	Data valid but above normal range	y	y	y
3363	18	SCR Tank Heater	Data valid but below normal range	y	y	y
3489	3	Aftertreatment Air Enable Actuator	Voltage above normal or shorted high	y	y	y
3489	4	Aftertreatment Air Enable Actuator	Voltage below normal or shorted low	y	y	y
3511	3	Sensor Supply Voltage	Voltage above normal or shorted high	y	y	y
3511	4	Sensor Supply Voltage	Voltage below normal or shorted low	y	y	y
3512	3	Sensor supply voltage 4	Voltage above normal or shorted high	y	y	y
3512	4	Sensor supply voltage 4	Voltage below normal or shorted low	y	y	y
3514	3	Sensor Supply Voltage 6	Voltage above normal or shorted high	y	y	y
3514	4	Sensor Supply Voltage 6	Voltage below normal or shorted low	y	y	y
3555	17	Ambient Air Density	Data valid but below normal, least severe	y	y	y
3597	18	ECU Power Output	Data valid but below normal range	y	y	y
3610	2	DPF outlet pressure	data erratic or intermittent	y	y	y
3610	3	DPF outlet pressure	Voltage above normal or shorted high	y	y	y
3610	4	DPF outlet pressure	Voltage below normal or shorted low	y	y	y
3610	16	DPF outlet pressure	Data valid but above normal range	y	y	y
3667	3	Engine Air shutoff status	Voltage above normal or shorted high	y	y	y
3667	4	Engine Air shutoff status	Voltage below normal or shorted low	y	y	y
3703	31	DPF active regen inhibited by sw	condition exists	y	y	y
3936	7	DPF system	mechanical system not responding	y	y	y
3936	15	DPF system	data valid but above normal range, least severe	y	y	y
4094	31	DEF poor quality	condition exists	y	y	y
4096	31	DEF empty	condition exists	y	y	y
4334	2	SCR dosing reagent pressure	data erratic or intermittent	y	y	y
4334	3	SCR dosing reagent pressure	Voltage above normal or shorted high	y	y	y
4334	4	SCR dosing reagent pressure	Voltage below normal or shorted low	y	y	y
4334	16	SCR dosing reagent pressure	Data valid but above normal range	y	y	y
4334	18	SCR dosing reagent pressure	Data valid but below normal range	y	y	y
4340	3	SCR reagent line heater	Voltage above normal or shorted high	y	y	y
4340	4	SCR reagent line heater	Voltage below normal or shorted low	y	y	y
4340	5	SCR reagent line heater	Current below normal or open circuit	y	y	y
4342	3	SCR reagent line heater 2	Voltage above normal or shorted high	y	y	y
4342	4	SCR reagent line heater 2	Voltage below normal or shorted low	y	y	y
4342	5	SCR reagent line heater 2	Current below normal or open circuit	y	y	y
4344	3	SCR Reagent heater 3	Voltage above normal or shorted high	y	y	y
4344	4	SCR Reagent heater 3	Voltage below normal or shorted low	y	y	y
4344	5	SCR Reagent heater 3	Current below normal or open circuit	y	y	y

Cummins

SPN	FMI	Item	Cause	ISB	ISC	ISL
4346	3	SCR Reagent heater 4	Voltage above normal or shorted high	y	y	y
4346	4	SCR Reagent heater 4	Voltage below normal or shorted low	y	y	y
4346	5	SCR Reagent heater 4	Current below normal or open circuit	y	y	y
4360	0	SCR intake gas temperature	data valid but above normal range, most severe	y	y	y
4360	2	SCR intake gas temperature	data erratic or intermittent	y	y	y
4360	3	SCR intake gas temperature	Voltage above normal or shorted high	y	y	y
4360	4	SCR intake gas temperature	Voltage below normal or shorted low	y	y	y
4360	10	SCR intake gas temperature	abnormal rate change	y	y	y
4360	15	SCR intake gas temperature	data valid but above normal range, least severe	y	y	y
4363	0	SCR outlet gas temperature	data valid but above normal range, most severe	y	y	y
4363	2	SCR outlet gas temperature	data erratic or intermittent	y	y	y
4363	3	SCR outlet gas temperature	Voltage above normal or shorted high	y	y	y
4363	4	SCR outlet gas temperature	Voltage below normal or shorted low	y	y	y
4363	10	SCR outlet gas temperature	abnormal rate change	y	y	y
4363	15	SCR outlet gas temperature	data valid but above normal range, least severe	y	y	y
4363	16	SCR outlet gas temperature	Data valid but above normal range	y	y	y
4364	18	SCR conversion Efficiency	Data valid but below normal range	y	y	y
4376	3	SCR reagent return valve	Voltage above normal or shorted high	y	y	y
4376	4	SCR reagent return valve	Voltage below normal or shorted low	y	y	y
4376	5	SCR reagent return valve	Current below normal or open circuit	y	y	y
4765	0	DOC intake gas temperature	data valid but above normal range, most severe	y	y	y
4765	2	DOC intake gas temperature	data erratic or intermittent	y	y	y
4765	3	DOC intake gas temperature	Voltage above normal or shorted high	y	y	y
4765	4	DOC intake gas temperature	Voltage below normal or shorted low	y	y	y
4765	15	DOC intake gas temperature	data valid but above normal range, least severe	y	y	y
4765	16	DOC intake gas temperature	Data valid but above normal range	y	y	y
4794	31	SCR catalyst system missing	condition exists	y	y	y
4795	31	DPF Missing	condition exists	y	y	y
4796	31	Aftertreatment Catalyst Missing	condition exists	y	y	y
5024	10	Aftertreatment intake NOX	abnormal rate change	y	y	y
5031	10	Aftertreatment outlet NOX	abnormal rate change	y	y	y
5246	0	SCR operator inducement	data valid but above normal range, most severe	y	y	y
5392	31	DEF dosing unit lost prime	condition exists	y	y	y
5394	3	DEF dosing valve	Voltage above normal or shorted high	y	y	y
5394	4	DEF dosing valve	Voltage below normal or shorted low	y	y	y
5394	5	DEF dosing valve	Current below normal or open circuit	y	y	y
5394	7	DEF dosing valve	mechanical system not responding	y	y	y
5480	16	Crankcase breather oil seperator	Data valid but above normal range	y	y	y
5491	3	Crankcase breather oil seperator	Voltage above normal or shorted high	y	y	y
5491	4	Crankcase breather oil seperator	Voltage below normal or shorted low	y	y	y
5491	5	Crankcase breather oil seperator	Current below normal or open circuit	y	y	y
5491	7	Crankcase breather oil seperator	mechanical system not responding	y	y	y



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FAULT CODES

1000 TRANSMISSIONS

2000 TRANSMISSIONS

5-5. DIAGNOSTIC TROUBLE CODES (DTCs)

DTC LIST AND DESCRIPTIONS INDEX

DIAGNOSTIC TROUBLE COPDES (DTC)

DTC LIST AND DESCRIPTIONS INDEX *(cont'd)*

DTC	Description	CHECK TRANS LIGHT	Page
P0842	Transmission Pressure Switch Solenoid C Circuit Stuck Closed	Yes	5-151
P0843	Transmission Pressure Switch Solenoid C Circuit High	Yes	5-155
P0845	Transmission Pressure Switch Solenoid D Circuit	Yes	5-159
P0846	Transmission Pressure Switch Solenoid D Circuit	Yes	5-163
P0847	Transmission Pressure Switch Solenoid D Circuit	Yes	5-167
P0848	Transmission Pressure Switch Solenoid D Circuit	Yes	5-171
P1688	Unmanaged Engine Torque Delivered to TCM	Yes	5-175
P1709	Transmission Pressure Switch Solenoid E Circuit	Yes	5-177
P1710	Transmission Pressure Switch Solenoid E Circuit Stuck Open	Yes	5-181
P1711	Transmission Pressure Switch Solenoid E Circuit Stuck Closed	Yes	5-185
P1712	Transmission Pressure Switch Solenoid E Circuit High	Yes	5-189
P1713	Transmission Pressure Switch Reverse Circuit	Yes	5-193
P1714	Transmission Pressure Switch Reverse Circuit Stuck On	Yes	5-197
P1716	Transmission Pressure Switch Reverse Circuit High	no	5-201
P1718	Incorrect Neutral Gear Ration	No	5-205
P1720	Solenoid A Controlled Clutch Not Engaged	Yes	5-209
P1721	Solenoid B Controlled Clutch Not Engaged	Yes	5-213
P1723	Solenoid A Controlled Clutch Engaged	Yes	5-217
P1724	Solenoid B Controlled Clutch Engaged	Yes	5-221
P1726	Shift Solenoid D Controlled Clutch Engaged	No	5-225
P1727	Shift Controlled E Clutch Engaged	No	5-229
P1760	TCM Supply Voltage	No	5-233
P1779	Engine Torque Delivered To ECM	Yes	5-236
P1835	Kickdown Circuit	Yes	5-238
P1860	Torque Converter Clutch PWM Solenoid Circuit --Electrical	Yes	5-241
P1875	4WD Low Switch Circuit	Yes	5-245
P1891	Throttle Postion Sensor Pulse Width Modulation (PWM) Signal Low Input	No	5-249
P1892	Throttle Postion Sensor Pulse Width Modulation (PWM) Signal High Input	No	5-252
U1000	Serial Data Communication Link Malfunction (Class2)	No*	5-255
U1016	Class 2 Powertrain Controller State of Health Failure	No*	5-258
U1041	Class 2 ABS Controller State of Health Failure	No*	5-261
U1064	Class 2 TBC Controller State of Health Failure	No*	5-264
U1096	Class 2 IPC Controller State of Health Failure	No*	5-267
U1300	Serial Data Communication Link Low (Class2)	No	5-270
U1301	Serial Data Communication Link High (Class2)	No	5-273
U2104	Can Bus Rest Counter Overrun	Yes	5-276
U2105	Can Bus Error ECM	Yes	5-279

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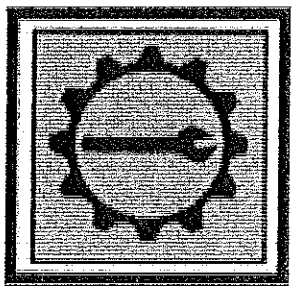


FAULT CODES

3000 MH
TRANSMISSIONS

3000 Series Gen IV

Table 6–2. Diagnostic Troubleshooting Codes (DTC) and Descriptions

DTC	Description	CHECK TRANS Light	Inhibited Operation Description
C1312	Retarder Request Sensor Failed Low	No	May inhibit retarder operation if not using J1939 datalink
C1313	Retarder Request Sensor Failed High	No	May inhibit retarder operation if not using J1939 datalink
P0122	Pedal Position Sensor Low Voltage	No	Use default throttle values. Freezes shift adapts.
P0123	Pedal Position Sensor High Voltage	No	Use default throttle values. Freezes shift adapts.
P0218	Transmission Fluid Over Temperature	No	Use hot mode shift schedule. Holds fourth range. TCC is inhibited. Freezes shift adapts.
P0602	TCM Not Programmed	Yes	Lock in Neutral
P0610	TCM Vehicle Options (TransID) Error	Yes	Use TID A calibration
P0613	TCM Processor	No	All solenoids off
P0614	Torque Control Data Mismatch—ECM/TCM	Yes	Allows operation only in reverse and second range.
P0634	TCM Internal Temperature Too High	Yes	SOL OFF (hydraulic default)
P063E	Auto Configuration Throttle Input Not Present	Yes	Use default throttle values

Table 6–2. Diagnostic Troubleshooting Codes (DTC) and Descriptions *(cont'd)*

DTC	Description	CHECK TRANS Light	Inhibited Operation Description
P063F	Auto Configuration Engine Coolant Temp Input Not Present	No	None
P0658	Actuator Supply Voltage 1 (HSD1) Low	Yes	DNS, SOL OFF (hydraulic default)
P0659	Actuator Supply Voltage 1 (HSD1) High	Yes	DNS, SOL OFF (hydraulic default)
P0702	Transmission Control System Electrical (TransID)	Yes	Uses TID A calibration
P0703	Brake Switch Circuit Malfunction	No	No Neutral to Drive shifts for refuse packer. TCM inhibits retarder operation if a TPS code is also active.
P0708	Transmission Range Sensor Circuit High Input	Yes	Ignore defective strip selector inputs
P070C	Transmission Fluid Level Sensor Circuit—Low Input	No	None
P070D	Transmission Fluid Level Sensor Circuit—High Input	No	None
P0711	Transmission Fluid Temperature Sensor Circuit Performance	Yes	Use default sump temp
P0712	Transmission Fluid Temperature Sensor Circuit Low Input	Yes	Use default sump temp
P0713	Transmission Fluid Temperature Sensor Circuit High Input	Yes	Use default sump temp
P0716	Turbine Speed Sensor Circuit Performance	Yes	DNS, Lock in current range
P0717	Turbine Speed Sensor Circuit No Signal	Yes	DNS, Lock in current range
P0719	Brake Switch ABS Input Low	No	TCM assumes ABS is OFF
P071A	RELS Input Failed On	Yes	Inhibit RELS operation
P071D	General Purpose Input Fault	Yes	None
P0721	Output Speed Sensor Circuit Performance	Yes	DNS, Lock in current range
P0722	Output Speed Sensor Circuit No Signal	Yes	DNS, Lock in current range
P0726	Engine Speed Sensor Circuit Performance	No	Default to turbine speed
P0727	Engine Speed Sensor Circuit No Signal	No	Default to turbine speed
P0729	Incorrect 6th Gear Ratio	Yes	DNS, Attempt 5th, then 3rd
P0731	Incorrect 1st Gear Ratio	Yes	DNS, Attempt 2nd, then 5th
P0732	Incorrect 2nd Gear Ratio	Yes	DNS, Attempt 3rd, then 5th
P0733	Incorrect 3rd Gear Ratio	Yes	DNS, Attempt 4th, then 6th
P0734	Incorrect 4th Gear Ratio	Yes	DNS, Attempt 5th, then 3rd
P0735	Incorrect 5th Gear Ratio	Yes	DNS, Attempt 6th, then 3rd, then 2nd
P0736	Incorrect Reverse Gear Ratio	Yes	DNS, Lock in Neutral
P0741	Torque Converter Clutch System Stuck Off	Yes	None
P0776	Pressure Control Solenoid 2 Stuck Off	Yes	DNS, RPR
P0777	Pressure Control Solenoid 2 Stuck On	Yes	DNS, RPR

Table 6-2. Diagnostic Troubleshooting Codes (DTC) and Descriptions *(cont'd)*

DTC	Description	CHECK TRANS Light	Inhibited Operation Description
P0796	Pressure Control Solenoid 3 Stuck Off	Yes	DNS, RPR
P0797	Pressure Control Solenoid 3 Stuck On	Yes	DNS, RPR
P0842	Transmission Pressure Switch 1 Circuit Low	Yes	DNS, Lock in current range
P0843	Transmission Pressure Switch 1 Circuit High	Yes	DNS, Lock in current range
P0880	TCM Power Input Signal	No	None
P0881	TCM Power Input Signal Performance	No	None
P0882	TCM Power Input Signal Low	Yes	DNS, SOL OFF (hydraulic default)
P0883	TCM Power Input Signal High	No	None
P0894	Transmission Component Slipping	Yes	DNS, Lock in first
P0960	Pressure Control Solenoid Main Mod Control Circuit Open	Yes	None
P0962	Pressure Control Solenoid Main Mod Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P0963	Pressure Control Solenoid Main Mod Control Circuit High	Yes	None
P0964	Pressure Control Solenoid 2 (PCS2) Control Circuit Open	Yes	DNS, SOL OFF (hydraulic default)
P0966	Pressure Control Solenoid 2 (PCS2) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P0967	Pressure Control Solenoid 2 (PCS2) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
P0968	Pressure Control Solenoid 3 (PCS3) Control Circuit Open	Yes	DNS, SOL OFF (hydraulic default)
P0970	Pressure Control Solenoid 3 (PCS3) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P0971	Pressure Control Solenoid 3 (PCS3) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
P0973	Shift Solenoid 1 (SS1) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P0974	Shift Solenoid 1 (SS1) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
P0975	Shift Solenoid 2 (SS2) Control Circuit Open	Yes	7-speed: Allow 2 through 6, N, R
P0976	Shift Solenoid 2 (SS2) Control Circuit Low	Yes	7-speed: Allow 2 through 6, N, R. Inhibit TCC operation
P0977	Shift Solenoid 2 (SS2) Control Circuit High	Yes	7-speed: Allow 2 through 6, N, R
P0989	Retarder Pressure Sensor Failed Low	No	None
P0990	Retarder Pressure Sensor Failed High	No	None
P1739	Incorrect Low Gear Ratio	Yes	Command 2nd and allow shifts 2 through 6, N, R
P1891	Throttle Position Sensor PWM Signal Low Input	No	Use default throttle values
P1892	Throttle Position Sensor PWM Signal High Input	No	Use default throttle values
P2184	Engine Coolant Temperature Sensor Circuit Low Input	No	Use default engine coolant values

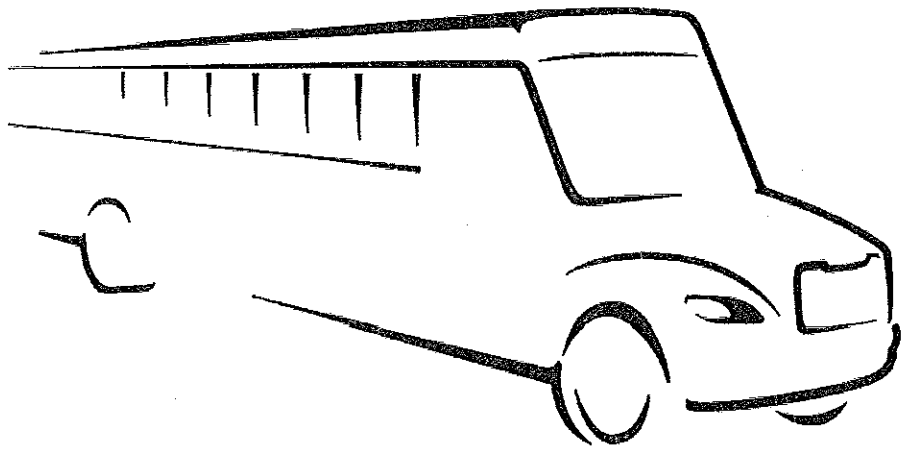
Table 6–2. Diagnostic Troubleshooting Codes (DTC) and Descriptions *(cont'd)*

DTC	Description	CHECK TRANS Light	Inhibited Operation Description
P2185	Engine Coolant Temperature Sensor Circuit High Input	No	Use default engine coolant values
P2637	Torque Management Feedback Signal (SEM)	Yes	Inhibit SEM
P2641	Torque Management Feedback Signal (LRTP)	Yes	Inhibit LRTP
P2670	Actuator Supply Voltage 2 (HSD2) Low	Yes	DNS, SOL OFF (hydraulic default)
P2671	Actuator Supply Voltage 2 (HSD2) High	Yes	DNS, SOL OFF (hydraulic default)
P2685	Actuator Supply Voltage 3 (HSD3) Low	Yes	DNS, SOL OFF (hydraulic default)
P2686	Actuator Supply Voltage 3 (HSD3) High	Yes	DNS, SOL OFF (hydraulic default)
P2714	Pressure Control Solenoid 4 (PCS4) Stuck Off	Yes	DNS, RPR
P2715	Pressure Control Solenoid 4 (PCS4) Stuck On	Yes	DNS, SOL OFF (hydraulic default)
P2718	Pressure Control Solenoid 4 (PCS4) Control Circuit Open	Yes	DNS, SOL OFF (hydraulic default)
P2720	Pressure Control Solenoid 4 (PCS4) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P2721	Pressure Control Solenoid 4 (PCS4) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
P2723	Pressure Control Solenoid 1 (PCS1) Stuck Off	Yes	DNS, RPR
P2724	Pressure Control Solenoid 1 (PCS1) Stuck On	Yes	DNS, RPR
P2727	Pressure Control Solenoid 1 (PCS1) Control Circuit Open	Yes	DNS, SOL OFF (hydraulic default)
P2729	Pressure Control Solenoid 1 (PCS1) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P2730	Pressure Control Solenoid 1 (PCS1) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
P2736	Pressure Control Solenoid 5 (PCS5) Control Circuit Open	Yes	Inhibit retarder operation
P2738	Pressure Control Solenoid 5 (PCS5) Control Circuit Low	Yes	Allow 2 through 6, N, R. Inhibit retarder and TCC operation
P2739	Pressure Control Solenoid 5 (PCS5) Control Circuit High	Yes	Inhibit retarder operation
P2740	Retarder Oil Temperature Hot	No	None
P2742	Retarder Oil Temperature Sensor Circuit—Low Input	No	Use default retarder temp values
P2743	Retarder Oil Temperature Sensor Circuit—High Input	No	Use default retarder temp values
P2761	TCC PCS Control Circuit Open	Yes	Inhibit TCC operation
P2763	TCC PCS Control Circuit High	Yes	Inhibit TCC operation
P2764	TCC PCS Control Circuit Low	Yes	7-speed: allow 2 through 6, N, R. Inhibit TCC operation
P278A	Kickdown Input Failed ON	No	Inhibit kickdown operation
P2793	Gear Shift Direction Circuit	Yes	Ignores PWM input from shift selector
P2808	Pressure Control Solenoid 6 (PCS6) Stuck Off	Yes	DNS, RPR

Table 6-2. Diagnostic Troubleshooting Codes (DTC) and Descriptions *(cont'd)*

DTC	Description	CHECK TRANS Light	Inhibited Operation Description
P2809	Pressure Control Solenoid 6 (PCS6) Stuck On	Yes	DNS, RPR
P2812	Pressure Control Solenoid 6 (PCS6) Control Circuit Open	Yes	DNS, SOL OFF (hydraulic default)
P2814	Pressure Control Solenoid 6 (PCS6) Control Circuit Low	Yes	DNS, SOL OFF (hydraulic default)
P2815	Pressure Control Solenoid 6 (PCS6) Control Circuit High	Yes	DNS, SOL OFF (hydraulic default)
U0001	Hi Speed CAN Bus Reset Counter Overrun (IESCAN)	No	Use default values, inhibit SEM
U0010	CAN BUS Reset Counter Overrun	No	Use default values, inhibit SEM
U0100	Lost Communications with ECM/PCM (J1587)	Yes	Use default values
U0103	Lost Communication With Gear Shift Module (Shift Selector) 1	Yes	Maintain range selected, observe gear shift direction circuit
U0115	Lost Communication With ECM	Yes	Use default values
U0291	Lost Communication With Gear Shift Module (Shift Selector) 2	Yes	Maintain range selected, observe gear shift direction circuit
U0304	Incompatible Gear Shift Module 1 (Shift Selector) ID	Yes	Ignore shift selector inputs
U0333	Incompatible Gear Shift Module 2 (Shift Selector) ID	Yes	Ignore shift selector inputs
U0404	Invalid Data Received From Gear Shift Module (Shift Selector) 1	Yes	Maintain range selected, observe gear shift direction circuit
U0592	Invalid Data Received From Gear Shift Module (Shift Selector) 2	Yes	Maintain range selected, observe gear shift direction circuit

Saf-T-Liner C2
Fault Codes



Saf-T-Liner C2 - BHM 33 Fault Codes

C2 J1939 codes

SPN	FMI	Item	Cause
70	2	Parking Brake Switch	data erratic or intermittent
80	2	Washer Fluid Level	data erratic or intermittent
84	19	Wheel Based Vehicle Speed CAN Error	Data in error
84	19	Wheel Based Vehicle Speed CAN Error	Data in error
96	19	Fuel Level	Data in error
97	19	Water in Fuel Indicator	Data in error
163	12	Transmission Current Range	Bad device
163	19	Transmission Current Range	Data in error
177	3	Transmission Oil Temp Sensor	Voltage above normal or shorted high
177	4	Transmission Oil Temp Sensor	Voltage below normal or shorted low
523	12	Transmission Current Gear	Bad device
523	19	Transmission Current Gear	Data in error
524	12	Transmission Selected Gear	Bad device
524	19	Transmission Selected Gear	Data in error
597	2	ABS Service Brake Switch	data erratic or intermittent
598	7	Clutch Switch fault	mechanical system not responding
598	7	Clutch Switch fault	mechanical system not responding
879	5	Front Left Turn Signals Output Fault	Current below normal or open circuit
879	6	Front Left Turn Signals Output Fault	Current above normal or grounded circuit
881	5	Front Right Turn Signals Output fault	Current below normal or open circuit
881	6	Front Right Turn Signals Output fault	Current above normal or grounded circuit
882	4	Park/marker Lights Output fault	Voltage below normal or shorted low
882	5	Park/marker Lights Output fault	Current below normal or open circuit
882	6	Park/marker Lights Output fault	Current above normal or grounded circuit
973	19	Engine Retarder Selection	Data in error
1487	7	Backlighting Intensity Switch	mechanical system not responding
1550	5	AC Clutch Output fault	Current below normal or open circuit
1550	6	AC Clutch Output fault	Current above normal or grounded circuit
2003	19	Missing Transmission CAN Message	Data in error
2003	9	Missing Transmission CAN Message	Abnormal update rate
2071	19	Missing CHM CAN Message	Data in error
2071	9	Missing CHM CAN Message	Abnormal update rate
6890	8	CHM No PWM DRLs Fault	Abnormal Frequency, pulse width
6891	5	ID/Marker/Clearance lamps HW Overide Output fault	Current below normal or open circuit
6891	6	ID/Marker/Clearance lamps HW Overide Output fault	Current above normal or grounded circuit
6892	5	Upper Right tail Lamp Output Fault	Current below normal or open circuit
6892	6	Upper Right tail Lamp Output Fault	Current above normal or grounded circuit
6893	5	Upper Left Tail Lamp Output fault	Current below normal or open circuit
6893	6	Upper Left Tail Lamp Output fault	Current above normal or grounded circuit
6894	6	Rear Passenger Dome Lamp Output fault	Current above normal or grounded circuit
6895	6	Front Passenger Dome Lamp Output Fault	Current above normal or grounded circuit
6896	6	Air/Electric Entrance Door Close Output fault	Current above normal or grounded circuit
6897	6	Air/Electric Entrance Door Open Output fault	Current above normal or grounded circuit
6898	5	Right Side Turn Signal Output fault	Current below normal or open circuit
6898	6	Right Side Turn Signal Output fault	Current above normal or grounded circuit
6900	5	Left Side Turn Signal Output fault	Current below normal or open circuit
6900	6	Left Side Turn Signal Output fault	Current above normal or grounded circuit
6901	5	Stepwell Lights Output fault	Current below normal or open circuit
6901	6	Stepwell Lights Output fault	Current above normal or grounded circuit
6902	5	Left Upper Back Up Lamp Output Fault	Current below normal or open circuit

SPN	FMI	Item	Cause
6902	6	Left Upper Back Up Lamp Output Fault	Current above normal or grounded circuit
6903	5	Right Upper back Up Lamp Output Fault	Current below normal or open circuit
6903	6	Right Upper back Up Lamp Output Fault	Current above normal or grounded circuit
6904	5	Rear Right Turn Signal Output Fault	Current below normal or open circuit
6904	6	Rear Right Turn Signal Output Fault	Current above normal or grounded circuit
6905	5	Rear Left Turn Signal Output Fault	Current below normal or open circuit
6905	6	Rear Left Turn Signal Output Fault	Current above normal or grounded circuit
6906	7	PTO 2 No Feedback Fault	mechanical system not responding
6906	7	PTO 2 No Feedback Fault	mechanical system not responding
6907	7	PTO 2 Feedback Fault	mechanical system not responding
6907	7	PTO 2 Feedback Fault	mechanical system not responding
6908	7	PTO 1 No Feedback Fault	mechanical system not responding
6908	7	PTO 1 No Feedback Fault	mechanical system not responding
6909	7	PTO 1 Feedback Fault	mechanical system not responding
6909	7	PTO 1 Feedback Fault	mechanical system not responding
6912	7	Remote Bucket Switch Fault	mechanical system not responding
6912	7	Remote Bucket Switch Fault	mechanical system not responding
6915	4	Lamp and Gauge Ignition Output Fault	Voltage below normal or shorted low
6915	5	Lamp and Gauge Ignition Output Fault	Current below normal or open circuit
6915	6	Lamp and Gauge Ignition Output Fault	Current above normal or grounded circuit
6916	19	BHM/ICU3 Wiper Park Mismatch	Data in error
6916	2	BHM/ICU3 Wiper Park Mismatch	data erratic or intermittent
6917	19	BHM/ICU3 Hazard Switch Mismatch	Data in error
6917	2	BHM/ICU3 Hazard Switch Mismatch	data erratic or intermittent
6918	7	Missing Smart Switch	mechanical system not responding
6919	7	Duplicate Smart Switch	mechanical system not responding
6920	7	Extra Smart Switch	mechanical system not responding
6921	7	Unknow Keep awake Fault	mechanical system not responding
6922	7	Wake Up Hardware Fault	mechanical system not responding
6923	7	Wiper Park Input fault	mechanical system not responding
6924	19	Wiper ON/OFF Input Logic Fault	Data in error
6924	2	Stalk Switch Disagreement Wiper On/Off Input is OFF and Wiper High or Low Input is on	data erratic or intermittent
6925	19	Wiper Hi/Lo Input logic Fault	Data in error
6925	2	Stalk Switch Disagreement Both Wiper High and Low Input on	data erratic or intermittent
6926	7	Marker Interrupt Switch	mechanical system not responding
6927	3	Utillity lamp Output Fault	Voltage above normal or shorted high
6927	4	Utility lamp Output Fault	Voltage below normal or shorted low
6927	5	Utillity lamp Output Fault	Current below normal or open circuit
6927	6	Utillity lamp Output Fault	Current above normal or grounded circuit
6928	7	Suspension Proportioning No Feedback Fault	mechanical system not responding
6929	7	Suspension Proportioning Feedback Fault	mechanical system not responding
6930	3	Suspension Proportioning Solenoid Output Fault	Voltage above normal or shorted high
6930	4	Suspension Proportioning Solenoid Output Fault	Voltage below normal or shorted low
6930	5	Suspension Proportioning Solenoid Output Fault	Current below normal or open circuit
6930	6	Suspension Proportioning Solenoid Output Fault	Current above normal or grounded circuit
6931	7	Suspension Dump No Feedback Fault	mechanical system not responding

SPN	FMI	Item	Cause
6932	7	Suspension Dump Feedback Fault	mechanical system not responding
6934	3	Spotlights Output fault	Voltage above normal or shorted high
6934	4	Spotlights Output fault	Voltage below normal or shorted low
6934	5	Spotlights Output fault	Current below normal or open circuit
6934	6	Spotlights Output fault	Current above normal or grounded circuit
6940	3	Optional Feature Output Fault	Voltage above normal or shorted high
6940	4	Optional Feature Output Fault	Voltage below normal or shorted low
6940	5	Optional Feature Output Fault	Current below normal or open circuit
6940	6	Optional Feature Output Fault	Current above normal or grounded circuit
6941	3	Heated Mirrors Output Fault	Voltage above normal or shorted high
6941	4	Heated Mirrors Output Fault	Voltage below normal or shorted low
6941	5	Heated Mirrors Output Fault	Current below normal or open circuit
6941	6	Heated Mirrors Output Fault	Current above normal or grounded circuit
6944	4	Fuel Water Seperator Heater output Fault	Voltage below normal or shorted low
6944	5	Fuel Water Seperator Heater output Fault	Current below normal or open circuit
6944	6	Fuel Water Seperator Heater output Fault	Current above normal or grounded circuit
6947	5	Fog Lamp Output fault	Current below normal or open circuit
6947	6	Fog Lamp Output fault	Current above normal or grounded circuit
6954	7	EOF Feedback No Fault	mechanical system not responding
6955	7	EOF Feedback Fault	mechanical system not responding
6957	5	DRL Output fault	Current below normal or open circuit
6957	6	DRL Output fault	Current above normal or grounded circuit
6958	3	Brake Line Air Dryer Output fault	Voltage above normal or shorted high
6958	4	Brake Line Air Dryer Output fault	Voltage below normal or shorted low
6958	5	Brake Line Air Dryer Output fault	Current below normal or open circuit
6958	6	Brake Line Air Dryer Output fault	Current above normal or grounded circuit
6964	5	Air Horn Solenoid Output fault	Current below normal or open circuit
6964	6	Air Horn Solenoid Output fault	Current above normal or grounded circuit
6965	3	BHM VBAT 5 Input Fault	Voltage above normal or shorted high
6965	4	BHM VBAT 5 Input Fault	Voltage below normal or shorted low
6966	3	BHM VBAT 4 Input Fault	Voltage above normal or shorted high
6966	4	BHM VBAT 4 Input Fault	Voltage below normal or shorted low
6967	3	BHM VBAT 3 Input Fault	Voltage above normal or shorted high
6967	4	BHM VBAT 3 Input Fault	Voltage below normal or shorted low
6968	3	BHM VBAT 2 Input Fault	Voltage above normal or shorted high
6968	4	BHM VBAT 2 Input Fault	Voltage below normal or shorted low
6969	3	BHM VBAT 1 Input Fault	Voltage above normal or shorted high
6969	4	BHM VBAT 1 Input Fault	Voltage below normal or shorted low
6970	5	Wiper High Output fault	Current below normal or open circuit
6970	6	Wiper High Output fault	Current above normal or grounded circuit
6971	5	Wiper Low Output fault	Current below normal or open circuit
6971	6	Wiper Low Output fault	Current above normal or grounded circuit
6972	19	Wiper High CAN Error	Data in error
6972	2	Stalk Switch Wiper High input fault	data erratic or intermittent
6973	19	Wiper Low CAN Error	Data in error
6973	2	Stalk Switch Wiper Low Input fault	data erratic or intermittent
6974	19	Wiper ON CAN Error	Data in error
6974	2	Stalk Switch Wiper On/Off Input fault	data erratic or intermittent
6975	2	ICU3 Wiper Park CAN Feedback Error	data erratic or intermittent
6976	5	Washer Pump Output Fault	Current below normal or open circuit
6976	6	Washer Pump Output Fault	Current above normal or grounded circuit
6977	19	Washer Switch CAN Error	Data in error
6977	2	Stalk Switch Washer Switch Input Fault	data erratic or intermittent
6978	19	Right Turn Signal CAN Error	Data in error