

Appendix B: SAE Diagnostic Trouble Codes and Cummins Fault Codes

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
111	629	12	Red	Controller #1	Engine Control Module Critical Internal Failure - Bad intelligent device or component		
115	612	2	Red	System Diagnostic Code # 2	Engine Magnetic Speed/Position Lost Both of Two Signals - Data erratic, intermittent or incorrect		
122	102	3	Amber	Boost Pressure	Intake Manifold 1 Pressure Sensor Circuit - Voltage above normal, or shorted to high source		
123	102	4	Amber	Boost Pressure	Intake Manifold 1 Pressure Sensor Circuit - Voltage below normal, or shorted to low source		
125	102	18	Amber	Intake Manifold 1 Pressure	Intake Manifold 1 Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level	QSX Only	NA
131	91	3	Red	Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage above normal, or shorted to high source		
132	91	4	Red	Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 1 Circuit - Voltage below normal, or shorted to low source		
133	974	3	Red	Remote Accelerator	Remote Accelerator Pedal or Lever Position Sensor Circuit – Voltage Above Normal, or Shorted to High Source		

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134	974	4	Red	Remote Accelerator	Remote Accelerator Pedal or Lever Position Sensor Circuit – Voltage Below Normal, or Shorted to Low Source		
135	100	3	Amber	Engine Oil Pressure	Engine Oil Rifle Pressure 1 Sensor Circuit - Voltage above normal, or shorted to high source		
141	100	4	Amber	Engine Oil Pressure	Engine Oil Rifle Pressure 1 Sensor Circuit - Voltage below normal, or shorted to low source		
143	100	18	Amber	Engine Oil Pressure	Engine Oil Rifle Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level		
144	110	3	Amber	Engine Coolant Temperature	Engine Coolant Temperature 1 Sensor Circuit - Voltage above normal, or shorted to high source		
145	110	4	Amber	Engine Coolant Temperature	Engine Coolant Temperature 1 Sensor Circuit - Voltage below normal, or shorted to low source		
146	110	16	Amber	Engine Coolant Temperature	Engine Coolant Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		
147	91	1	Red	Accelerator Pedal Position	Accelerator Pedal or Lever Position 1 Sensor Circuit Frequency - Data valid but below normal operational range - Most Severe Level		

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
148	91	0	Red	Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 1 - Data valid but above normal operational range - Most Severe Level		
151	110	0	Red	Engine Coolant Temperature	Engine Coolant Temperature - Data valid but above normal operational range - Most Severe Level		
153	105	3	Amber	Intake Manifold #1 Temp	Intake Manifold 1 Temperature Sensor Circuit - Voltage above normal, or shorted to high source		
154	105	4	Amber	Intake Manifold #1 Temp	Intake Manifold 1 Temperature Sensor Circuit - Voltage below normal, or shorted to low source		
155	105	0	Red	Intake Manifold #1 Temp	Intake Manifold 1 Temperature - Data valid but above normal operational range - Most Severe Level		
187	3510	4	Amber	5 Volts DC Supply	Sensor Supply 2 Circuit - Voltage below normal, or shorted to low source		
195	111	3	Amber	Coolant Level	Coolant Level Sensor 1 Circuit - Voltage above normal, or shorted to high source		
196	111	4	Amber	Coolant Level	Coolant Level Sensor 1 Circuit - Voltage below normal, or shorted to low source		
197	111	18	Amber	Coolant Level	Coolant Level - Data Valid But Below Normal Operating Range - Moderately Severe Level		
212	175	3	Amber	Engine Oil Temperature Sensor 1 Circuit	Engine Oil Temperature Sensor 1 Circuit - Voltage above normal, or shorted to high source	QSX Only	NA

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213	175	4	Amber	Engine Oil Temperature Sensor 1 Circuit	Engine Oil Temperature Sensor 1 Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
214	175	0	Red	Engine Oil Temperature	Engine Oil Temperature - Data valid but above normal operational range - Most Severe Level	QSX Only	NA
221	108	3	Amber	Barometric Pressure	Barometric Pressure Sensor Circuit - Voltage above normal, or shorted to high source		
222	108	4	Amber	Barometric Pressure	Barometric Pressure Sensor Circuit - Voltage below normal, or shorted to low source		
227	3510	3	Amber	5 Volts DC Supply	Sensor Supply 2 Circuit - Voltage above normal, or shorted to high source		
234	190	0	Red	Engine Speed	Engine Crankshaft Speed/Position - Data valid but above normal operational range - Most Severe Level		
235	111	1	Red	Coolant Level	Coolant Level - Data valid but below normal operational range - Most Severe Level		
237	644	2	Amber	External Speed Input	External Speed Input (Multiple Unit Synchronization) - Data Erratic, Intermittent, or Incorrect		
238	3511	4	Amber	System Diagnostic code # 1	Sensor Supply 3 Circuit - Voltage below normal, or shorted to low source		
239	3511	3	Amber	System Diagnostic code #2	Sensor Supply 3 Circuit - Voltage above normal, or shorted to high source		

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241	84	2	Amber	Wheel-based Vehicle Speed	Wheel-Based Vehicle Speed - Data erratic, intermittent or incorrect		
245	647	4	Amber	Fan Clutch Output Device Driver	Fan Control Circuit - Voltage Below Normal, or Shorted to Low Source		
271	1347	4	Amber	Fuel Pump Pressurizing Assembly #1	Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage below normal, or shorted to low source		
272	1347	3	Amber	Fuel Pump Pressurizing Assembly #1	Engine Fuel Pump Pressurizing Assembly 1 Circuit - Voltage above normal, or shorted to high source		
281	1347	7	Amber	Fuel Pump Pressurizing Assembly #1	Engine Fuel Pump Pressurizing Assembly 1 - Mechanical system not responding or out of adjustment		NA
285	639	9	Amber	SAE J1939 Datalink	SAE J1939 Multiplexing PGN Timeout Error - Abnormal update rate		
286	639	13	Amber	SAE J1939 Datalink	SAE J1939 Multiplexing Configuration Error - Out of Calibration		
288	974	19	Red	Remote Accelerator	SAE J1939 Multiplexing Remote Accelerator Pedal or Lever Position Sensor System - Received Network Data In Error		
292	441	14	Red	Auxiliary Temperature 1	Auxiliary Temperature Sensor Input 1 - Special Instructions		
293	441	3	Amber	OEM Temperature	Auxiliary Temperature Sensor Input # 1 Circuit - Voltage Above Normal, or Shorted to High Source		

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294	441	4	Amber	OEM Temperature	Auxiliary Temperature Sensor Input # 1 Circuit - Voltage Below Normal, or Shorted to Low Source		
295	108	2	Amber	Barometric Pressure	Barometric Pressure - Data erratic, intermittent or incorrect		
296	1388	14	Red	Auxiliary Pressure	Auxiliary Pressure Sensor Input 1 – Special Instructions		
297	1388	3	Amber	Auxiliary Pressure	Auxiliary Pressure Sensor Input # 2 Circuit - Voltage Above Normal, or Shorted to High Source		
298	1388	4	Amber	Auxiliary Pressure	Auxiliary Pressure Sensor Input # 2 Circuit - Voltage Below Normal, or Shorted to Low Source		
322	651	5	Amber	Injector Cylinder #01	Injector Solenoid Driver Cylinder 1 Circuit - Current below normal or open circuit		
323	655	5	Amber	Injector Cylinder #05	Injector Solenoid Driver Cylinder 5 Circuit - Current below normal or open circuit		NA
324	653	5	Amber	Injector Cylinder #03	Injector Solenoid Driver Cylinder 3 Circuit - Current below normal or open circuit		
325	656	5	Amber	Injector Cylinder #06	Injector Solenoid Driver Cylinder 6 Circuit - Current below normal or open circuit		NA
331	652	5	Amber	Injector Cylinder #02	Injector Solenoid Driver Cylinder 2 Circuit - Current below normal or open circuit		

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332	654	5	Amber	Injector Cylinder #04	Injector Solenoid Driver Cylinder 4 Circuit - Current below normal or open circuit		
343	629	12	Amber	Controller #1	Engine Control Module Warning Internal Hardware Failure - Bad intelligent device or component		
346	630	12	Amber	Engine Control Module Calibration Memory Software	Engine Control Module Calibration Memory Software - Bad intelligent device or component	QSX Only	NA
349	191	16	Amber	Transmission Output Shaft Speed	Transmission Output Shaft Speed – Data Valid but Above Normal Operational Range - Moderately Severe Level		
351	627	12	Amber	Controller #1	Injector Power Supply - Bad intelligent device or component		
352	3509	4	Amber	5 Volts DC Supply	Sensor Supply 1 Circuit - Voltage below normal, or shorted to low source		
356	132	3	Amber	High signal voltage has been detected in the mass air flow 1 sensor circuit.	Engine Intake Air Mass Flow Sensor Circuit - Voltage Above Normal or Shorted to High Source	NA	QSB3.3 & 4.5 only
357	132	4	Amber	Low signal voltage has been detected in the mass air flow 1 sensor circuit.	Engine Intake Air Mass Flow Circuit - Voltage Below Normal or Shorted to Low Source	NA	QSB3.3 & 4.5 only
358	132	2	Amber	The mass air flow measured is irrational.	Engine Intake Air Mass Flow - Data Erratic, Intermittent, or Incorrect	NA	QSB3.3 & 4.5 only
386	3509	3	Amber	5 Volts DC Supply	Sensor Supply 1 Circuit - Voltage above normal, or shorted to high source		

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415	100	1	Red	Engine Oil Pressure	Engine Oil Rifle Pressure - Data valid but below normal operational range - Most Severe Level		
418	97	15	Amber /Blinking	Water in Fuel Indicator	Water in Fuel Indicator - Data Valid But Above Normal Operating Range - Least Severe Level		
421	175	16	Amber	Engine Oil Temperature	Engine Oil Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level	QSX Only	NA
428	97	3	Amber	Water in Fuel Indicator	Water in Fuel Indicator Sensor Circuit - Voltage above normal, or shorted to high source		
429	97	4	Amber	Water in Fuel Indicator	Water in Fuel Indicator Sensor Circuit - Voltage below normal, or shorted to low source		
431	558	2	Amber	Accelerator Pedal Low Idle Switch	Accelerator Pedal or Lever Idle Validation Switch - Data erratic, intermittent or incorrect		
432	558	13	Red	Accelerator Pedal Low Idle Switch	Accelerator Pedal or Lever Idle Validation Switch Circuit - Out of Calibration		
435	100	2	Amber	Engine Oil Pressure	Engine Oil Rifle Pressure - Data erratic, intermittent or incorrect		
441	168	18	Amber	Electrical Potential (Voltage)	Battery 1 Voltage - Data Valid But Below Normal Operating Range - Moderately Severe Level		
442	168	16	Amber	Electrical Potential (Voltage)	Battery 1 Voltage - Data Valid But Above Normal Operating Range - Moderately Severe Level		

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449	157	0	Red	Injector Metering Rail 1 Pressure	Injector Metering Rail 1 Pressure - Data valid but above normal operational range - Most Severe Level		
451	157	3	Amber	Injector Metering Rail 1 Pressure	Injector Metering Rail 1 Pressure Sensor Circuit - Voltage above normal, or shorted to high source		
452	157	4	Amber	Injector Metering Rail 1 Pressure	Injector Metering Rail 1 Pressure Sensor Circuit - Voltage below normal, or shorted to low source		
488	105	16	Amber	Intake Manifold	Intake Manifold 1 Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		
489	191	18	Amber	Transmission Output Shaft Speed	Transmission Output Shaft Speed – Data Valid but Below Normal Operational Range - Moderately Severe Level		
497	1377	2	Amber	Switch Circuit	Multiple Unit Synchronization Switch Circuit - Data Erratic, Intermittent, or Incorrect		
515	3514	3	Amber	Sensor supply voltage 6	Sensor Supply 6 Circuit - Voltage above normal, or shorted to high source		
516	3514	4	Amber	Sensor supply voltage 6	Sensor Supply 6 Circuit - Voltage below normal, or shorted to low source		
523	611	2	Amber	System Diagnostic code # 1	OEM Intermediate (PTO) Speed switch Validation - Data Erratic, Intermittent, or Incorrect		

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527	702	3	Amber	Circuit - Voltage	Auxiliary Input/Output 2 Circuit – Voltage Above Normal, or Shorted to High Source		
528	93	2	Amber	Switch - Data	Auxiliary Alternate Torque Validation Switch - Data Erratic, Intermittent, or Incorrect		
529	703	3	Amber	Circuit - Voltage	Auxiliary Input/Output 3 Circuit – Voltage Above Normal, or Shorted to High Source		
553	157	16	Amber	Injector Metering Rail 1 Pressure	Injector Metering Rail 1 Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level		
555	101	16	Amber	Engine Crankcase Pressure	Crankcase Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level		
556	101	0	Red	Engine Crankcase Pressure	Crankcase Pressure - Data valid but above normal operational range - Most Severe Level		
559	157	18	Amber	Injector Metering Rail 1 Pressure	Injector Metering Rail 1 Pressure - Data Valid But Below Normal Operating Range - Moderately Severe Level		
584	677	3	Amber	Starter Solenoid Lockout Relay Driver Circuit	Starter Relay Driver Circuit - Voltage above normal, or shorted to high source		
585	677	4	Amber	Engine Starter Motor Relay	Starter Relay Driver Circuit - Voltage below normal, or shorted to low source		
595	103	16	Amber	Turbocharger 1 Speed	Turbocharger 1 Speed - Data Valid But Above Normal Operating Range - Moderately Severe Level		

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599	640	14	Red	Engine External Protection Input	Auxiliary Commanded Dual Output Shutdown - Special Instructions		
649	1378	31	Amber /Blinking	Engine Oil Change Interval	Change Lubricating Oil and Filter – Condition Exists		
687	103	18	Amber	Turbocharger 1 Speed	Turbocharger 1 Speed - Data Valid But Below Normal Operating Range - Moderately Severe Level		
689	190	2	Amber	Engine Speed	Engine Crankshaft Speed/Position - Data erratic, intermittent or incorrect		
691	1172	3	Amber	Turbocharger #1Compressor Inlet Temperature	Turbocharger 1 Compressor Intake Temperature Circuit - Voltage above normal, or shorted to high source		
692	1172	4	Amber	Engine Turbocharger 1 Compressor Inlet Temperature	Turbocharger 1 Compressor Intake Temperature Circuit - Voltage below normal, or shorted to low source		
731	723	7	Amber	Engine Speed Sensor #2	Engine Speed / Position Camshaft and Crankshaft Misalignment - Mechanical system not responding or out of adjustment		
778	723	2	Amber	Engine Speed Sensor #2	Engine Camshaft Speed / Position Sensor - Data erratic, intermittent or incorrect		
1117	627	2	None	Power Supply	Power Supply Lost With Ignition On - Data erratic, intermittent or incorrect		

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1239	2623	3	Amber	Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage above normal, or shorted to high source		
1241	2623	4	Amber	Accelerator Pedal #1 Channel 2	Accelerator Pedal or Lever Position Sensor 2 Circuit - Voltage below normal, or shorted to low source		
1242	91	2	Red	Accelerator Pedal Position	Accelerator Pedal or Lever Position Sensor 1 - Data erratic, intermittent or incorrect		
1515	91	19	Red	Accelerator Pedal Position 1	SAE J1939 Multiplexed Accelerator Pedal or Lever Sensor System - Received Network Data In Error		
1539	1387	3	Amber	Auxiliary Pressure #1	Auxiliary Pressure Sensor Input 1 Circuit-Voltage Above Normal, or Shorted to High Source		
1621	1387	4	Amber	Auxiliary Pressure #1	Auxiliary Pressure Sensor Input 1 Circuit-Voltage Below Normal, or Shorted to Low Source		
1664	4796	31	Amber	Aftertreatment 1 Diesel Oxidation Catalyst Missing	Aftertreatment Diesel Oxidation Catalyst Missing - Condition Exists		NA
1691	5298	18	Amber	Catalyst 1 System Monitor	Aftertreatment Diesel Oxidation Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Moderately Severe Level		NA
1695	3513	3	Amber	Sensor supply voltage 5	Sensor Supply 5 - Voltage above normal, or shorted to high source		

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1696	3513	4	Amber	Sensor supply voltage 5	Sensor Supply 5 - Voltage below normal, or shorted to low source		
1843	101	3	Amber	Engine Crankcase Pressure	Crankcase Pressure Circuit - Voltage above normal, or shorted to high source		
1844	101	4	Amber	Engine Crankcase Pressure	Crankcase Pressure Circuit - Voltage below normal, or shorted to low source		
1866	411	2	Amber	Engine Exhaust Gas Recirculation Differential Pressure	Exhaust Gas Recirculation Valve Delta Pressure - Data erratic, intermittent or incorrect		NA
1879	3251	3	Amber	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure Sensor Circuit - Voltage above normal, or shorted to high source		NA
1881	3251	4	Amber	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure Sensor Circuit - Voltage below normal, or shorted to low source		NA
1883	3251	2	Amber	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure Sensor - Data erratic, intermittent or incorrect		NA
1896	2791	13	Amber	Engine Exhaust Gas Recirculation (EGR) Valve Control	EGR Valve Controller - Out of Calibration		
1898	641	13	Amber	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Controller-Out of Calibration		
1911	157	0	Amber	Injector Metering Rail	Injector Metering Rail 1 Pressure - Data valid but above normal operational range - Most Severe Level		

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1921	3251	16	Amber	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA
1922	3251	0	Red	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure - Data valid but above normal operational range - Most Severe Level		NA
1923	3482	3	Amber	Aftertreatment Fuel Shutoff Valve 1 Circuit	Aftertreatment Fuel Shutoff Valve 1 Circuit - Voltage above normal, or shorted to high source	QSX Only	NA
1924	3482	4	Amber	Aftertreatment Fuel Shutoff Valve 1 Circuit	Aftertreatment Fuel Shutoff Valve 1 Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
1925	3482	2	Amber	Aftertreatment Fuel Shutoff Valve 1	Aftertreatment Fuel Shutoff Valve 1 - Data erratic, intermittent or incorrect	QSX Only	NA
1926	3480	2	Amber	Aftertreatment Fuel Pressure Sensor	Aftertreatment Fuel Pressure Sensor - Data erratic, intermittent or incorrect	QSX Only	NA
1927	3480	3	Amber	Aftertreatment Fuel Pressure Sensor Circuit	Aftertreatment Fuel Pressure Sensor Circuit - Voltage above normal, or shorted to high source	QSX Only	NA
1928	3480	4	Amber	Aftertreatment Fuel Pressure Sensor Circuit	Aftertreatment Fuel Pressure Sensor Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
1938	3597	18	Amber	ECU Power Output Supply Voltage #1	ECU Power Output Supply Voltage 1 - Data Valid But Below Normal Operating Range - Moderately Severe Level		

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1942	101	2	Amber	Engine Crankcase Pressure	Crankcase Pressure - Data erratic, intermittent or incorrect		
1943	3555	17	None	Ambient Air Density	Ambient Air Density - Data Valid But Below Normal Operating Range - Least Severe Level	QSX Only	NA
1961	2791	15	Amber	Engine Exhaust Gas Recirculation (EGR) Valve Control	EGR Valve Control Circuit Over Temperature - Data Valid But Above Normal Operating Range - Least Severe Level		
1962	641	15	Amber	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Driver Over Temperature (Calculated) - Data Valid But Above Normal Operating Range - Least Severe Level	VGT	NA for QSB3.3 & 4.5
1963	3482	7	Amber	Aftertreatment Fuel Shutoff Valve 1	Aftertreatment Fuel Shutoff Valve 1 - Mechanical system not responding or out of adjustment	QSX Only	NA
1974	101	15	Amber /Blinking	Engine Crankcase Pressure	Crankcase Pressure - Data Valid But Above Normal Operating Range - Least Severe Level		
1977	3556	5	Amber	Aftertreatment Doser Circuit	Aftertreatment Doser Circuit - Current below normal or open circuit.	QSX Only	NA
1981	3936	15	Amber	Aftertreatment Diesel Particulate Filter System	Aftertreatment Diesel Particulate Filter System - Data Valid But Above Normal Operating Range - Least Severe Level	QSX Only	NA
1993	4795	31	Amber	Aftertreatment 1 Diesel Particulate Filter Missing	Aftertreatment Diesel Particulate Filter Missing - Condition Exists		NA
2182	1072	3	Amber	Engine (Compression) Brake Output #1	Engine Brake Actuator Driver 1 Circuit-Voltage Above Normal, or Shorted to High Source		

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2183	1072	4	Amber	Engine (Compression) Brake Output #1	Engine Brake Actuator Driver 1 Circuit-Voltage Below Normal, or Shorted to Low Source		
2185	3512	3	Amber	Sensor supply voltage 4	Sensor Supply 4 Circuit - Voltage above normal, or shorted to high source		
2186	3512	4	Amber	System Diagnostic code # 1	Sensor Supply 4 Circuit - Voltage below normal, or shorted to low source		
2195	703	14	Red	Auxiliary I/O #03	Auxiliary Equipment Sensor Input 3 Engine Protection Critical - Special Instructions		
2198	641	11	Amber	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Driver Circuit - Root Cause Not Known		NA for QSB3.3 & 4.5
2265	1075	3	Amber	Electric Lift Pump for Engine Fuel	Electric Lift Pump for Engine Fuel Supply Circuit - Voltage above normal, or shorted to high source		NA
2266	1075	4	Amber	Electric Lift Pump for Engine Fuel	Electric Lift Pump for Engine Fuel Supply Circuit - Voltage below normal, or shorted to low source		NA
2272	27	4	Amber	Engine Exhaust Gas Recirculation Valve Position	EGR Valve Position Circuit - Voltage below normal, or shorted to low source		
2273	411	3	Amber	Engine Exhaust Gas Recirculation Differential Pressure	Exhaust Gas Recirculation Valve Delta Pressure Sensor Circuit - Voltage above normal, or shorted to high source		NA
2274	411	4	Amber	Engine Exhaust Gas Recirculation Differential Pressure	Exhaust Gas Recirculation Valve Delta Pressure Sensor Circuit - Voltage below normal, or shorted to low source		NA

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2288	103	15	None	Engine Turbocharger 1 Speed	Turbocharger 1 Speed - Data Valid But Above Normal Operating Range - Least Severe Level		
2311	633	31	Amber	Fuel Control Valve #1	Electronic Fuel Injection Control Valve Circuit - Condition Exists		
2321	190	2	None	Engine Speed	Engine Crankshaft Speed/Position - Data erratic, intermittent or incorrect		
2322	723	2	None	Engine Speed Sensor #2	Engine Camshaft Speed / Position Sensor - Data erratic, intermittent or incorrect		
2346	2789	15	None	Turbocharger Turbine Intake Temperature	Turbocharger Turbine Intake Temperature - Data Valid But Above Normal Operating Range - Least Severe Level	QSX Only	NA
2347	2629	15	None	Turbocharger Compressor Outlet Temperature	Turbocharger Compressor Outlet Temperature (Calculated) - Data Valid But Above Normal Operating Range - Least Severe Level	QSX Only	NA
2349	2791	5	Amber	Engine Exhaust Gas Recirculation (EGR) Valve Control	EGR Valve Control Circuit - Current below normal or open circuit		
2353	2791	6	Amber	Engine Exhaust Gas Recirculation (EGR) Valve Control	EGR Valve Control Circuit - Current above normal or grounded circuit		
2357	2791	7	Amber	Engine Exhaust Gas Recirculation (EGR) Valve Control	EGR Valve Control Circuit - Mechanical system not responding or out of adjustment		

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2363	1073	4	Amber	Engine Compression Brake Output # 2	Engine Brake Actuator Driver Output 2 Circuit-Voltage Above Normal, or Shorted to Low Source		
2367	1073	3	Amber	Engine Compression Brake Output # 2	Engine Brake Actuator Driver Output 2 Circuit-Voltage Above Normal, or Shorted to High Source		
2372	95	16	Amber	Engine Fuel Filter Differential Pressure	Fuel Filter Differential Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level		
2373	1209	3	Amber	Exhaust Gas Pressure	Exhaust Gas Pressure Sensor Circuit - Voltage above normal, or shorted to high source		
2374	1209	4	Amber	Exhaust Gas Pressure	Exhaust Gas Pressure Sensor Circuit - Voltage below normal, or shorted to low source		
2375	412	3	Amber	Exhaust Gas Recirculation (EGR) Temperature	Exhaust Gas Recirculation Temperature Sensor Circuit - Voltage above normal, or shorted to high source		
2376	412	4	Amber	Exhaust Gas Recirculation (EGR) Temperature	Exhaust Gas Recirculation Temperature Sensor Circuit - Voltage below normal, or shorted to low source		
2377	647	3	Amber	Fan Clutch Output Device Driver	Fan Control Circuit - Voltage Above Normal, or Shorted to High Source		
2387	641	7	Amber	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Driver Circuit (Motor) - Mechanical system not responding or out of adjustment		NA for QSB3.3 & 4.5

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Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
2448	111	17	Amber /Blinking	Coolant Level	Coolant Level - Data Valid But Below Normal Operating Range - Least Severe Level		
2449	641	13	Red	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Controller - Out of Calibration		NA for QSB3.3 & 4.5
2451	2789	16	None	Turbocharger Turbine Intake Temperature	Turbocharger Turbine Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level	QSX Only	NA
2468	190	16	Amber	Engine Crankshaft Speed/Position	Engine Crankshaft Speed/Position - Data Valid But Above Normal Operating Range - Moderately Severe Level	QSX Only	NA
2554	1209	2	Amber	Engine Exhaust Gas Pressure	Exhaust Gas Pressure - Data erratic, intermittent or incorrect		
2555	729	3	Amber	Inlet Air Heater Driver #1	Engine Intake Air Heater 1 Circuit - Voltage above normal, or shorted to high source		
2556	729	4	Amber	Inlet Air Heater Driver #1	Engine Intake Air Heater 1 Circuit - Voltage below normal, or shorted to low source		
2557	697	3	Amber	Auxiliary PWM Driver #1	Auxiliary PWM Driver #1 - Voltage Above Normal, or Shorted to High Source		
2558	697	4	Amber	Auxiliary PWM Driver #1	Auxiliary PWM Driver #1 - Voltage Below Normal, or Shorted to Low Source		

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
2634	641	12	Red	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Controller - Bad intelligent device or component		NA for QSB3.3 & 4.5
2635	641	31	Red	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Driver Circuit - Condition Exists		NA for QSB3.3 & 4.5
2636	641	9	Red	Engine Variable Geometry Turbocharger Actuator #1	VGT Actuator Driver Circuit - Abnormal update rate		NA for QSB3.3 & 4.5
2637	5018	11	None	Catalyst 1 System Monitor	Aftertreatment Diesel Oxidation Catalyst Face Plugged - Root Cause Not Known		NA
2638	5298	17	None	Aftertreatment Diesel Oxidation Catalyst Conversion Efficiency	Aftertreatment Diesel Oxidation Catalyst Conversion Efficiency - Data Valid But Below Normal Operating Range - Least Severe Level	QSX Only	NA
2639	3251	15	None	Aftertreatment 1 Diesel Particulate Filter Differential Pressure	Aftertreatment Diesel Particulate Filter Differential Pressure - Data Valid But Above Normal Operating Range - Least Severe Level		NA
2646	110	31	Amber	Engine Coolant Temperature	Engine Coolant Temperature - Condition Exists		
2732	4097	3	Amber	Aftertreatment Fuel Drain Valve Circuit	Aftertreatment Fuel Drain Valve Circuit - Voltage above normal, or shorted to high source	QSX Only	NA
2733	4097	4	Amber	Aftertreatment Fuel Drain Valve Circuit	Aftertreatment Fuel Drain Valve Circuit - Voltage below normal, or shorted to low source	QSX Only	NA

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Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
2741	3482	13	Amber	Aftertreatment Fuel Shutoff Valve 1	Aftertreatment Fuel Shutoff Valve 1 Swapped - Out of Calibration	QSX Only	NA
2754	81	16	Amber	Engine Diesel Particulate Filter Inlet Pressure	Engine Diesel Particulate Filter Intake Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA
2764	1209	16	Amber	Exhaust Gas Pressure	Exhaust Gas Pressure - Data Valid But Above Normal Operating Range - Moderately Severe Level	QSX Only	NA
2765	2797	13	None	Engine Injector Group 1	Engine Injector Bank 1 Barcodes - Out of Calibration		
2777	3703	31	None	Reserved for assignment	Particulate Trap Active Regeneration Inhibited Due to Inhibit Switch - Condition Exists		NA
2789	110	18	Amber	Engine Coolant Temperature	Engine Coolant Temperature - Data Valid But Below Normal Operating Range - Moderately Severe Level	QSX Only	NA
2878	4097	7	Amber	Aftertreatment Fuel Drain Valve	Aftertreatment Fuel Drain Valve - Mechanical system not responding or out of adjustment	QSX Only	NA
2881	3480	17	Amber	Aftertreatment Fuel Pressure Sensor	Aftertreatment Fuel Pressure Sensor - Data Valid But Below Normal Operating Range - Least Severe Level	QSX Only	NA
2961	412	15	None	Engine Intake Valve Actuator #12	Exhaust Gas Recirculation Temperature - Data Valid But Above Normal Operating Range - Least Severe Level		

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Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
2962	412	16	Amber	Engine Intake Valve Actuator #13	Exhaust Gas Recirculation Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA
2973	102	2	Amber	Boost Pressure	Intake Manifold 1 Pressure - Data erratic, intermittent or incorrect		
3133	3610	3	Amber	Diesel Particulate Filter Outlet Pressure 1	Aftertreatment Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage above normal, or shorted to high source		NA
3134	3610	4	Amber	Diesel Particulate Filter Outlet Pressure 1	Aftertreatment Diesel Particulate Filter Outlet Pressure Sensor Circuit - Voltage below normal, or shorted to low source		NA
3135	3610	2	Amber	Diesel Particulate Filter Outlet Pressure 1	Aftertreatment Diesel Particulate Filter Outlet Pressure - Data erratic, intermittent or incorrect		NA
3136	5019	3	Amber	Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit	Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit - Voltage above normal, or shorted to high source	QSX Only	NA
3137	5019	4	Amber	Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit	Engine Exhaust Gas Recirculation Outlet Pressure Sensor Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
3138	5019	2	Amber	Engine Exhaust Gas Recirculation Outlet Pressure	Engine Exhaust Gas Recirculation Outlet Pressure - Data erratic, intermittent or incorrect	QSX Only	NA
3139	3667	3	Amber	Engine Air Shutoff Circuit	Engine Air Shutoff Circuit - Voltage above normal, or shorted to high source	QSX Only	NA

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Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
3141	3667	4	Amber	Engine Air Shutoff Circuit	Engine Air Shutoff Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
3167	3556	18	Amber	Aftertreatment Doser	Aftertreatment Doser - Data Valid But Below Normal Operating Range - Moderately Severe Level	QSX Only	NA
3186	1623	9	Amber	Tachograph output shaft speed	Tachograph Output Shaft Speed- Abnormal update rate		
3213	1623	19	Amber	Tachograph output shaft speed	Tachograph Output Shaft Speed- Received Network Data in Error		
3245	3936	7	Amber	Aftertreatment Diesel Particulate Filter System	Aftertreatment Diesel Particulate Filter System - Mechanical system not responding or out of adjustment		NA
3251	4765	16	Red	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature	Aftertreatment Diesel Oxidation Catalyst Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA
3253	3242	16	Red	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA
3254	3242	15	Amber	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature - Data Valid But Above Normal Operating Range - Least Severe Level		NA
3255	3246	16	Red	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature - Data Valid But Above Normal Operating Range - Moderately Severe Level		NA

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
3256	3246	15	Amber	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature - Data Valid But Above Normal Operating Range - Least Severe Level		NA
3311	3242	0	Red	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature - Data valid but above normal operational range - Most Severe Level		NA
3312	3246	0	Red	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature - Data valid but above normal operational range - Most Severe Level		NA
3313	4765	4	Amber	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature	Aftertreatment Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage below normal, or shorted to low source		NA
3314	4765	3	Amber	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature	Aftertreatment Diesel Oxidation Catalyst Intake Temperature Sensor Circuit - Voltage above normal, or shorted to high source		NA
3315	4765	2	Amber	Aftertreatment 1 Diesel Oxidation Catalyst Intake Gas Temperature	Aftertreatment Diesel Oxidation Catalyst Intake Temperature - Data erratic, intermittent or incorrect		NA
3316	3242	4	Amber	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature Sensor Circuit - Voltage below normal, or shorted to low source		NA

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
3317	3242	3	Amber	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature Sensor Circuit - Voltage above normal, or shorted to high source		NA
3318	3242	2	Amber	Aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature	Aftertreatment Diesel Particulate Filter Intake Temperature - Data erratic, intermittent or incorrect		NA
3319	3246	3	Amber	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature Sensor Circuit - Voltage above normal, or shorted to high source		NA
3321	3246	4	Amber	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature Sensor Circuit - Voltage below normal, or shorted to low source		NA
3322	3246	2	Amber	Aftertreatment 1 Diesel Particulate Filter Outlet Gas Temperature	Aftertreatment Diesel Particulate Filter Outlet Temperature - Data erratic, intermittent or incorrect		NA
3326	91	9	Red	Accelerator Pedal Position 1	SAE J1939 Multiplexed Accelerator Pedal or Lever Sensor System - Abnormal update rate		
3328	191	9	Amber	Transmission Output Shaft Speed	Transmission Output Shaft Speed - Abnormal update rate		
3375	5397	31	Amber	Aftertreatment Diesel Particulate Filter Regeneration too Frequent	Aftertreatment Diesel Particulate Filter Regeneration too Frequent - Condition Exists	QSX Only	NA
3376	5319	31	Amber	Aftertreatment Diesel Particulate Filter	Aftertreatment Diesel Particulate Filter Incomplete Regeneration - Condition Exists	QSX Only	NA

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Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
3385	105	18	Amber	Intake Manifold 1 Temperature	Intake Manifold 1 Temperature - Data Valid But Below Normal Operating Range - Moderately Severe Level	QSX Only	NA
3418	191	19	Amber	Transmission Output Shaft Speed	Transmission Output Shaft Speed - Received Network Data In Error		
3525	84	19	Amber	Wheel-Based Vehicle Speed	Wheel-Based Vehicle Speed - Received Network Data In Error		
3526	84	9	Amber	Wheel-Based Vehicle Speed	Wheel-Based Vehicle Speed - Abnormal update rate		
3527	558	19	Red	Accelerator Pedal 1 Low Idle Switch	[C2ST] Accelerator Pedal or Lever Idle Validation Switch - Received Network Data In Error		
3528	558	9	Red	Accelerator Pedal 1 Low Idle Switch	Accelerator Pedal or Lever Idle Validation Switch - Abnormal update rate		
3616	2633	7	None	Engine VGT Nozzle Position	[C2ST] Engine VGT Nozzle Position - Mechanical system not responding or out of adjustment		
3697	630	12	Red	Engine Control Module Calibration Memory	[C2ST] Engine Control Module Calibration Memory - Bad intelligent device or component		
3724	168	17	Amber	Battery Potential / Power Input 1	[C2ST] Battery 1 Voltage - Data Valid But Below Normal Operating Range - Least Severe Level		
3727	5571	7	None	High Pressure Common Rail Fuel Pressure Relief Valve	[C2ST] High Pressure Common Rail Fuel Pressure Relief Valve - Mechanical system not responding or out of adjustment		
3733	862	3	Amber	Crankcase Breather Filter Heater Circuit	Crankcase Breather Filter Heater Circuit - Voltage above normal, or shorted to high source	QSX Only	NA

Fault Code	J1939 SPN	J1939 FMI	Lamp Color	J1939 SPN Description	Cummins Description	QSB6.7 >174hp QSL9 QSX11.9/15	QSB3.3 QSB4.5 QSB6.7 <174hp
3734	862	4	Amber	Crankcase Breather Filter Heater Circuit	Crankcase Breather Filter Heater Circuit - Voltage below normal, or shorted to low source	QSX Only	NA
3737	1675	31	None	Engine Starter Mode	[C2ST] Engine Starter Mode Overcrank Protection - Condition Exists		
3741	5571	0	Amber	High Pressure Common Rail Fuel Pressure Relief Valve	[C2ST] High Pressure Common Rail Fuel Pressure Relief Valve - Data valid but above normal operational range - Most Severe Level		
3753	3713	31	None	Diesel Particulate Filter Active Regeneration Inhibited	Diesel Particulate Filter Active Regeneration Inhibited Due to System Timeout - Condition Exists	QSX Only	NA
3765	442	3	Amber	[J1939 - 71] Auxiliary Temperature 2	[C2ST] Auxiliary Temperature Sensor Input 2 Circuit - Voltage above normal, or shorted to high source		
3766	442	4	Amber	[J1939 - 71] Auxiliary Temperature 2	[C2ST] Auxiliary Temperature Sensor Input 2 Circuit - Voltage below normal, or shorted to low source		

NA- Not Applicable