

Complete fault code list for SSL and CTL

Engineering release of instrument cluster (IC), universal control module (UCM), and engine control unit (ECU) fault list and descriptions currently available for machines as of September 2014.

DTC	ENGINE TYPE	FAULT DESCRIPTIONS (as in EST)	MASTER LAMP	TELLTALE LAMP
1002	ALL	Engine Coolant Temperature Is Above Normal	Engine	
1004	ALL	Hydraulic Oil Filter Restricted	Amber	Hydraulic
1009	ALL	Hydraulic Oil Temperature Is Above Normal	Amber	Hydraulic
1010	ISM-DI	Battery 5V Reference 1 Circuit Low	White	
1011	ISM-DI	Battery 5V Reference 1 Circuit High	White	
1012	ISM-DI	Battery 5V Reference 2 Circuit Low	White	
1013	ISM-DI	Battery 5V Reference 2 Circuit High	White	
1014	ISM-DI	Vehicle System Voltage Too High	White	
1014	ISM-IDI	Vehicle System Voltage Too High	White	
1014	ALL	Cluster System Voltage Above Normal (>16.5V)	Amber	
1015	ISM-DI	Vehicle System Voltage Too Low	White	
1015	ISM-IDI	Vehicle System Voltage Too Low	White	
1015	ALL	Cluster System Voltage Below Normal (<11.5V)	Amber	
1025	ALL	Foot Throttle Sensor Is Above Range - Shorted To Power	White	
1026	ALL	Hand Throttle Sensor Is Above Range - Shorted To Power	White	
1030	ALL	Foot Throttle Sensor Is Below Range - Open Or Shorted To Ground	White	
1031	ALL	Hand Throttle Sensor Is Below Range - Open Or Shorted To Ground	White	
1040	F5C	RPM Monitoring Over Speed	Amber	
1041	ALL	RPM Monitoring Over Speed Max	Amber	
1044	ALL	Fuel level sensor below 2.0 ohm for 5 seconds, shorted low	White	
1045	ALL	Fuel Level Sensor Open Circuit	White	
1051	ALL	No CAN Communication With Engine Controller	Amber	
1053	ALL	Timeout of CAN Message CM1BC	Amber	
1054	ALL	Timeout of CAN Message ET1	Amber	
1056	ALL	Timeout of CAN Message DPFC1	Amber	
1058	ALL	Timeout of CAN Message EDC2BC	Amber	
1059	ALL	Timeout of CAN Message DM1	Amber	

1201	ALL	Hydraulic Filter Restriction Switch Open Circuit	White	
1205	ALL	Hydraulic Enable Output Shorted To Power (Electro-Hydraulic Machines)	Amber	
1206	ALL	CAN Connection - Configuration Response Timeout	Amber	
1207	ALL	Memory Parameter - Invalid Configuration Between IC and VCM	amber	
1208	ALL	Seat Switch Plausibility Fault	Amber	
1211	ALL	Joystick Calibration not Complete	Amber	
1212	ALL	Ground Drive Calibration not Complete	Amber	
1213	ALL	Loader Valve Calibration not Complete	Amber	
1215	ALL	Saturation Function not complete - Forward Pumps	Amber	
1216	ALL	Saturation Function not complete - Reverse Pumps	Amber	
1221	ALL	VCM Temperature / Current Draw Over Limit	Amber	
1222	ALL	VCM Sustained Over Temperature Limit	Red	
1223	ALL	VCM Sustained Over Current Limit	Red	
1224	ALL	VCM Internal Memory or Core Monitoring Fault	Red	
1225	ALL	VCM EEPROM Memory Checksum Fault	Red	
1350	ALL	Hydraulic Enable Switch - Implausible State (Hardware Vs CAN)	Amber	
1511	ALL	Right Brake Light Open Circuit	white	
1512	ALL	Right Brake Light Shorted To Ground	white	
1513	ALL	Right Brake Light Shorted To Power	white	
1521	ALL	Left Brake Light Open Circuit	white	
1522	ALL	Left Brake Light Shorted To Ground	white	
1523	ALL	Left Brake Light Shorted To Power	white	
1532	ALL	Backup Alarm Shorted To Ground	white	
1533	ALL	Backup Alarm Shorted To Power	white	
1800	ISM-IDI	DOC Intake Temperature Sensor Out Of Range Low	Amber	
1801	ISM-IDI	DOC Intake Temperature Sensor Out Of Range High	Amber	
1802	ISM-IDI	DPF Exhaust Temperature Sensor Out Of Range Low	Amber	
1803	ISM-IDI	DPF Exhaust Temperature Sensor Out Of Range High	Amber	
1804	ISM-IDI	High DPF Intake temperature	Amber	
1805	ISM-IDI	High DOC Intake temperature	Amber	
1806	ISM-IDI	High DPF Exhaust temperature	Amber	
1807	ISM-IDI	Aftertreatment Burner Glow Voltage Low	White	
1808	ISM-IDI	Aftertreatment Burner Glow Voltage High	White	
1809	ISM-IDI	Aftertreatment Burner Glow Voltage Out Of Range High	White	
1816	ISM-DI	Capacitor Charge-up Circuit Malfunction (Insufficient Charge)	Amber	

1817	ISM-DI	Capacitor Charge-up Circuit Malfunction (Excessive Charge)	Red	
1818	ISM-DI	ECU Watchdog fault	Red	
1819	ISM-IDI	Engine overspeed	Red	
1822	ISM-IDI	Crank Speed Sensor Low Voltage	Amber	
1823	ISM-IDI	Camshaft Speed Sensor Low Voltage	Amber	
1824	ISM-IDI	Diesel Particulate Filter High Soot Load	Red	
1900	ALL	VCM Ground Fault	Red	
1901	ALL	VCM - VCM Supply Voltage High	White	
1902	ALL	VCM - VCM Supply Voltage Low	white	
1903	ALL	VCM - VCM Supply Voltage Below Operational Limit	Red	
1904	ALL	VCM - Rail 12VB - 5V Regulators Supply Input Power Off	Red	
1905	ALL	VCM - 5Vref1 Sensor Supply Voltage Out Of Range	Red	
1906	ALL	VCM - 5Vref3 Sensor Supply Voltage Out Of Range	Red	
1907	ALL	VCM - Rail 12VF1 - Aux Retract Input Power Off	amber	
1908	ALL	VCM - Rail 12VF2 - Bucket Extend Input Power Off	Red	
1909	ALL	VCM - Rail 12VF3 - Boom Raise/Lower Input Power Off	Red	
1910	ALL	VCM - Rail 12VH - Loader Pilot Interlock And Port Lock Input Power Off	Red	
1911	ALL	VCM - Rail 12VH1 - Left And Right Pump Reverse Input Power Off	Red	
1912	ALL	VCM - Rail 12VM - Left And Right Brake Lights And Aux Extend Input Power Off	amber	
1913	ALL	VCM - Rail 12VS1 - Bucket Curl Input Power Off	Red	
1914	ALL	VCM - Rail 12VS2 - Backup Alarm Input Power Off	amber	
1915	ALL	VCM - Rail 12VT1 - Two Speed Input Power Off	amber	
1916	ALL	VCM - Rail 12VU1 - Right And Left Pumps Forward Input Power Off	Red	
1917	ALL	VCM - Rail 12VU2 - Park Brake Solenoid Input Power Off	Red	
3007	ISM-DI	Engine Coolant Temperature Sensor Circuit - Signal Above Range Max	Amber	
3007	ISM-DI	Engine Coolant Temperature Sensor Circuit - Signal Above Range Max	Amber	
3007	ISM-IDI	Engine Coolant Temperature Sensor Circuit - Signal Above Range Max	Amber	
3007	ISM-IDI	Engine Coolant Temperature Sensor Circuit - Signal Above Range Max	Amber	
3007	F5C	Engine Coolant Temperature Sensor Circuit - Signal Above Range Max	Amber	
3008	ISM-DI	Engine Coolant Temperature Sensor Circuit - Signal Below Range Min	Amber	

3008	ISM-IDI	Engine Coolant Temperature Sensor Circuit - Signal Below Range Min	Amber	
3008	F5C	Engine Coolant Temperature Sensor Circuit - Signal Below Range Min	Amber	
3010	ISM-DI	Intake Manifold Boost Temperature Sensor Circuit - Signal Above Range Max	Engine	
3010	ISM-IDI	Intake Manifold Boost Temperature Sensor Circuit - Signal Above Range Max	Engine	
3010	F5C	Intake Manifold Boost Temperature Sensor Circuit - Signal Above Range Max	Engine	
3011	ISM-DI	Intake Manifold Boost Temperature Sensor Circuit - Signal Below Range Min	Engine	
3011	ISM-IDI	Intake Manifold Boost Temperature Sensor Circuit - Signal Below Range Min	Engine	
3011	F5C	Intake Manifold Boost Temperature Sensor Circuit - Signal Below Range Min	Engine	
3015	ISM-DI	Fuel Temperature Sensor - Signal Above Range Max	Amber	
3015	F5C	Fuel Temperature Sensor - Signal Above Range Max	Amber	
3016	ISM-DI	Fuel Temperature Sensor - Signal Below Range Min	Amber	
3016	F5C	Fuel Temperature Sensor - Signal Below Range Min	Amber	
3019	ISM-DI	Intake Manifold Boost Pressure Sensor Circuit - Signal Above Range Max	Engine	
3019	ISM-IDI	Intake Manifold Boost Pressure Sensor Circuit - Signal Above Range Max	Engine	
3019	F5C	Intake Manifold Boost Pressure Sensor Circuit - Signal Above Range Max	Engine	
3024	ISM-DI	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Above Range Max. Replace Engine Controller.	Engine	
3024	ISM-IDI	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Above Range Max. Replace Engine Controller.	Engine	
3024	F5C	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Above Range Max. Replace Engine Controller.	Engine	
3025	ISM-DI	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Below Range Min. Replace Engine Controller.	Engine	
3025	ISM-IDI	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Below Range Min. Replace Engine Controller.	Engine	
3025	F5C	Atmospheric Pressure Sensor Inside ECU Out Of Range - Signal Below Range Min. Replace Engine Controller.	Engine	
3027	F5C	Oil Pressure Sw Failure	Engine	
3037	ISM-DI	Intake Manifold Boost Pressure Sensor Circuit - Signal Below Range Min	Engine	
3037	ISM-IDI	Intake Manifold Boost Pressure Sensor Circuit - Signal Below Range Min	Engine	
3037	F5C	Intake Manifold Boost Pressure Sensor Circuit - Signal Below Range Min	Engine	

3051	F5C	-	amber	
3052	F5C	-	amber	
3059	ISM-IDI	ECU Main Power Relay Failed Closed	Amber	
3059	F5C	Engine Controller Main Relay Circuit (Terminal 30) - Stuck Main Relay Error	amber	
3063	F5C	Cylinder 1 Injector Circuit - Short Circuit	Engine	
3071	F5C	Cylinder 3 Injector Circuit - Short Circuit	Engine	
3079	F5C	Cylinder 2 Injector Circuit - Short Circuit	Engine	
3083	F5C	Cylinder 4 Injector Circuit - Short Circuit	Engine	
TBA	ISM-IDI	Crank Speed Sensor Out Of Range	Red	
3088	ISM-DI	Crankshaft Speed Sensor - No Signal	Engine	
TBA	ISM-DI	Crankshaft Speed Sensor - No Signal	Red	
3088	ISM-IDI	Crank Speed Sensor High Voltage	Engine	
3088	F5C	Crankshaft Speed Sensor - No Signal	Engine	
3089	ISM-DI	Crankshaft Speed Sensor - Invalid Signal	Amber	
3089	F5C	Crankshaft Speed Sensor - Invalid Signal	amber	
3090	ISM-IDI	Camshaft Speed Sensor Out Of Range	Engine	
3090	ISM-DI	Camshaft Speed Sensor - No Signal	Engine	
3090	ISM-IDI	Camshaft Speed Sensor High Voltage	Engine	
3090	F5C	Camshaft Speed Sensor - No Signal	Engine	
3091	F5C	Camshaft Speed Sensor - Invalid Signal	Engine	
3093	F5C	Offset Between Camshaft And Crankshaft Speed Sensors. Check Correct Positions Of Camshaft Signal Wheel And Crankshaft Signal Wheel.	Engine	
3096	F5C	Primary Vehicle CAN Bus Failure - Bus Off On CAN Node A	Amber	
3102	ISM-DI	Rail Pressure Sensor - Signal Below Range Min	Amber	
3102	F5C	Rail Pressure Sensor - Signal Below Range Min	Red	
3104	F5C	Rail Pressure Relief Valve - Open	Red	
3105	F5C	Rail Pressure Relief Valve - Pressure Shock Requested	Engine	
3106	F5C	Rail Pressure Relief Valve - pressure relief valve reached maximum allowed opening count	Engine	
3107	F5C	Engine Controller High Pressure Pump Metering Unit Circuit - Short Circuit To Battery	Engine	
3108	F5C	Engine Controller High Pressure Pump Metering Unit Circuit - Short Circuit To Ground	Engine	
3112	ISM-DI	Rail Pressure Sensor - Signal Above Range Max	Amber	
3112	F5C	Rail Pressure Sensor - Signal Above Range Max	Red	
3137	F5C	Engine Controller High Pressure Pump Metering Driver - Open Load	Engine	
3139	F5C	-	Amber	

3140	F5C	-	Amber	
3141	F5C	Fuel System - High Pressure Pump Is Pumping More Fuel Than Expected. Check Metering Unit Circuit, Low Pressure Fuel Tubes (Return From Pump To Tank Clogged), Fuel Pressure Sensor, Or If Injectors Are Leaking.	Red	
3146	F5C	Water Detected In Fuel	Engine	
3157	F5C	ECM Not Detected On CAN Bus - The Engine Dataset Registration Information Was Not Available From The Engine Within The Time Required.	Amber	
3158	F5C	The Engine Dataset Installed Does Not Match The Dataset Registered For This Machine. Register The New Dataset If The Dataset Has Just Been Updated	Amber	
3166	F5C	Engine Controller Fuel Filter Heater Circuit - Short Circuit To Battery	Mask	
3167	F5C	Engine Controller Fuel Filter Heater Circuit - Short Circuit To Ground	Mask	
3168	F5C	Engine Controller Fuel Filter Heater Circuit - Open Load	Mask	
3169	F5C	Engine Controller Fuel Filter Heater Circuit - Signal Not Plausible	Mask	
3170	ISM-IDI	DPF Exhaust Temperature Higher Than 700 deg C	Amber	
3171	ISM-IDI	DPF Outlet Pressure Sensor Low Voltage	Amber	
3173	ISM-IDI	Aftertreatment Burner Temperature Sensor Low Voltage	Amber	
3174	ISM-IDI	Aftertreatment Burner Temperature Sensor High Voltage	Amber	
3175	ISM-IDI	DPF Intake Temperature Sensor Low Voltage	Amber	
3175	ISM-DI	Exhaust Gas Temperature 1 Sensor Signal Too Low	Amber	
3176	F5C	Fuel System - High Pressure Pump Flow Setting Is Higher Than Expected To Maintain Normal Rail Pressure At Zero Fueling.	Red	
3177	F5C	-	amber	
3179	F5C	CAN Message Not Received From Vehicle Controller - BC2EDC2	Amber	
3180	F5C	CAN Message Not Received From Vehicle Controller - VM2EDC	Amber	
3182	F5C	-	Amber	
3188	F5C	Cylinder 1 Injector Circuit - Open Load	Engine	
3192	F5C	Cylinder 2 Injector Circuit - Open Load	Engine	
3196	F5C	Cylinder 3 Injector Circuit - Open Load	Engine	
3200	F5C	Cylinder 4 Injector Circuit - Open Load	Engine	
3210	ISM-DI	Injector Bank 1 Circuit (Cyl 1 And 4) - Short Circuit	Amber	
3210	ISM-DI	Injector Bank 1 Circuit (Cyl 1 And 4) - Short Circuit	Amber	
3210	F5C	Injector Bank 1 Circuit (Cyl 1 And 4) -Short Circuit	Engine	
3218	ISM-DI	Injector Bank 2 Circuit (Cyl 2 And 3) - Short Circuit	Amber	
3218	ISM-DI	Injector Bank 2 Circuit (Cyl 2 And 3) - Short Circuit	Amber	

3218	F5C	Injector Bank 2 Circuit (Cyl 2 And 3) - Short Circuit	Engine	
3230	F5C	SPI Communication Failure - Replace Engine Controller (Chip Specific Fault). Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3235	F5C	-	OFF	
3236	F5C	-	OFF	
3237	F5C	-	OFF	
3238	F5C	Replace Engine Controller (Internal Communication Chip Error) - CJ940. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3239	ISM-IDI	ECM EEPROM - Read Operation Failure	Red	
3239	F5C	-	Red	
3240	ISM-IDI	ECM EEPROM - Write Operation Failure	Red	
3240	F5C	-	Red	
3241	F5C	-	OFF	
3242	F5C	-	OFF	
3243	F5C	-	OFF	
3244	F5C	-	OFF	
3245	F5C	Engine Controller (Internal Communication Error). If Error Exists Only Temporarily (i.e. Injection Reoccurs), Error Can Be Ignored. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3252	F5C	Engine Controller (Internal Communication Error). If Error Exists Only Temporarily (i.e. Injection Reoccurs), Error Can Be Ignored. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3253	F5C	Replace Engine Controller (ADC Failure). After Replacement, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Amber	
3255	F5C	Replace Engine Controller (ADC Failure). After Replacement, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Amber	
3256	F5C	Replace Engine Controller (ADC Failure). After Replacement, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Amber	
3258	ISM-DI	Starter Relay Circuit - Shorted To High Source	Amber	
3258	F5C	Starter Relay Circuit - Short Circuit To Battery	Amber	
3259	ISM-DI	Starter Relay Circuit - Shorted To Low Source	Amber	
3259	F5C	Starter Relay Circuit - Short Circuit To Ground	Amber	
3260	F5C	Engine Controller Starter Relay Circuit Low Side Driver - Open Load	Amber	
3261	F5C	Engine Controller Starter Relay Circuit Low Side Driver - Short Circuit To Battery Of Excess Temperature	Amber	

3262	F5C	Engine Controller Starter Relay Circuit Low Side Driver - Short Circuit To Ground	Amber	
3265	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Injection Time During Overrun Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Red	
3266	ISM-DI	RPM Monitoring Over Speed Max	Red	
3266	ISM-IDI	Engine overspeed Error - Crank Speed Sensor or Camshaft Speed Sensor Failure	Red	
TBA	ISM-IDI	Engine overspeed Error - Crank Speed Sensor or Camshaft Speed Sensor Failure	Amber	
TBA	ISM-IDI	Engine overspeed Error - Crank Speed Sensor or Camshaft Speed Sensor Failure	Amber	
3266	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Engine Crank Speed Fault). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Red	
3267	ISM-DI	Engine ECU Fuel Pump Output - Shorted To High Source	Amber	
3268	ISM-DI	Engine ECU Fuel Pump Output - Shorted To Low Source	Amber	
3283	F5C	Engine Regulated 5 Volt Sensor Supply # 2 - Too High. (K = 94 Connector - Vehicle Side,		
A = 60pin Connector - Engine; K12; K13; K14; K15; K16)	Amber			
3285	F5C	Engine Regulated 5 Volt Sensor Supply # 3 - Too High. (K = 94 Connector - Vehicle Side, A = 60pin Connector - Engine; A29; K17; K18)	Amber	
3293	ISM-DI	Fuel System - Rail Pressure Lower Than Desired Target. Check For Clogged Fuel Filter, Leakage In High Pressure System, Low Pressure Pump Hydraulic Circuit, High Pressure Pump Low Efficiency.	Amber	
3293	F5C	Fuel System - Rail Pressure Lower Than Desired Target. Check For Clogged Fuel Filter, Leakage In High Pressure System, Low Pressure Pump Hydraulic Circuit, High Pressure Pump Low Efficiency.	Red	
3301	F5C	Fuel System - Rail Pressure Is Not Reducing When High Pressure Pump Is At Minimum Flow. Check Metering Unit Circuit, Low Pressure Fuel Tubes (Return From Pump To Tank Clogged).	Red	
3305	ISM-DI	Common Rail Pressure Below Target Pressure	Red	
3305	F5C	-	Red	
3309	ISM-DI	Common Rail Pressure Exceeds Upper Limit	Red	
3309	F5C	-	Red	
3334	ISM-DI	CAN Message Not Received From Vehicle Controller - TSC1-PE Active	Amber	

3334	ISM-IDI	CAN Message TSC1 Error	Amber	
3334	F5C	CAN Message Not Received From Vehicle Controller - TSC1-PE Active	Mask	
3335	F5C	CAN Message Not Received From Vehicle Controller - TSC1	Mask	
3338	F5C	CAN Message Not Received From Vehicle Controller - TSC1_VE Message Passive	Amber	
3339	F5C	CAN Message Not Received From Vehicle Controller - TSC1-VE Active	Amber	
3350	F5C	Terminal 50 (Crank Input) In Crank State For Longer Than 30 Seconds.	Amber	
3358	F5C	Engine Sensor CAN Bus Failure (Engine Controller Cannot Transmit To Sensors, Or Sensors Not On Bus)	Amber	
3361	F5C	-	Amber	
3362	F5C	-	OFF	
3368	F5C	Fueling Limited Due To Other Engine Fault Detected, See Other Fault Codes.	Engine	
3369	F5C	Fueling Limited To Prevent Smoke, See Other Fault Codes.	White	
3370	F5C	Torque Limitation Due To High Temperatures Of Exhaust Gas, Coolant Or Fuel.	Mask	
3371	F5C	Temporary Torque Limitation Due To High Fuel Temperature. See Other Fault Codes.	White	
3374	F5C	Injector Codes Not Valid In Controller Memory. Write Correct Injector Codes With Service Tool	Amber	
3390	ALL	Air Filter Restriction Switch Short To Ground	Amber	Engine
3402	F5C	Rail Fuel Pressure Too High - Maximum Rail Pressure Exceeded	Red	
3403	F5C	Engine Controller Starter Relay Circuit Low Side Driver - Power Stage Overtemperature.	Engine	
3405	F5C	Engine Controller Waste Gate Turbocharger Actuator Circuit - Open Load Output Power Stage	Red	
3406	F5C	Engine Controller Waste Gate Turbocharger Actuator Circuit - Power Stage Overtemperature. No Reaction Needed If Failure Isn't Present After Short Time. Replace EDC If Fault Persists.	Red	
3408	F5C	-	OFF	
3409	ISM-IDI	Engine Oil Pressure Too Low	Red	
3409	ISM-DI	Engine Oil Pressure Too Low	Red	
3409	F5C	Engine Oil Pressure Too Low	Red	
3410	F5C	Desired Throttle Valve Actuator (TVA) Position Can Not Be Reached (Valve Sticks, Position Sensor Mismatched)	Red	
3411	F5C	Desired Throttle Valve Actuator (TVA) Position Can Not Be Reached (Valve Sticks, Position Sensor Mismatched)	Red	

3414	F5C	Short Circuit In Glow Plugs - Cyl.1	Engine	
3415	F5C	Short Circuit In Glow Plugs - Cyl.2	Engine	
3416	F5C	Short Circuit In Glow Plugs - Cyl.3	Engine	
3417	F5C	Short Circuit In Glow Plugs - Cyl.4	Engine	
3418	F5C	Engine Controller Waste Gate Turbocharger Actuator Circuit - Failed High	Red	
3419	F5C	Engine Controller Waste Gate Turbocharger Actuator Circuit - Failed Low	Red	
3420	F5C	-	OFF	
3421	F5C	-	OFF	
3422	F5C	-	OFF	
3423	F5C	-	OFF	
3424	F5C	-	OFF	
3426	F5C	-	OFF	
3427	F5C	DPF Differential Pressure Too Low. Possible DPF Removal Or Differential Pressure Sensor Circuit	Engine	
3428	F5C	DPF Differential Pressure Sensor: Not Plausible Error	Engine	
3429	F5C	Differential Pressure Hose/Line Failure (e.g. Due To Leakage) - Check Hose/Line Integrity. Check Sensor.	Engine	
3430	F5C	-	OFF	
3431	F5C	-	OFF	
3432	F5C	-	OFF	
3433	F5C	-	OFF	
3434	F5C	-	OFF	
3435	F5C	-	OFF	
3517	F5C	Air Filter Temperature Sensor Circuit - Signal Too High	Engine	
3518	F5C	Air Filter Temperature Sensor Circuit - Signal Too Low	Engine	
3616	F5C	Fueling Limited Due To Other Engine Fault Detected, See Other Fault Codes.	Mask	
3648	F5C	Turbocharger Boost Pressure Higher Than Desired Target (Wastegate Sticking, Boost Pressure Sensor, Exhaust Pressure Sensor).	Engine	
3650	F5C	Battery Voltage Incorrect. Check Alternator, Or EDC.	Engine	
3651	F5C	Battery Voltage Uncorrect. Check Alternator, Battery, Or Wiring Harness.	Engine	
3652	F5C	Primary Vehicle CAN Bus Failure - Bus Off On CAN Node A	Amber	
3655	F5C	Fueling Limited Due To Other Engine Fault Detected, See Other Fault Codes.	Engine	
3656	F5C	Torque Limited Due To DPF Load, See Other Fault Codes.	White	
3657	F5C	CAN Bus Received Frames - Timeout Error Of CAN-Receive-Frame CM1BC	Amber	

3659	ISM-IDI	Engine ECU Battery Supply Voltage High	Red	
3659	F5C	-	Red	
3660	F5C	-	OFF	
3663	F5C	-	OFF	
3664	F5C	-	OFF	
3665	F5C	Desired EGR Valve Position Can Not Be Reached (EGR Valve Sticks, Position Sensor Mismatched).	Engine	
3666	F5C	Desired EGR Valve Position Can Not Be Reached (EGR Valve Sticks, Position Sensor Mismatched).	Engine	
3667	F5C	EGR Valve Circuit - Open Load Error For Power Stage. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Engine	
3668	F5C	EGR Valve Circuit - No Reaction Needed If Failure Isn't Present Again After Short Time. Replace Engine Controller If Fault Persists. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Engine	
3669	F5C	EGR Valve Circuit - Short Circuit To Battery (A = 60pin Connector - Engine; A50)	Engine	
3670	F5C	EGR Valve Circuit - Short Circuit To Battery (A = 60pin Connector - Engine; A35)	Engine	
3671	F5C	EGR Valve Circuit - Short Circuit To Ground (A = 60pin Connector - Engine; A50)	Engine	
3672	F5C	EGR Valve Circuit - Short Circuit To Ground (A = 60pin Connector - Engine; A35)	Engine	
3673	F5C	EGR Valve Circuit - Short Circuit Overload Error For H-Bridge	Engine	
3674	F5C	EGR Valve Circuit - Under Voltage Error For H-Bridge. Check Electrical System Of Vehicle, Replace Ecu (Due To High Voltage Fluctuations In The System).	Engine	
3675	F5C	EGR Valve Is Blocked In Closed Position. Replace EGR Valve.	Engine	
3676	F5C	EGR Valve Position Sensor Circuit - High	Engine	
3677	F5C	EGR Valve Position Sensor Circuit - Low	Engine	
3680	F5C	Reprogram/Replace EDC. - Replace Engine Controller If Fault Persists. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Engine	
3688	F5C	Replace Water In Fuel Sensor.	Engine	
3689	F5C	Communication Error Between Glow Plug Unit And Engine Controller (Wrong Data Transmission). Check Wiring, Or Replace Glow Plug Unit.	Engine	
3691	ISM-DI	Glow Plug Circuit. - No Load Error For Low Voltage System	Engine	
3691	F5C	Glow Plug Circuit. - No Load Error For Low Voltage System	Engine	

3692	F5C	Glow Plug Circuit Power Stage Overtemperature. No Reaction Needed If Failure Isn't Present After Short Time. Replace Glow Plug Control Unit If Fault Persists.	Engine	
3693	F5C	Glow Plug Circuit. - Short Circuit To Battery Error For Low Voltage System	Engine	
3694	ISM-DI	Glow Plug Circuit. - Short Circuit To Ground Error For Low Voltage System	Engine	
3694	F5C	Glow Plug Circuit. - Short Circuit To Ground Error For Low Voltage System	Engine	
3695	F5C	-	OFF	
3696	F5C	-	OFF	
3697	F5C	-	OFF	
3698	F5C	-	OFF	
3699	F5C	-	Amber	
3702	F5C	-	Amber	
3703	F5C	-	Amber	
3704	F5C	Injector Codes Are Invalid - Write Correct Injector Codes With Service Tool (Cyl.2).	Engine	
3705	F5C	Injector Codes Are Invalid - Write Correct Injector Codes With Service Tool (Cyl.3).	Engine	
3706	F5C	Injector Codes Are Invalid - Write Correct Injector Codes With Service Tool (Cyl.4).	Engine	
3707	F5C	-	OFF	
3708	F5C	-	OFF	
3709	F5C	-	OFF	
3710	F5C	-	OFF	
3711	F5C	-	OFF	
3712	F5C	-	OFF	
3713	F5C	-	OFF	
3714	F5C	-	OFF	
3715	F5C	-	OFF	
3716	F5C	-	OFF	
3720	F5C	-	OFF	
3721	F5C	-	OFF	
3722	F5C	-	OFF	
3723	F5C	-	OFF	
3724	F5C	-	OFF	
3725	F5C	-	OFF	
3727	F5C	Poor Oil Quality Detected - Amber Lamp Level. Change The Oil And Reset Counter Via Service Tool.	Engine	

3728	F5C	Poor Oil Quality Detected - Red Lamp Level. Change The Oil And Reset Counter Via Service Tool.	Red	
3735	F5C	Fuel Metering Unit Circuit. - Over Temperature Of Device Driver Of Metering Unit	Engine	
3736	F5C	-	OFF	
3737	F5C	-	OFF	
3738	F5C	Reprogram/Replace EDC - Replace Engine Controller If Fault Persists. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3739	F5C	ECM Internal Error. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3740	F5C	Injector Circuit Error. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3741	F5C	ECM Internal Error. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3742	F5C	ECM Internal Error. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3743	F5C	EDC Internal Failure (Injectors Power Stage) - Error In Undervoltage Monitoring. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters	Amber	
3744	F5C	EDC Internal Failure (Injectors Power Stage) - Error In Overvoltage Monitoring. If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3745	F5C	Injector Circuit Or Ecu Power Stages - WDA Is Not Working Correctly	Amber	
3746	F5C	Injector Circuit Or Ecu Power Stages - OS Timeout In The Shut Off Path Test. Failure Setting The Alarm Task Period.	Amber	
3747	F5C	Injector Circuit Or Ecu Power Stages - Positive Test Failed	Amber	
3748	F5C	Injector Circuit Or Ecu Power Stages - Timeout In The Shut Off Path Test	Amber	
3750	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Injection Time). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3751	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Injection Angles). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3752	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Zero Fuel Calibration). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	

3753	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3754	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3755	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3756	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3757	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3758	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	Amber	
3759	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3760	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3761	F5C	Reload Engine Dataset Or Replace Engine Controller If Fault Persists (Level 2 Monitoring). If EDC Replaced, Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3762	F5C	Level 2 Monitoring : Reported Over Voltage Of Supply	Amber	
3763	F5C	Level 2 Monitoring : Reported Under Voltage Of Supply	Amber	
3764	ISM-DI	Engine Controller Main Relay Circuit (Terminal 30) - Early Opening Defect Of Main Relay	Amber	
3764	F5C	Engine Controller Main Relay Circuit (Terminal 30) - Early Opening Defect Of Main Relay	Amber	
3766	F5C	DPF Differential Pressure Sensor (Replace Sensor)	Amber	
3767	F5C	Replace Engine Controller - Reporting 'Wda Active' Due To Errors In Query/Response Communication. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3768	F5C	Replace Engine Controller - Reporting 'Abe Active' Due To Undervoltage Detection. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	

3769	F5C	Replace Engine Controller - Reporting 'Abe Active' Due To Overvoltage Detection. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3770	F5C	Replace Engine Controller. Follow The Appropriate Service Tool Procedure To Restore Self Learning Parameters.	White	
3771	F5C	-	Amber	
3773	F5C	Boost Pressure Below The Target - Check Waste Gate, Turbocharger, Piping.	Engine	
3786	F5C	DPF Soot Load Overload. The Forced Regeneration Is Needed (Commanded Via Cluster Interface Or Service Tool).	Red	
3787	F5C	DPF Soot Load Overload. Clean DPF And Retest DPF. Reset Parameters Via Service Tool After Replacement.	Red	
3789	F5C	Automatic Regeneration Too Long - Check Exhaust Line, Perform Manual Or Service Regeneration, Check Time Interval For DPF Service For Ashes (To Check If Regeneration Duration Exceeds Maximum Allowed Duration).	White	
3790	F5C	-	OFF	
3791	F5C	-	OFF	
3794	F5C	Intake Manifold Boost Pressure Value Illogical When Compared To Other Pressures In System.	Engine	
3795	F5C	Intake Manifold Boost Pressure Value Illogical When Compared To Other Pressures In System.	Engine	
3796	F5C	DPF Differential Pressure Sensor - Hose Line Detached Or Blocked (Implausible Pressure Drop)	Engine	
3797	ISM-DI	DPF Differential Pressure Sensor Circuit - High Error	Amber	
3797	F5C	DPF Differential Pressure Sensor Circuit - High Error	Amber	
3797	ISM-IDI	DPF Differential Pressure Sensor Circuit - High Error	Amber	
3798	F5C	DPF Differential Pressure Sensor Circuit - Low Error	Amber	
3798	ISM-DI	DPF Differential Pressure Sensor Circuit - Low Error	Amber	
3798	ISM-IDI	DPF Differential Pressure Sensor Circuit - Low Error	Amber	
3799	F5C	Pressure Relief Valve - Forced To Open, Perform Pressure Shock. See Other Fault Codes.	Engine	
3800	F5C	Pressure Relief Valve - Quantity Balance Check If A Successful PRV Opening Is Ensured. See Other Fault Codes.	Red	
3801	F5C	Exhaust Gas Pressure Sensor Circuit (Upstream Turbine) - High Error	Mask	
3802	F5C	Exhaust Gas Pressure Sensor Circuit (Upstream Turbine) - Low Error	Mask	
3803	F5C	-	OFF	
3808	F5C	Fuel System: High Pressure Pump Fuel Quantity Not Plausible At Low Idle. Check For Clogged Fuel Filter, Leakage In High Pressure System, Low Pressure Pump	Red	

		Hydraulic Circuit, High Pressure Pump Low Efficiency, Or Injectors For Tightness.		
3810	F5C	-	Amber	
3811	F5C	Engine Regulated 5 Volt Sensor Supply # 1 - Too High. (A = 60pin Connector - Engine; A07; A08; A09; A10; A11; A12; A13)	Amber	
3812	F5C	-	OFF	
3813	F5C	-	OFF	
3814	F5C	-	OFF	
3815	F5C	-	OFF	
3818	F5C	Throttle Valve Actuator (TVA) Circuit - Open Load Error For Power Stage	Amber	
3819	F5C	Throttle Valve Actuator (TVA) Circuit - Over Current Error For H-Bridge	Amber	
3820	F5C	Throttle Valve Actuator (TVA) Circuit - Over Temperature Error For H-Bridge	Amber	
3821	F5C	Throttle Valve Actuator (TVA) Circuit - Short Circuit To Battery (A = 60pin Connector - Engine; A49)	Engine	
3822	F5C	Throttle Valve Actuator (TVA) Circuit - Short Circuit To Battery (A = 60pin Connector - Engine; A34)	Engine	
3823	F5C	Throttle Valve Actuator (TVA) Circuit - Short Circuit To Ground (A = 60pin Connector - Engine; A49)	Engine	
3824	F5C	Throttle Valve Actuator (TVA) Circuit - Short Circuit To Ground (A = 60pin Connector - Engine; A34)	Engine	
3825	F5C	Throttle Valve Actuator (TVA) Circuit - Short Circuit Over Load Error For H-Bridge	Engine	
3826	F5C	-	OFF	
3827	F5C	Throttle Valve Actuator (TVA) Circuit - Under Voltage Error For H-Bridge	Engine	
3830	F5C	-	Amber	
3830	ISM-DI	Intake Valve Position Signal Too High	Amber	
3831	F5C	-	Amber	
3831	ISM-DI	Intake valve position Signal Too Low	Amber	
3834	F5C	Throttle Valve Actuator (TVA) Circuit - High Error (Power Stages)	Engine	
3835	F5C	Throttle Valve Actuator (TVA) Circuit - Low Error (Power Stages)	Engine	
3838	F5C	Temperature Sensor Circuit (T1) Upstream Oxicat - High Error	Engine	
3839	F5C	Temperature Sensor Circuit (T1) Upstream Oxicat - Low Error	Engine	
3840	F5C	Temperature Sensor Circuit (T2) Downstream Oxicat - High Error	Red	
3840	ISM-IDI	DPF Intake Temperature Sensor High Voltage	Amber	

3840	ISM-DI	Exhaust Gas Temperature 1 Sensor Signal Too High	Amber	
3841	F5C	Temperature Sensor Circuit (T2) Downstream Oxidat - Low Error	Red	
3842	F5C	Exhaust Gas Temperature Sensor Circuit (Upstream Turbine) - High Error	Engine	
3843	F5C	Exhaust Gas Temperature Sensor Circuit (Upstream Turbine) - Low Error	Engine	
3844	F5C	-	OFF	
3845	F5C	-	OFF	
3846	F5C	-	OFF	
3847	F5C	-	OFF	
3848	F5C	-	OFF	
3849	F5C	-	OFF	
3850	F5C	-	OFF	
3851	F5C	-	OFF	
3852	F5C	-	OFF	
3870	F5C	CAN Message Not Received From Vehicle Controller - BC2EDC1	Amber	
3885	ISM-IDI	DPF Outlet Pressure Sensor High Voltage	Amber	
3886	ISM-IDI	DPF Intake Temperature Higher Than 700 deg C	Amber	
3887	ISM-IDI	DOC Intake Temperature Higher Than 700 deg C	Amber	
3899	F5C	-	OFF	
3900	F5C	Engine Coolant Temperature Too High (Warning Level, T>110°C)	Engine	
3906	F5C	-	Amber	
3910	F5C	-	Red	
3915	F5C	Rail Pressure Relief Valve - Averaged Rail Pressure Is Outside The Expected Range With Open PRV	Amber	
3916	F5C	Pressure Relief Valve - Reached Maximum Allowed Open Time. See Other Fault Codes.	Amber	
3948	ISM-DI	EGR Lift Sensor 1 Signal Too High	Amber	
3949	ISM-DI	EGR Lift Sensor 1 Signal Too Low	Amber	
3950	ISM-DI	EGR Valve Stuck Open/Closed	Amber	
3953	ISM-DI	Exhaust Gas Temperature 2 Sensor Signal Too High	Amber	
3954	ISM-DI	Exhaust Gas Temperature 2 Sensor Signal Too Low	Amber	
3955	ISM-DI	Camshaft Sensor Error - Invalid Signal	Amber	
3956	ISM-DI	Injector 1 And/Or 4 Shorted To High Source	Amber	
3957	ISM-DI	Injector 1 And/Or 4 Shorted To Low Source	Amber	
3958	ISM-DI	Injector 1 And 4 - Open Circuit	Amber	
3959	ISM-DI	Injector 2 And/Or 3 - Shorted To High Source	Amber	

3960	ISM-DI	Injector 2 And/Or 3 - Shorted To Low Source	Amber	
3961	ISM-DI	Injector 2 And 3 - Open Circuit	Amber	
3962	ISM-DI	Supply Pump Control Valve (Suction Control Valve) Stuck	Amber	
3963	ISM-DI	Actual Rail Pressure Above Target	Amber	
3964	ISM-DI	Actual Rail Pressure Is Excessive	Amber	
3965	ISM-DI	Engine Stop Switch Stuck Closed	Red	
3966	ISM-DI	Water In Fuel Filter Failure	Engine	
3967	ISM-DI	Injector Codes Not Written To ECU	Engine	
3968	ISM-DI	Incorrect Injector Codes	Engine	
3969	ISM-DI	Invalid Injector Codes	Engine	
3970	ISM-DI	ECU Memory Fault	Red	
3971	ISM-DI	Engine ECU Memory Error - Verify Engine Dataset	Red	
3972	ISM-DI	Intake Throttle Motor Driver Circuit Invalid	Amber	
3973	ISM-DI	EGR Valve Position Does Not Match The Target Position	Amber	
3974	ISM-DI	EGR Motor Signal Shorted To Power Or Ground	Amber	
3975	ISM-DI	Intake Throttle Valve Stuck	Amber	
3976	ISM-DI	Perform Maintenance On EGR Timing 1-1	Engine	
3977	ISM-DI	Perform Maintenance On EGR Timing 1-2	Amber	
3978	F5C	Particulate Matter Catalyst (PMCat) : Signal range check flow resistance of the particulate filter - high	Amber	
3979	F5C	Particulate Matter Catalyst (PMCat) : Signal range check flow resistance of the particulate filter - very high	Red	
3980	ISM-IDI	Engine ECU Memory Failure	Red	
3981	ISM-IDI	DOC-In temperature under 220 deg C during regeneration	Amber	
3985	ISM-IDI	Engine ECU Temperature Too High	Red	
3986	ISM-IDI	Fuel Solenoid Short Circuit	Red	
3987	ISM-IDI	Fuel Solenoid Position Sensor Low Voltage	Red	
3988	ISM-IDI	Fuel Solenoid Position Sensor High Voltage	Red	
3989	ISM-IDI	Aftertreatment Burner Injector 1 Short Circuit	Red	
3990	ISM-IDI	Aftertreatment Burner Injector 2 Short Circuit	Red	
3991	ISM-IDI	Engine ECU Relay Output Power Short Circuit	Red	
3992	ISM-IDI	Diesel Particulate Filter Soot Level Full	Red	
3993	ISM-IDI	DPF Intake Temperature Higher Than 800 deg C	Red	
3994	ISM-IDI	DOC Intake Temperature Higher Than 800 deg C	Red	
3995	ISM-IDI	DPF Exhaust Temperature Higher Than 800 deg C	Red	
4043	ALL	Hydraulic Oil Temperature Sensor Shorted To Ground	White	
4044	ALL	Hydraulic Oil Temperature Sensor Open Circuit	White	
4055	ALL	Park Brake Valve (On / Off) Solenoid Supply Open Circuit	Red	

4056	ALL	Park Brake Valve (On / Off) Solenoid Supply Shorted To Ground	Red	
4057	ALL	Park Brake Valve (On / Off) Solenoid Supply Shorted To Power	Red	
4061	ALL	Forward Pump Control Valves (Directional) Solenoid Right (A) Supply Open Circuit	Red	
4062	ALL	Forward Pump Control Valves (Directional) Solenoid Right (A) Supply Shorted To Ground	Red	
4071	ALL	Forward Pump Control Valves (Directional) Solenoid Left (B) Supply Open Circuit	Red	
4072	ALL	Forward Pump Control Valves (Directional) Solenoid Left (B) Supply Shorted To Ground	Red	
4081	ALL	Forward Pump Control Valves (Directional) Pumps Forward Solenoid(s) Shorted To Power	Red	
4082	ALL	Forward Pump Control Valves (Directional) Pumps Forward Solenoid(s) Shorted To Ground	Red	
4083	ALL	Forward Pump Control Valves (Directional) Solenoids Return Open Circuit	Red	
4309	ALL	Park Brake Button Timeout (30 Seconds)	White	
4361	ALL	Reverse Pump Control Valves (Directional) Solenoid Right (A) Supply Open Circuit	Red	
4362	ALL	Reverse Pump Control Valves (Directional) Solenoid Right (A) Supply Shorted To Ground	Red	
4371	ALL	Reverse Pump Control Valves (Directional) Solenoid Left (B) Supply Open Circuit	Red	
4372	ALL	Reverse Pump Control Valves (Directional) Solenoid Left (B) Supply Shorted To Ground	Red	
4381	ALL	Reverse Pump Control Valves (Directional) Pumps Reverse Solenoid(s) Shorted To Power	Red	
4382	ALL	Reverse Pump Control Valves (Directional) Pumps Reverse Solenoid(s) Shorted To Ground	Red	
4383	ALL	Reverse Pump Control Valves (Directional) Solenoids Return Open Circuit	Red	
4401	ALL	Park Brake (Mechanical Machines) Solenoid Open Circuit	Red	
4402	ALL	Park Brake (Mechanical Machines) Shorted To Power	Red	
4431	ALL	Park Brake Pressure Switch (Plausibility Check With Solenoid Valve)	Hyd	
4731	ALL	Right Swash Plate Angle Sensor Pin A Open Or Shorted To Ground	Amber	
4732	ALL	Right Swash Plate Angle Sensor Pin A Shorted To Power	Amber	
4734	ALL	Right Swash Plate Angle Sensor Pin B Open Or Shorted To Ground	Amber	
4735	ALL	Right Swash Plate Angle Sensor Pin B Shorted To Power	Amber	
4737	ALL	Right Swash Plate Angle Sensor In-Range Fault	Amber	

4741	ALL	Left Swash Plate Angle Sensor Pin A Open Or Shorted To Ground	Amber	
4742	ALL	Left Swash Plate Angle Sensor Pin A Shorted To Power	Amber	
4744	ALL	Left Swash Plate Angle Sensor Pin B Open Or Shorted To Ground	Amber	
4745	ALL	Left Swash Plate Angle Sensor Pin B Shorted To Power	Amber	
4747	ALL	Left Swash Plate Angle Sensor In-Range Fault	Amber	
4752	ALL	Left Swash Plate Angle Sensor - Command Does not Match Swash Plate Angle	Red	
4754	ALL	Right Swash Plate Angle Sensor - Command Does not Match Swash Plate Angle	Red	
4781	ALL	Solenoid Valve Supply Open Circuit	White	
4782	ALL	Solenoid Valve Supply Shorted To Ground	White	
4783	ALL	Solenoid Valve Supply Shorted To Power	Amber	
4951	ALL	Hydraulic Interlock Solenoid Shorted To Power	Red	
4952	ALL	Hydraulic Interlock Solenoid Open Circuit	Amber	
5051	ALL	Loader Pilot Interlock Valve (On/Off) Solenoid Supply Open Circuit	Red	
5052	ALL	Loader Pilot Interlock Valve (On/Off) Solenoid Supply Shorted To Ground	Red	
5053	ALL	Loader Pilot Interlock Valve (On/Off) Solenoid Supply Shorted To Power	Red	
5061	ALL	Port Lock Valve (On/Off) Solenoid Supply Open Circuit	Red	
5062	ALL	Port Lock Valve (On/Off) Solenoid Supply Shorted To Ground	Red	
5063	ALL	Port Lock Valve (On/Off) Solenoid Supply Shorted To Power	Red	
5121	ALL	Right Joystick Forward-Back Axis Pin A Open Or Shorted To Ground Or Power	Amber	
5121	ALL	Right Joystick Forward-Back Axis Pin A Open Or Shorted To Ground Or Power	Amber	
5122	ALL	Right Joystick Forward-Back Axis Pin B Open Or Shorted To Ground Or Power	Amber	
5122	ALL	Right Joystick Forward-Back Axis Pin B Open Or Shorted To Ground Or Power	Amber	
5124	ALL	Right Joystick Forward-Back Axis In-Range Fault	Red	
5124	ALL	Right Joystick Forward-Back Axis In-Range Fault	Red	
5131	ALL	Right Joystick Right-Left Axis (ISO/H Pattern) Pin A Open Or Shorted To Ground	Amber	
5132	ALL	Right Joystick Right-Left Axis (ISO/H Pattern) Pin A Shorted To Power	Amber	
5134	ALL	Right Joystick Right-Left Axis (ISO/H Pattern) Pin B Open Or Shorted To Ground	Amber	

5135	ALL	Right Joystick Right-Left Axis (ISO/H Pattern) Pin B Shorted To Power	Amber	
5137	ALL	Right Joystick Right-Left Axis (ISO/H Pattern) In-Range Fault	Red	
5141	ALL	Aux Thumbwheel Axis Pin A Open Or Shorted To Ground	White	
5142	ALL	Aux Thumbwheel Axis Pin A Shorted To Power	White	
5144	ALL	Aux Thumbwheel Axis Pin B Open Or Shorted To Ground	White	
5145	ALL	Aux Thumbwheel Axis Pin B Shorted To Power	White	
5147	ALL	Aux Thumbwheel Axis In-Range Fault	White	
5201	ALL	Left Joystick Right-Left Axis Pin A Open Or Shorted To Ground Or Power	Amber	
5201	ALL	Left Joystick Right-Left Axis Pin A Open Or Shorted To Ground Or Power	Amber	
5202	ALL	Left Joystick Right-Left Axis Pin B Open Or Shorted To Ground Or Power	Amber	
5202	ALL	Left Joystick Right-Left Axis Pin B Open Or Shorted To Ground Or Power	Amber	
5204	ALL	Left Joystick Right-Left Axis In-Range Fault	Red	
5204	ALL	Left Joystick Right-Left Axis In-Range Fault	Red	
5211	ALL	Left Joystick Forward-Back Axis Pin A Open Or Shorted To Ground	Amber	
5212	ALL	Left Joystick Forward-Back Axis Pin A Shorted To Power	Amber	
5214	ALL	Left Joystick Forward-Back Axis Pin B Open Or Shorted To Ground	Amber	
5215	ALL	Left Joystick Forward-Back Axis Pin B Shorted To Power	Amber	
5217	ALL	Left Joystick Forward-Back Axis In-Range Fault	Red	
5221	ALL	Loader Arm Valve (Directional) Solenoid Raise (A) Supply Open Circuit	Red	
5222	ALL	Loader Arm Valve (Directional) Solenoid Raise (A) Supply Shorted To Ground	Red	
5231	ALL	Loader Arm Valve (Directional) Solenoid Lower (B) Supply Open Circuit	Red	
5232	ALL	Loader Arm Valve (Directional) Solenoid Lower (B) Supply Shorted To Ground	Red	
5241	ALL	Loader Arm Valve (Directional) Loader Arm Solenoid(s) Shorted To Power	Red	
5242	ALL	Loader Arm Valve (Directional) Loader Arm Solenoid(s) Shorted To Ground	Red	
5243	ALL	Loader Arm Valve (Directional) Solenoids Return Open Circuit	Red	
5251	ALL	Loader Bucket Valve (Directional) Solenoid Rollback (A) Supply Open Circuit	Red	
5252	ALL	Loader Bucket Valve (Directional) Solenoid Rollback (A) Supply Shorted To Ground	Red	

5261	ALL	Loader Bucket Valve (Directional) Solenoid Dump (B) Supply Open Circuit	Red	
5262	ALL	Loader Bucket Valve (Directional) Solenoid Dump (B) Supply Shorted To Ground	Red	
5271	ALL	Loader Bucket Valve (Directional) Loader Bucket Solenoid(s) Shorted To Power	Red	
5272	ALL	Loader Bucket Valve (Directional) Loader Bucket Solenoid(s) Shorted To Ground	Red	
5273	ALL	Loader Bucket Valve (Directional) Solenoids Return Open Circuit	Red	
5281	ALL	Loader Auxiliary Valve (Directional) Solenoid Forward (A) Supply Open Circuit	White	
5282	ALL	Loader Auxiliary Valve (Directional) Solenoid Forward (A) Supply Shorted To Ground	White	
5291	ALL	Loader Auxiliary Valve (Directional) Solenoid Reverse (B) Supply Open Circuit	White	
5292	ALL	Loader Auxiliary Valve (Directional) Solenoid Reverse (B) Supply Shorted To Ground	White	
5309	ALL	Float Button Timeout (30 Seconds)	White	
5313	ALL	EHF Enable Switch STP	White	
5323	ALL	EHF Fwd/Rev Switch STP	White	
5371	ALL	EHF Forward Solenoid (A) Supply STG	White	
5372	ALL	EHF Forward Solenoid (A) Supply OC	White	
5381	ALL	EHF Reverse Solenoid (B) Supply STG	White	
5382	ALL	EHF Reverse Solenoid (B) Supply OC	White	
5391	ALL	EHF Solenoids Return OC	White	
5392	ALL	EHF Pump Solenoid(s) STG	White	
5393	ALL	EHF Pump Solenoid(s) STP	White	
5409	ALL	Aux Override Disabled Due To Aux Override Button Timeout (30 Seconds)	White	
5501	ALL	Loader Arm Spool Sensor Open or Shorted To Ground	Amber	
5502	ALL	Loader Arm Spool Sensor Shorted To Power	Amber	
5503	ALL	Electro-Hydraulic Aux Output Shorted To Power	Red	
5504	ALL	Bucket Valve Spool Sensor Open Or Shorted To Ground	Amber	
5505	ALL	Bucket Valve Spool Sensor Shorted To Power	Amber	
5507	ALL	Auxiliary Valve Spool Sensor Open Or Shorted To Ground	White	
5508	ALL	Auxiliary Valve Spool Sensor Shorted To Power	White	
5511	ALL	Implausible Loader Arm Sensor State Vs Loader Arm Command - Stuck Spool Or PRV	Red	
5512	ALL	Implausible Bucket Sensor State Vs Loader Bucket Command - Stuck Spool Or PRV	Red	

5513	ALL	Implausible Auxiliary Sensor State Vs Auxiliary Command - Stuck Spool Or PRV	Hyd	
5601	ALL	Loader Auxiliary Valve (Directional) Loader Auxiliary Solenoid(s) Shorted To Power	White	
5602	ALL	Loader Auxiliary Valve (Directional) Loader Auxiliary Solenoid(s) Shorted To Ground	White	
5603	ALL	Loader Auxiliary Valve (Directional) Solenoids Return Open Circuit	White	
5701	ALL	Pattern Switch Open Or Shorted To Ground	White	
5703	ALL	Pattern Switch Shorted To Power	White	
5811	ALL	Loader Port Lock Switch Is In An Implausible State	Amber	
9004	ALL	Memory Error - Triple Redundant - Hour Meter Location 1 Corrupt	White	
9005	ALL	Memory Error - Triple Redundant - Hour Meter Location 2 Corrupt	White	
9006	ALL	Memory Error - Triple Redundant - Hour Meter Location 3 Corrupt	White	
9151	ALL	Bus-Warn at CAN-Bus No.1	Amber	
9152	ALL	Bus-Warn at CAN-Bus No.1	Red	
9153	ALL	Timeout of CAN Message EEC1	Amber	
9154	ALL	Timeout of CAN Message TSC1	Amber	
9156	ALL	Hydraulic Enable Button Error From AIC	Amber	
9158	ALL	H Pattern Indicator Shorted To Ground	White	
9159	ALL	ISO Pattern Indicator Shorted To Ground	White	
9160	ALL	H Pattern Indicator Shorted To Power	White	
9161	ALL	ISO Pattern Indicator Shorted To Power	White	
9401	ALL	Memory Error - Double Redundant Memory - Corruption Detected And Repaired	White	
9403	ALL	Memory Error - Double Redundant Memory - Unrecoverable Memory Corruption Operable	Amber	
9404	ALL	Memory Error - Triple Redundant - Hour Meter Failure	White	
9405	ALL	Loss Of DM1 Message From VCM	Amber	
9406	ALL	No CAN Communication From VCM	Amber	
9407	ALL	Memory Error - Unrecoverable Hardware ID	Red	
9408	ALL	Memory Error - Unrecoverable Panel ID	Red	
9410	ALL	Loss Of EGR Inducement Status Message From EDC	Amber	