

10. Fault list summary

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
1	U0607	0	19	Timeout Error of CAN-Receive-Frame TSC1VE (Engine speed & Torque demand)	ON	Level1 (Mild)			
2	P042E	27	0	EGR Position Open jammed fault	Blink	Level2 (severe)			EGR Block (EGR only)
3	P042F	27	1	EGR Position Closed jammed fault	ON	Level1 (Mild)			EGR Block (EGR only)
4	P0406	27	3	EGR Position Sensor High Fault	ON	Level1 (Mild)			EGR Block (EGR only)
5	P0407	27	4	EGR Position Sensor Low Fault	ON	No			EGR Block (EGR only)
6	P0C17	27	20	EGR Close Position Learning Range Over Fault	ON	No			EGR Block (EGR only)
7	P0C18	27	22	EGR Close Position Learning Drift Fault for long time	ON	No			EGR Block (EGR only)
8	P0C19	27	23	EGR Close Position Learning Drift Fault for short time	ON	No			EGR Block (EGR only)
9	P0223	29	3	Accel pedal position track2 sensor High fault	ON	Level1 (Mild)			
10	P0222	29	4	Accel pedal position track2 sensor Low fault	ON	Level1 (Mild)			
11	P0221	29	15	Hand pedal position track2 sensor High fault	ON	Level1 (Mild)			
12	P0224	29	17	Hand pedal position track2 sensor Low fault	ON	Level1 (Mild)			
13	P02E4	51	0	Throttle valve Position Open jammed fault	ON	No			
14	P02E5	51	1	Throttle valve Position Closed jammed fault	ON	No			
15	P02E9	51	3	Throttle valve Position Sensor High Fault	ON	No			
16	P02E8	51	4	Throttle valve Position Sensor Low Fault	ON	No			
17	P02EA	51	22	Throttle valve Close Position Learning Drift Fault for long time	ON	No			
18	P02EB	51	23	Throttle valve Close Position Learning Drift Fault for short time	ON	No			
19	P02E7	51	30	Throttle valve Close Position Learning Drift Fault	ON	No			
20	P0123	91	3	Accel pedal position track1 sensor High fault	ON	Level1 (Mild)			
21	P0122	91	4	Accel pedal position track1 sensor Low fault	ON	Level1 (Mild)			
22	P2135	91	11	Accel pedal position sensor plausibility fault (Not synchronism between track1 and track2)	ON	Level1 (Mild)			
23	P2136	91	12	Hand pedal position sensor plausibility fault (Not synchronism between track1 and track2)	ON	Level1 (Mild)			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
24	P0121	91	15	Hand pedal position track1 sensor High fault	ON	Level1 (Mild)			
25	P0124	91	17	Hand pedal position track1 sensor Low fault	ON	Level1 (Mild)			
26	U0606	91	19	Timeout Error of CAN-Receive-Frame EEC2 (Pedal)	ON	Level1 (Mild)			
27	P2267	97	3	Water In Fuel Sensor signal range high fault	Blink	Level2 (severe)			
28	P2266	97	4	Water In Fuel Sensor signal range low fault	Blink	Level2 (severe)			
29	P2269	97	14	Water in fuel detected – Warning step	ON	No			
30	P2265	97	23	Water in fuel detected – Torque de-rate step (After 20min)	Blink	Level2 (severe)			
31	P250D	98	3	Oil combination (Level and temperature) signal short circuit to battery error	ON	No			
32	P250C	98	4	Oil combination (Level and temperature) signal short circuit to ground error	ON	No			
33	P250A	98	5	Oil combination (Level and temperature) sensor itself open or short circuit error	ON	No			
34	P250F	98	18	Engine oil level is too low (Low step3)	ON	No			
35	P350D	98	22	Oil combination (Level and temperature) sensor timeout fault	ON	No			
36	P0196	175	11	Oil combination (Level and temperature) sensor itself Oil temperature out of range error	ON	No			
37	P350E	98	23	Oil combination (Level and temperature) sensor itself Voltage out of range error	ON	No			
38	P350F	98	24	Engine oil level is low (Low step2)	ON	No			
39	P1522	100	1	Engine Oil Pressure Too Low Fault	Blink	Level2 (severe)	Used		
40	P0523	100	3	Engine Oil Pressure Sensor High Fault	Blink	Level2 (severe)	Used		
41	P0522	100	4	Engine Oil Pressure Sensor Low Fault	Blink	Level2 (severe)	Used		
42	P0108	102	3	Intake Manifold Pressure Sensor High Fault	ON	Level1 (Mild)			EGR Block (EGR only)
43	P0107	102	4	Intake Manifold Pressure Sensor Low Fault	ON	Level1 (Mild)			EGR Block (EGR only)
44	P00AD	105	3	Intake manifold temperature sensor High fault	ON	No			EGR Block (EGR only)
45	P00AC	105	4	Intake manifold temperature sensor Low fault	ON	No			EGR Block (EGR only)
46	P10AD	105	16	Intake manifold temperature High fault	ON	No			
47	P2229	108	3	Atmospheric Pressure Sensor High Fault	ON	No			
48	P2228	108	4	Atmospheric Pressure Sensor Low Fault	ON	No			
49	P1118	110	0	Coolant high temperature Fault	ON	No			
50	P0118	110	3	Coolant Temperature Sensor High Fault	ON	Level1 (Mild)			EGR Block (EGR only)
51	P0117	110	4	Coolant Temperature Sensor Low Fault	ON	Level1 (Mild)			EGR Block (EGR only)

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
52	P011E	110	10	Coolant Temperature Plausibility Fault	ON	Level1 (Mild)			
53	P00BC	132	1	Intake manifold pressure low plausibility fault (Compressor out pressure too low)	Blink	Level2 (severe)			
54	P0103	132	3	Signal range check high error for Air mass flow sensor	ON	Level1 (Mild)			EGR Block (EGR only)
55	P0102	132	4	Signal range check low error for Air mass flow sensor	ON	Level1 (Mild)			EGR Block (EGR only)
56	P0101	132	5	Battery voltage error of Air mass flow sensor	ON	No			
57	P0100	132	19	Signal error of Air mass flow sensor	ON	Level1 (Mild)			EGR Block (EGR only)
58	P00BE	132	21	Sensitivity drift error low for Air mass flow sensor	Blink	Level2 (severe)			EGR Block (EGR only)
59	P0087	157	10	Fuel Leakage is detected based on fuel quantity balance	ON	Level1 (Mild)	Used		
60	P0002	157	11	Maximum positive deviation of rail pressure exceeded	ON	Level1 (Mild)	Used		
61	P190C	157	26	Minimum rail pressure exceeded	ON	Level1 (Mild)	Used		
62	P190B	157	27	Maximum rail pressure exceeded	ON	Level1 (Mild)			
63	P1934	157	28	Pressure relief valve(PRV) failure	Blink	Level2 (severe)	Used	Used	
64	P1073	171	0	Environment Temperature Too High	ON	No			
65	P0073	171	3	Environment Temperature Sensor Signal High	ON	No			
66	P0072	171	4	Environment Temperature Sensor Signal Low	ON	No			
67	P107D	172	0	Inlet air temperature High fault	ON	No			
68	P007D	172	3	Inlet air temperature sensor High fault	ON	No			
69	P007C	172	4	Inlet air temperature sensor Low fault	ON	No			
70	P0421	173	1	DOC Exothermal Efficiency Fault	ON	No			
71	P1183	174	0	Fuel temperature high fault	ON	No			
72	P0183	174	3	Fuel Temperature Sensor High Fault	ON	No			
73	P0182	174	4	Fuel Temperature Sensor Low Fault	ON	No			
74	P273F	177	15	Transmission oil temperature high fault (CAN)	ON	Level1 (Mild)			
75	P274F	177	16	Transmission oil temperature high fault (H/W Switch)	ON	Level1 (Mild)			
76	P0219	190	0	Engine over speed detection fault	ON	No			
77	P1563	444	0	Battery Voltage High fault (Warning)	ON	No			
78	P1562	444	1	Battery Voltage Low fault (Warning)	ON	No			
79	P1565	444	2	Powerstage diagnosis could be disabled due to low Battery voltage	ON	No			
80	P0563	444	3	Battery Voltage Signal Range Max fault	ON	Level1 (Mild)			
81	P0562	444	4	Battery Voltage Signal Range Min fault	ON	Level1 (Mild)			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
82	P1564	444	12	Powerstage diagnosis disabled due to high Battery voltage	ON	No			
83	P0512	626	12	Starter switch stuck fault (Cranking request is too long.)	ON	No			
84	P0372	636	2	Crank Signal disturbed fault	Blink	Level2 (severe)	Used		
85	P0374	636	8	Cranks No signal error	Blink	Level2 (severe)	Used		
86	P0344	637	2	Cam Signal disturbed fault	ON	No			
87	P0342	637	8	Cam Signal Lost fault	ON	No			
88	P0340	637	30	Cam Signal Drift Fault	ON	No			
89	U0029	639	2	CAN communication error	ON	Level1 (Mild)			
90	U0028	639	19	CAN bus off error	ON	Level1 (Mild)			
91	P268C	651	2	Injector Code(IQA) Program Missing Fault (Cylinder#1)	ON	No			
92	P02EE	651	4	Injector Short circuit Fault (Cylinder #1)	ON	No			
93	P0201	651	5	Injector Open circuit Fault (Cylinder #1)	ON	No			
94	P32EE	651	22	Injector High Low side Short circuit Fault (Cylinder #1)	ON	No			
95	P268D	652	2	Injector Code(IQA) Program Missing Fault (Cylinder#2)	ON	No			
96	P02EF	652	4	Injector Short circuit Fault (Cylinder #2)	ON	No			
97	P0202	652	5	Open load on the power stage for cylinder #2	ON	No			
98	P32EF	652	22	Injector High Low side Short circuit Fault (Cylinder #2)	ON	No			
99	P268E	653	2	Injector Code(IQA) Program Missing Fault (Cylinder#3)	ON	No			
100	P02F0	653	4	Injector Short circuit Fault (Cylinder #3)	ON	No			
101	P0203	653	5	Injector Open circuit Fault (Cylinder #3)	ON	No			
102	P32F0	653	22	Injector High Low side Short circuit Fault (Cylinder #3)	ON	No			
103	P268F	654	2	Injector Code(IQA) Program Missing Fault (Cylinder#4)	ON	No			
104	P02F1	654	4	Injector Short circuit Fault (Cylinder #4)	ON	No			
105	P0204	654	5	Injector Open circuit Fault (Cylinder #4)	ON	No			
106	P32F1	654	22	Injector High Low side Short circuit Fault (Cylinder #4)	ON	No			
107	P0384	676	3	Glow plug Relay driver Short circuit to Battery Fault	ON	No			
108	P0383	676	4	Glow plug Relay driver Short circuit to Ground Fault	ON	No			
109	P0380	676	5	Glow plug Relay driver Open circuit Fault	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
110	U1003	970	12	Engine shut off request through CAN (EBC1)	OFF	No		Used	
111	P0215	970	22	Engine shut off request through hardwire	OFF	No		Used	
112	P028E	975	3	PWM FAN Output short to battery circuit fault	ON	No			
113	P028D	975	4	PWM FAN Output short to ground circuit fault	ON	No			
114	P028A	975	5	PWM FAN Output open circuit fault	ON	No			
115	P1931	987	3	CE(Check engine) Lamp Short to Battery	ON	No			
116	P192F	987	4	CE(Check engine) Lamp Short to Ground	ON	No			
117	P192E	987	5	CE(Check engine) Lamp Open circuit	ON	No			
118	P0004	1076	3	Fuel Metering unit plausibility error in overrun mode	ON	Level1 (Mild)	Used		
119	P0003	1076	4	Fuel Metering unit plausibility error in idle mode	ON	Level1 (Mild)	Used		
120	P0254	1076	16	Maximum negative rail pressure deviation with metering unit on lower limit is exceeded	ON	Level1 (Mild)	Used		
121	P0252	1076	20	Rail pressure too low for injection	ON	No			
122	P2381	1081	3	Glow plug Lamp Short to Battery	ON	No			
123	P1904	1081	4	Glow plug Lamp Short to Ground	ON	No			
124	P0381	1081	5	Glow plug Lamp Open circuit	ON	No			
125	P0669	1207	0	ECU temperature High fault	ON	No			
126	P06AE	1207	3	ECU temperature sensor High fault (Short circuit to battery)	ON	No			
127	P06AD	1207	4	ECU temperature sensor Low fault (Short circuit to ground)	ON	No			
128	P018D	1382	0	Fuel filter pressure high fault	ON	Level1 (Mild)			
129	P018C	1382	1	Fuel filter pressure low fault	Blink	Level2 (Severe)			
130	P01C6	1382	3	Fuel filter pressure sensor signal high fault	ON	No			
131	P01C2	1382	4	Fuel filter pressure sensor signal low fault	ON	No			
132	P01C4	1382	7	Fuel Filter Pressure low detection 1 - Warning	ON	No			
133	P01C5	1382	13	Fuel Filter Pressure low detection 2 - Torque reduction	ON	Level1 (Mild)			
134	P0685	1485	7	ECU Main relay Stuck fault	ON	No			
135	P068A	1485	11	ECU Main relay Early opening fault	ON	No			
136	P2547	1568	3	Multi-torque switch signal too high fault	ON	No			
137	P2546	1568	4	Multi-torque switch signal too low fault	ON	No			
138	P062D	1612	3	Injector bank 1st Short circuit fault	ON	No			
139	P062E	1612	12	Injector bank 2nd Short circuit fault	ON	No			
140	P0528	1639	3	Fan speed too high fault	ON	No			
141	P0529	1639	4	Fan speed too low fault	ON	No			
142	P0527	1639	11	Fan speed signal long period fault path	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
143	P1230	1761	19	DEF Tank Level Signal error	ON	SCR induce			Tampering
144	P2505	1867	1	ECU over temperature for SCR Monitoring	ON	No			
145	P2508	1867	3	"ABE active" report due to overvoltage detection	ON	No			
146	P2507	1867	4	"ABE active" report due to undervoltage detection	ON	No			
147	P2511	1867	11	"WDA/ABE active" report due to unknown reason	ON	No			
148	P2509	1867	19	"WDA active" report due to errors in query-response communication	ON	No			
149	P2506	1867	22	ECU Software Reset 0 fault	ON	No			
150	P1546	2789	0	Turbine inlet temperature High fault	ON	Level1 (Mild)			
151	P0546	2789	3	Turbine inlet temperature sensor High fault	ON	No			EGR Block (EGR only)
152	P0545	2789	4	Turbine inlet temperature sensor Low fault	ON	No			EGR Block (EGR only)
153	P0544	2789	11	Turbine inlet temperature Plausibility Fault	ON	No			
154	P2145	2791	3	EGR H-Bridge Driver Short circuit to battery	ON	No			EGR Block (EGR only)
155	P2144	2791	4	EGR H-Bridge Driver Short circuit to ground	ON	No			EGR Block (EGR only)
156	P2143	2791	5	EGR H-Bridge Driver Open Circuit Fault	ON	No			EGR Block (EGR only)
157	P205E	3031	14	DEF Tank temperature overheated	ON	No			
158	P1045	3031	16	DEF Tank Temperature sensor High plausibility fault	ON	No			
159	P1044	3031	18	DEF Tank Temperature sensor Low plausibility fault	ON	No			
160	P2397	3216	4	NOx sensor signal low fault (Upstream NOx sensor)	ON	SCR induce			Dosing interrupt
161	P225D	3216	18	NOx sensor 1 (Upstream) concentration Low plausibility fault	ON	SCR induce			Tampering
162	U030D	3219	7	NOx sensor heating error (Upstream NOx sensor)	ON	SCR induce			Tampering
163	P2203	3224	5	NOx sensor Open circuit fault (Upstream NOx sensor)	ON	SCR induce			Tampering
164	P2202	3224	6	NOx sensor Short circuit fault (Upstream NOx sensor)	ON	SCR induce			Tampering
165	P2398	3226	4	NOx sensor signal low fault (Downstream NOx sensor)	ON	SCR induce			Dosing interrupt
166	U030E	3229	7	NOx sensor heating error (Downstream NOx sensor)	ON	SCR induce			Tampering
167	P2216	3234	5	NOx sensor Open circuit fault (Downstream NOx sensor)	ON	SCR induce			Tampering

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
168	P2215	3234	6	NOx sensor Short circuit fault (Downstream NOx sensor)	ON	SCR induce			Tampering
169	P0408	3236	16	Maximum EGR rate governor deviation	ON	Level1 (Mild)			EGR Block (EGR only)
170	P049B	3236	0	EGR rate slow response positive error	ON	Level1 (Mild)			EGR Block (EGR only)
171	P1033	3242	0	DPF(SDPF) inlet temperature High fault	ON	No			
172	P2033	3242	3	DPF(SDPF) inlet temperature sensor High fault	ON	SCR induce			Tampering
173	P2032	3242	4	DPF(SDPF) inlet temperature sensor Low fault	ON	SCR induce			Tampering
174	P2034	3242	11	DPF(SDPF) inlet temperature Plausibility Fault	ON	SCR induce			Tampering
175	P2035	3242	20	DPF(SDPF) inlet temperature Drift fault	ON	Level1 (Mild)			
176	P2455	3251	3	DPF differential pressure sensor High fault	ON	Level1 (Mild)			Tampering
177	P2454	3251	4	DPF differential pressure sensor Low fault	ON	Level1 (Mild)			Tampering
178	P3052	3251	13	DPF differential pressure drift fault	ON	No			
179	P1454	3251	18	DPF differential pressure too low fault	ON	Level1 (Mild)			Tampering
180	P263D	3360	14	DEF pressure line heater error (Perform afterrun)	ON	SCR induce			Dosing interrupt
181	P2047	3361	3	DEF dosing valve actuator Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
182	P2048	3361	4	DEF dosing valve actuator Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
183	P2049	3361	5	DEF dosing valve actuator Open Circuit Fault	ON	SCR induce			Tampering
184	P202E	3361	13	DEF dosing valve actuator Over temperature Fault	ON	SCR induce			Dosing interrupt
185	P2C11	3361	14	DEF dosing valve plausibility fault	ON	SCR induce			Tampering
186	P2050	3361	22	DEF dosing valve actuator HS(High side) Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
187	P2051	3361	23	DEF dosing valve actuator HS(High side) Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
188	P208E	3361	27	DEF Dosing valve is blocked	ON	SCR induce			Tampering
189	P20B4	3363	3	DEF Tank heating coolant valve output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
190	P20B3	3363	4	DEF Tank heating coolant valve output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
191	P20B1	3363	5	DEF Tank heating coolant valve output Open circuit Fault	ON	SCR induce			Tampering
192	P30B1	3363	7	DEF Tank heating coolant valve output Over temperature Fault	ON	SCR induce			Dosing interrupt
193	P0659	3509	3	ECU Sensor Supply (5V)1 Over voltage fault	ON	Level1 (Mild)			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
194	P0658	3509	4	ECU Sensor Supply (5V)1 Under voltage fault	ON	Level1 (Mild)			
195	P1657	3509	5	ECU Sensor Supply (5V)1 voltage fault	ON	Level1 (Mild)			
196	P0657	3509	6	ECU Sensor Supply (5V)1 Short circuit to ground	ON	Level1 (Mild)			
197	P0641	3509	11	ECU Sensor Supply (5V) Overvoltage monitoring error	ON	No			
198	P2671	3510	3	ECU Sensor Supply (5V)2 Over voltage fault	ON	Level1 (Mild)			
199	P2670	3510	4	ECU Sensor Supply (5V)2 Under voltage fault	ON	Level1 (Mild)			
200	P1669	3510	5	ECU Sensor Supply (5V)2 voltage fault	ON	Level1 (Mild)			
201	P2669	3510	6	ECU Sensor Supply (5V)2 Short circuit to ground	ON	Level1 (Mild)			
202	P0642	3510	11	ECU Sensor Supply (5V) Undervoltage monitoring error	ON	No			
203	P2686	3511	3	ECU Sensor Supply (5V)3 Over voltage fault	ON	Level1 (Mild)			
204	P2685	3511	4	ECU Sensor Supply (5V)3 Under voltage fault	ON	Level1 (Mild)			
205	P1684	3511	5	ECU Sensor Supply (5V)3 voltage fault	ON	Level1 (Mild)			
206	P2684	3511	6	ECU Sensor Supply (5V)3 Short circuit to ground	ON	Level1 (Mild)			
207	P106D	3516	0	DEF Quality Too High fault	ON	SCR induce			DEF Quality
208	P106C	3516	1	DEF Quality Too Low fault	ON	SCR induce			DEF Quality
209	P203F	3517	18	DEF Tank level is empty	ON	SCR induce			DEF level
210	U1028	3520	3	DEF Quality Sensor Open circuit	ON	SCR induce			Tampering
211	U1030	3520	4	DEF Quality Sensor Short circuit	ON	SCR induce			Tampering
212	P203A	3532	3	DEF Level Sensor Open circuit	ON	SCR induce			Tampering
213	P2041	3532	4	DEF Level Sensor Short circuit	ON	SCR induce			Tampering
214	P25BC	3695	3	DPF regeneration inhibit switch Short to Battery fault (Hardwire)	ON	No			
215	P25BB	3696	3	DPF regeneration enable switch Short to Battery fault (Hardwire)	ON	No			
216	P25BA	3696	11	DPF regeneration inhibit & enable switch plausibility fault (Hardwire)	ON	No			
217	P2611	3697	3	DPF lamp 1 (DPF regeneration switch enable lamp) Short to Battery	ON	No			
218	P260F	3697	4	DPF lamp 1 (DPF regeneration switch enable lamp) Short to Ground	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
219	P260E	3697	5	DPF lamp 1 (DPF regeneration switch enable lamp) Open circuit	ON	No			
220	P246B	3715	14	DPF regeneration failure (DPF regeneration is not performed well during machine operation mode)	OFF	No			
221	P242F	3720	16	DPF Ash loading High fault (Ash cleaning is needed)	ON	No			
222	P025D	4082	3	Fuel metering unit Short circuit to Battery fault	ON	Level1 (Mild)			
223	P025C	4082	4	Fuel metering unit Short circuit to Ground fault	ON	Level1 (Mild)			
224	P025A	4082	5	Fuel metering unit Open circuit fault	ON	Level1 (Mild)			
225	P025B	4082	7	Fuel metering unit Over temperature fault	ON	Level1 (Mild)			
226	P1450	4335	0	DEF Overpressure error at METERINGCONTROL (DEF pump pressure is too high)	ON	SCR induce			Tampering
227	P1451	4335	1	DEF Underpressure error at METERINGCONTROL (DEF pump pressure is too low)	ON	SCR induce			Tampering
228	P1457	4335	2	DEF pressure build up error at PRESSUREBUILDUP (DEF pump pressure is too low)	ON	SCR induce			Tampering
229	P202D	4335	7	DEF Leakage detection at METERINGCONTROL	ON	No			
230	P1452	4335	12	DEF Overpressure error regardless of the state (DEF pump pressure is too high)	ON	SCR induce			Tampering
231	P1459	4335	15	DEF Pressure reduction error at PRESSUREREDUCTION (Detected an insufficient pressure drop)	ON	SCR induce			Tampering
232	P1460	4335	16	DEF underpressure error at AFTERRUN_PRESSURECOMPENSATION	ON	No			
233	P1893	4344	2	DEF backflow Line plausibility error at DETECTIONMODE (Does not detect a pressure drop)	ON	SCR induce			Tampering
234	P221D	4354	5	DEF Pressure line heater circuit Open circuit Fault	ON	No			
235	P221C	4354	6	DEF Pressure line heater circuit Open circuit or Short circuit to ground Fault	ON	No			
236	P221F	4355	5	DEF Backflow line heater circuit Open circuit Fault	ON	No			
237	P221E	4355	6	DEF Backflow line heater circuit Open circuit or Short circuit to ground Fault	ON	No			
238	P215F	4356	5	DEF Suction line heater circuit Open circuit Fault	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
239	P215E	4356	6	DEF Suction line heater circuit Open circuit or Short circuit to ground Fault	ON	No			
240	P20EE	4364	14	SCR Efficiency Too low fault	ON	Level1 (Mild)			
241	P2043	4365	3	DEF Temperature Sensor Open circuit	ON	SCR induce			Tampering
242	P2046	4365	4	DEF Temperature Sensor Short circuit	ON	SCR induce			Tampering
243	P1227	4365	14	DEF Tank temperature plausibility fault (Insufficient temperature increment)	ON	SCR induce			Tampering
244	P208D	4374	3	DEF Supply Pump Motor Signal Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
245	P208C	4374	4	DEF Supply Pump Motor Signal Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
246	P208A	4374	5	DEF Supply Pump Motor Signal Open circuit Fault	ON	SCR induce			Tampering
247	P208B	4374	7	DEF Supply Pump Motor Signal Over temperature Fault	ON	SCR induce			Dosing interrupt
248	P108A	4374	8	DEF Supply Pump Motor Speed Deviation Fault	ON	SCR induce			Dosing interrupt
249	P108B	4374	9	DEF Supply Pump Motor Speed Deviation Permanent Fault	ON	SCR induce			Dosing interrupt
250	P108C	4374	12	DEF Supply Pump Motor No activation Fault	ON	SCR induce			Dosing interrupt
251	P24A3	4781	15	DPF Soot mass too high status (> 120%)	Blink	Level2 (severe)			
252	P2463	4781	16	DPF Soot mass high status (> 110%)	ON	Level1 (Mild)			
253	P0593	5067	3	PTO (Idle up) Lamp Short to Battery	ON	No			
254	P0592	5067	4	PTO (Idle up) Lamp Short to Ground	ON	No			
255	P0591	5067	5	PTO (Idle up) Lamp Open circuit	ON	No			
256	P055D	5099	3	Oil Pressure Warning Lamp Short to Battery	ON	No			
257	P055C	5099	4	Short circuit to ground error of oil pressure lamp	ON	No			
258	P055B	5099	5	Oil Pressure Warning Lamp Open circuit	ON	No			
259	P0193	5313	3	Rail pressure sensor High fault	ON	Level1 (Mild)			
260	P0192	5313	4	Rail pressure sensor Low fault	ON	Level1 (Mild)			
261	P02E3	5419	3	Throttle valve H-Bridge Driver Short circuit to battery	ON	No			
262	P02E2	5419	4	Throttle valve H-Bridge Driver Short circuit to ground	ON	No			
263	P02E0	5419	5	Throttle valve H-Bridge Driver Open Circuit Fault	ON	No			
264	P1453	5435	10	DEF pressure stabilization error at DETECTIONMODE (DEF pump pressure is not stable)	ON	SCR induce			Tampering

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
265	P204A	5435	12	DEF pressure check error at DETECTIONMODE (Detected an insufficient pressure drop)	ON	SCR induce			Tampering
266	P20A3	5436	3	DEF Reverting valve output Short circuit to battery Fault	ON	SCR induce			Tampering
267	P20A2	5436	4	DEF Reverting valve output Short circuit to ground Fault	ON	SCR induce			Tampering
268	P20A0	5436	5	DEF Reverting valve output Open circuit Fault	ON	SCR induce			Tampering
269	P20A1	5436	7	DEF Reverting valve output Over temperature Fault	ON	SCR induce			Tampering
270	P20A5	5436	11	DEF Reverting valve Pressure drop plausibility fault	ON	SCR induce			Tampering
271	P1461	5436	14	DEF Reverting valve is blocked (Detected an insufficient pressure drop)	ON	SCR induce			Tampering
272	P20C0	5491	3	DEF Pressure line heater relay output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
273	P20BF	5491	4	DEF Pressure line heater relay output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
274	P20BD	5491	5	DEF Pressure line heater relay output Open circuit Fault	ON	SCR induce			Tampering
275	P30BD	5491	7	DEF Pressure line heater relay output Over temperature Fault	ON	SCR induce			Dosing interrupt
276	P20BE	5491	12	DEF Pressure line heater feedback plausibility Fault	ON	SCR induce			Dosing interrupt
277	P009B	5571	22	Common rail pressure relief valve reached maximum allowed opening count	ON	No			
278	P009C	5571	23	Common rail pressure relief valve Forced to open status (Pressure increase)	ON	Level1 (Mild)	Used		
279	P009D	5571	24	Common rail pressure relief valve Forced to open status (Pressure shock)	ON	Level1 (Mild)	Used		
280	P000F	5571	25	Common rail pressure relief valve is open	ON	Level1 (Mild)	Used		
281	P009F	5571	27	Averaged rail pressure is outside the expected tolerance range	ON	No			
282	P018F	5571	28	Common rail pressure relief valve reached maximum allowed open time	ON	No			
283	P246C	5629	14	DPF differential pressure too high fault	ON	Level1 (Mild)			
284	P214F	5706	5	DEF Supply module heater circuit Open circuit Fault	ON	No			
285	P21DD	5706	6	DEF Supply module heater circuit Open circuit or Short circuit to ground Fault	ON	No			
286	P23B3	5706	12	DEF Supply module heater temperature plausibility fault (Insufficient temperature increment)	ON	SCR induce			Tampering

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
287	P23B4	5706	14	DEF Supply module heater temperature plausibility fault at cold start (Insufficient temperature increment)	ON	SCR induce			Tampering
288	P23B2	5706	22	DEF Supply module heater plausibility fault (Insufficient temperature increment)	ON	SCR induce			Tampering
289	P21C4	5746	3	DEF Main heater relay output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
290	P21C3	5746	4	DEF Main heater relay output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
291	P21C2	5746	5	DEF Main heater relay output Open circuit Fault	ON	SCR induce			Tampering
292	P05ED	5746	6	DEF heater line circuit Short circuit to battery Fault	ON	No			
293	P31C5	5746	7	DEF Main heater relay output Over temperature Fault	ON	SCR induce			Dosing interrupt
294	P21C9	5965	3	SCR system Main relay short circuit to battery	ON	SCR induce			Tampering
295	P21C8	5965	4	SCR system Main relay short circuit to ground	ON	SCR induce			Tampering
296	P21C7	5965	5	SCR system Main relay open circuit	ON	SCR induce			Tampering
297	P2634	6323	3	Electric fuel feed pump Output short to battery circuit fault	ON	No			
298	P2633	6323	4	Electric fuel feed pump Output short to ground circuit fault	ON	No			
299	P2632	6323	5	Electric fuel feed pump Output open circuit fault	ON	No			
300	P2635	6323	13	Electric fuel feed pump performance fault	ON	No			
301	U1033	6385	19	Timeout Error of CAN-Receive-Frame EOI (Engine Starter Motor Relay Control)	ON	No			
302	P204D	6875	3	DEF Supply Pump pressure sensor High fault	ON	SCR induce			Dosing interrupt
303	P204C	6875	4	DEF Supply Pump pressure sensor Low fault	ON	SCR induce			Dosing interrupt
304	P304D	6875	16	DEF Supply Pump pressure sensor High plausibility fault	ON	SCR induce			Dosing interrupt
305	P304C	6875	18	DEF Supply Pump pressure sensor Low plausibility fault	ON	SCR induce			Dosing interrupt
306	P3611	6915	3	DPF lamp 2 (DPF Regeneration Active Lamp) Short to Battery	ON	No			
307	P360F	6915	4	DPF lamp 2 (DPF Regeneration Active Lamp) Short to Ground	ON	No			
308	P360E	6915	5	DPF lamp 2 (DPF Regeneration Active Lamp) Open circuit	ON	No			
309	P1908	6916	3	DPF lamp 3 (DPF regeneration switch inhibit lamp) Short to Battery	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
310	P1907	6916	4	DPF lamp 3 (DPF regeneration switch inhibit lamp) Short to Ground	ON	No			
311	P1906	6916	5	DPF lamp 3 (DPF regeneration switch inhibit lamp) Open circuit	ON	No			
312	P20C4	7069	3	DEF Backflow line heater relay output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
313	P20C3	7069	4	DEF Backflow line heater relay output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
314	P20C1	7069	5	DEF Backflow line heater relay output Open circuit Fault	ON	SCR induce			Tampering
315	P30C1	7069	7	DEF Backflow line heater relay output Over temperature Fault	ON	SCR induce			Dosing interrupt
316	P20C2	7069	12	DEF Backflow line heater feedback plausibility Fault	ON	SCR induce			Dosing interrupt
317	P23B5	7107	12	DEF Supply module temperature plausibility fault (Insufficient temperature increment)	ON	SCR induce			Tampering
318	P23B6	7107	14	DEF Supply module temperature plausibility fault at cold start (Insufficient temperature increment)	ON	SCR induce			Tampering
319	P20BC	7416	3	DEF Supply module heater relay output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
320	P20BB	7416	4	DEF Supply module heater relay output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
321	P20B9	7416	5	DEF Supply module heater relay output Open circuit Fault	ON	SCR induce			Tampering
322	P30B9	7416	7	DEF Supply module heater relay output Over temperature Fault	ON	SCR induce			Dosing interrupt
323	P20BA	7416	12	DEF Supply module heater feedback plausibility Fault	ON	SCR induce			Dosing interrupt
324	P06F0	7538	12	DEF Supply module temperature duty cycle in failure range	ON	SCR induce			Dosing interrupt
325	P06F1	7538	13	Diagnostic Fault Check for DEF supply module duty cycle in the invalid range	ON	SCR induce			Dosing interrupt
326	P20AC	7538	22	DEF Supply module heater temperature duty cycle in failure range	ON	SCR induce			Dosing interrupt
327	P20AD	7538	23	DEF Supply module heater temperature duty cycle in invalid range	ON	SCR induce			Dosing interrupt
328	P20B0	7538	24	DEF Supply module temperature measurement non-availability fault	ON	SCR induce			Dosing interrupt
329	P20FF	7538	25	DEF Supply module time period outside specified range	ON	SCR induce			Dosing interrupt
330	P056D	7538	26	DEF Supply module PWM signal fault	ON	SCR induce			Dosing interrupt
331	P20C8	7540	3	DEF Suction line heater relay output Short circuit to battery Fault	ON	SCR induce			Dosing interrupt
332	P20C7	7540	4	DEF Suction line heater relay output Short circuit to ground Fault	ON	SCR induce			Dosing interrupt
333	P20C5	7540	5	DEF Suction line heater relay output Open circuit Fault	ON	SCR induce			Tampering

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
334	P30C5	7540	7	DEF Suction line heater relay output Over temperature Fault	ON	SCR induce			Dosing interrupt
335	P20C6	7540	12	DEF Suction line heater feedback plausibility Fault	ON	SCR induce			Dosing interrupt
336	P0617	7748	3	Starter relay power stage output short circuit to battery	ON	No			
337	P0616	7748	4	Starter relay power stage output short circuit to ground	ON	No			
338	P0615	7748	5	Starter relay power stage output open circuit	ON	No			
339	P213E	8614	12	Injection cut off demand (ICO) for shut off coordinator	Blink	Level2 (severe)		Used	
340	P062F	55296	12	ECU EEPROM Read Error	ON	No			
341	P0630	55552	12	ECU EEPROM Write Error	ON	No			
342	U01B7	57344	19	Timeout Error of CAN-Receive-Frame CM1 (Status of regeneration initiate and inhibit switches)	ON	No			
343	U01B9	61441	19	Timeout Error of CAN-Receive-Frame EBC1 (Engine shut off request)	ON	No			
344	U029D	61454	19	Timeout Error of CAN-Receive-Frame AT11G1 (NOx Upstream Concentration)	ON	SCR induce			Tampering
345	U029E	61455	19	Timeout Error of CAN-Receive-Frame AT101 (NOx Downstream Concentration)	ON	SCR induce			Tampering
346	U02A2	64923	19	Timeout Error of CAN-Receive-Frame A1DEF1 (DEF Tank)	ON	SCR induce			Tampering
347	U0619	65110	19	Timeout Error of CAN-Receive-Frame AT1T1I (DEF Level, Temperature over CAN)	ON	SCR induce			Tampering
348	U1001	65164	19	Timeout Error of CAN-Receive-Frame AAI (Hydraulic Oil Temperature)	ON	No			
349	U1031	65241	19	Timeout Error of CAN-Receive-Frame AUXIO1 (status of vehicle cut off [Safety bar])	ON	No			
350	U1032	65265	19	Timeout Error of CAN-Receive-Frame RxCCVS (PTO / Idle up)	ON	No			
351	P0218	65272	19	Timeout Error of CAN-Receive-Frame TRF1 (Transmission oil temperature)	ON	No			
352	U0632	65320	19	Timeout Error of CAN-Receive-Frame FanCtl (FAN Control)	ON	No			
353	U0608	65400	19	Timeout Error of CAN-Receive-Frame RxSMVCU (Pedal & Engine speed demand from VCU)	ON	Level1 (Mild)			
354	U013C	65400	22	Message Check Sum Error of CAN Receive Frame SMVCU (Pedal & Engine speed demand from VCU)	ON	Level1 (Mild)			
355	U043D	65400	23	Message Counter Error of CAN Receive Frame SMVCU (Pedal & Engine speed demand from VCU)	ON	Level1 (Mild)			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
356	U010F	65401	19	Timeout Error of CAN-Receive-Frame DPM1 (Air Conditioning Switch Status / Oil life reset)	ON	No			
357	U01B8	65402	19	Timeout Error of CAN-Receive-Frame DPM9 (Multiple torque Map select switch)	ON	No			
358	P2383	104332	9	NOx sensor Mounting Error (Upstream NOx sensor)	ON	SCR induce			Tampering
359	P2384	104385	9	NOx sensor Mounting Error (Downstream NOx sensor)	ON	SCR induce			Tampering
360	P160B	520601	12	CY327(Power control chipset) SPI (Serial Peripheral Interface Bus) Communication Error	ON	No			
361	P060B	520618	12	ECU ADC(Analog to Digital Convertor) NTP(Null Load Test Pulse) Monitoring fault	ON	No			
362	P160F	520641	12	ECU ROM Memory multiple error	ON	No			
363	P1610	520642	12	ECU MM(Monitoring Module) Synchronization Loss fault during Shut-off path test	ON	No			
364	P101A	520643	12	MoF(Monitoring of Function) Over Run error	ON	No			
365	P160C	520696	12	ECU ADC(Analog to Digital Convertor) Test error	ON	No			
366	P160D	520697	12	ECU ADC(Analog to Digital Convertor) Voltage ratio error	ON	No			
367	P060C	520698	12	ECU query response-communication error	Blink	Level2 (severe)		Used	
368	P160E	520699	12	ECU SPI (Serial Peripheral Interface Bus) communication error	ON	No			
369	P1611	520700	12	ECU Shut-off path test error	Blink	Level2 (severe)			
370	P1612	520701	12	ECU Wrong set response time error during shut off path test	ON	No			
371	P1613	520702	12	ECU Too many SPI (Serial Peripheral Interface Bus) errors during shut off path test	ON	No			
372	P1615	520703	12	ECU WDA working error during Shut-off path test	ON	No			
373	P1616	520704	12	ECU OS Timeout error during Shut-off path test	ON	No			
374	P1617	520705	12	ECU Positive test failure error during Shut-off path test	ON	No			
375	P1618	520706	12	ECU Shut-off path test timeout fault	ON	No			
376	P1619	520707	3	ECU Overvoltage error during Shut-off path test	ON	No			
377	P1614	520707	4	ECU Undervoltage error during Shut-off path test	ON	No			

No.	Code	SPN	FMI	Description	CE lamp	Torque de-rate	Speed limit	Eng. stop	NCD induce
378	P12E5	520723	12	NCD inducement Fault Level1 (Group1 - EGR Block)	OFF	No			
379	P12E6	520724	12	NCD inducement Fault Level2 (Group1 - EGR Block)	OFF	No			
380	P12E7	520725	12	NCD inducement Fault Level3 Final inducement (Group1 - EGR Block)	OFF	No			
381	P12E8	520726	12	NCD inducement Fault Warning (Group1 - EGR Block)	OFF	No			
382	P12E9	520727	12	NCD inducement Fault Level1 (Group2 – Dosing Interrupt)	OFF	No			
383	P12EA	520728	12	NCD inducement Fault Level2 (Group2 – Dosing Interrupt)	OFF	No			
384	P12EB	520729	12	NCD inducement Fault Level3 Final inducement (Group2 – Dosing Interrupt)	OFF	No			
385	P12EC	520730	12	NCD inducement Fault Warning (Group2 – Dosing Interrupt)	OFF	No			
386	P12F2	520736	12	NCD inducement Fault Level1 (Group4 – DEF Quality)	OFF	No			
387	P12F3	520737	12	NCD inducement Fault Level2 (Group4 – DEF Quality)	OFF	No			
388	P12F4	520738	12	NCD inducement Fault Level3 Final inducement (Group4 – DEF Quality)	OFF	No			
389	P12F5	520739	12	NCD inducement Fault Warning (Group4 – DEF Quality)	OFF	No			
390	P12F6	520740	12	NCD inducement Fault Level1 (Group5 – Tampering)	OFF	No			
391	P12F7	520741	12	NCD inducement Fault Level2 (Group5 – Tampering)	OFF	No			
392	P12F8	520742	12	NCD inducement Fault Level3 Final inducement (Group5 – Tampering)	OFF	No			
393	P12F9	520743	12	NCD inducement Fault Warning (Group5 – Tampering)	OFF	No			
394	P1303	520790	12	NCD inducement Repeat offense Level1	OFF	No			
395	P1304	520791	12	NCD inducement Repeat offense Level2	OFF	No			
396	P1305	520792	12	NCD inducement Repeat offense Level3 Final inducement	OFF	No			
397	P1013	520797	12	MoF(Monitoring of Function) Engine speed error	ON	No			