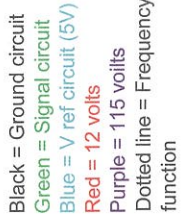


DTC Codes	Circuit Index	Condition	Comments	Cause	DTC Codes	Circuit Index	Condition	Comments	Cause
111	ECM	No errors detected. (Flash code only)	No errors detected by ECM		265	VRE	Vehicle Retarder Relay OCC fault	Vehicle Retarder Relay OCC check (engine off test only)	Open or short circuits
112	ECM_PWR	System voltage B+ (Out of Range High)	ECM voltage is continuously above 18 volts	Charging system fault	266	WARN	Engine Warning lamp OCC fault	Engine Warning Lamp OCC check (engine off test only)	Open or short circuits (bulb failed)
113	ECM_PWR	System voltage B+ (Out of Range Low)	ECM voltage below 6.5 (cause of No start / misfire)	Low battery, loose connections, or cricuit resistance	311*	EOT	Engine Oil Temperature signal Out of Range Low	Default 212 F (100 C) No fast idle, EOT above 4.8 V	EOT signal circuit or sensor shorted to ground
114*	ECT	Engine coolant temperature signal Out of Range Low	Default 180 F (82 C) ECT below 0.127 V	ECT signal circuit or sensor shorted to ground	312*	EOT	Engine Oil temperature signal Out of Range High	Default 212 F (100 C) No fast idle, EOT below 0.2 V	EOT circuit or sensor shorted to ground
115*	ECT	Engine coolant temperature signal Out of Range High	Default 180 F (82 C) ECT above 4.6 V	ECT circuit or sensor open	313	EOP**	Engine Oil Pressure below warning level	Engine monitor of low oil pressure (oil light on)	No or low oil, stuck oil pressure regulator, pickup
121*	MAP	Manifold Absolute Pressure signal Out of Range High	Default inferred MAP > 4.9 V (low power, slow acceleration)	MAP circuit shorted High (defective sensor)	314	EOP**	Engine Oil Pressure below critical level	Engine monitor of low oil pressure (shutdown, if equipped)	Tube blocked or cracked. worn bearings or oil pump
122*	MAP	Manifold Absolute Pressure signal Out of Range Low	Default inferred MAP < 0.39 V (low power, slow acceleration)	MAP circuit shorted Low or Open	315*	CMP	Engine Speed above warning level	ECM recorded excessive engine speed above 3000 rpm	Transmission incorrectly downshifted
123*	MAP	Manifold Absolute pressure signal In Range fault	Default inferred (low power, slow acceleration)	Plugged hose to MAP sensor	316	ECT	ECT fails to reach commanded set point	Enabled only when Cold Ambient Temperature enabled	Leaking thermostat, cooling system problems
124*	ICP	Injection Control Pressure signal Out of Range Low	Default open loop control - underrun at idle - ICP below 0.39 V	Circuit short low, open (defective sensor)	321	ECT**	Engine Coolant Temperature above warning level	Coolant Temperature > 224.6 F (107 C)	Cooling system problem
125*	ICP	Injection Control Pressure signal Out of Range High	Default open loop control - underrun at idle - ICP above 4.497 V	Circuit short high (defective sensor)	322	ECT**	Engine Coolant Temperature above critical level	Coolant Temperature > 233.6 F (112.5 C)	Cooling system problem
131*	APS/IVS	Accelerator Position signal Out of Range Low	Signal voltage below .152 Volts (engine idle only)	Short to ground or open	323	ECL	Engine Coolant Level below warning/critical level	ECM detects low coolant level	Check coolant level if low. Check for leaks
132*	APS/IVS	Accelerator Position signal Out of Range High	Signal voltage below .152 Volts (engine idle only)	Short to ground or open	324	IST	Idle Shutdown timer enabled engine shutdown	IST is on and idle time exceeде limit	Idle time exceeded limit
133*	APS/IVS	Accelerator Position signal In Range fault M	APS/IVS conflict - limited to 0% APS	Failed APS signal	325	ECT	Power reduced (normal in certain conditions)	High altitude or hot ambient temperature	Failed APS signal
134*	APS/IVS	Accelerator Position and idle validation disagree	APS/IVS conflict - limited to 0% APS	APS and IVS signal failures	331*	IPR	ICP above 3675 psi (25 mPa)	ICP above 3675 psi (25 MPa)	Grounded IPR circuit. Stuck IPR valve
135*	APS/IVS	Idle Validation Switch circuit fault	APS/IVS conflict - limited to 50% APS	IVS signal failure	332*	ICP	Injection Control Pressure above spec with engine Off	ICP signal voltage higher than expected with engine Off	Circuit shorted to voltage. (defective sensor)
141	VSS	Vehicle Speed Signal Out of Range Low	VSS sig. at 0 mph < .48V (cruise/PTO disengaged - eng. rpm limited)	VSS circuit open or shorted to ground	333*	IPR_SYS	Injection control Pressure above/below desired level	ICP desired does not = ICP signal (long period of time)	Air in oil, wrong oil, wrong IPR, leaking injector O-ring, ICP sensor, or high pressure pump. (See manual.)
142	VSS	Vehicle Speed Signal Out of Range High	VSS sig. at 0 mph < 4.492V (cruise/PTO disengaged - eng. rpm limited)	VSS circuit shorted to Vref or 12 Volts	334	IPR_SYS	ICP unable to reach set point in time (poor performance)	ICP desired does not = ICP signal (long period of time)	
143	CMP	Wrong No. of CMP signal transitions per cam rev.	Intermittent CMP signal	Poor connection (defective sensor)	335	IPR_SYS	ICP unable to build presssure during cranking	Less than 725 psi ICP pressure after 10 seconds of cranking	Air in oil or injection problem (See manual.)
144	CMP	CMP signal noise detected	ECM detects electrical noise in circuit	Electrical noise (injector voltage skorted to ground)	336	EPG	EPG unable to reach commanded set point		Hydraulic prerssure system leakage
145*	CMP	CMP signal inactive while ICP has increased	No CMP signal while ICP signal increased	Short high, low,or open (defective sensor)	421-426	INJ	High side to low side open (cylinder No. indicated)	ECM detected a short circuit for an injector	Injector harness opem
151	BAP	Barometric Pressure signal Out of Range High	BAP signal voltage above 4.9 V for 1.0 sec. (defaults to 14.7 psi)	BAP circuit short high or open circuit	431-436	INJ	High side shorted to low side (cylinder No. indicated)	ECM detected an open circuit for fuel circuit	Injector or harness shorted low side to high side
152	BAP	Barometric Pressure signal Out of Range Low	BAP signal voltage below 1.0 V for 1.0 sec. (defaults to 14.7 psi)	BAP circuit short low	451-456	INJ	High side shorted to ground or Vbat (cyl. No. indicated)	ECM detected injector low side shorted to ground (1 bank run)	Injector harness shorted on low (control) circuit to grd.
154	IAT	Intake Air Temperature signal Out of Range Low	IAT signal voltage low (defaults to 77 C, IAT below 0.127 V	IAT signal circuit or sensor shorted to ground	451-456	Perf. Diag.	Cylinder Contribution Test failed (cyl. No. indicated)	ECM finds cylinder contribution insufficient	Refer to performance diagnostics
155	IAT	Intake Air Temperature signal Out of Range High	IAT signal voltage low (defaults to 77 C, IAT below 4.6 V	IAT circuit or sensor open	513*	INJ	Low side to Bank 1 open	High voltage supply open (Cylinders 1,2, and 3)	Bank 1 circuit open
211*	EOP	Engine Oil Pressure signal Out of Range Low	EOP signal voltage low, below 0.039 V	EOP circuit short low	514*	INJ	Low side to Bank 2 open	High voltage supply open (Cylinders 4, 5, and 6)	Bank 2 circuit open
212*	EOP	Engine Oil Pressure signal Out of Range High	EOP signal voltage high , above 4.9 V	EOP circuit short high or open	515*	INJ	Bank 1 low side short to ground or B+	Bank 1 side high voltage circuit shorted	Bank 1 circuit shorted
213	RPS	Remote throttle signal Out of Range Low	RPS signal sensor below 0.249 V	Open RPS circuit	521*	INJ	Bank 2 low side short to ground or B+	Bank 2 side high voltage circuit shorted	Open RPS circuit
214	RPS	Remote throttle signal Out of Range High	RPS signal sensor above 4.5 V	Shorted RPS circuit	525*	ECM	Injector drive circuit fault	ECM can not supply sufficient voltage to injectors	Engine or injector harness, or ECM problem
215	VSS	Vehicle Speed Signal frequency Out of Range High	Speedo, cruise, PTO disabled (eng. rpm limited, sig. freq. > 4375 Hz)	Misadjusted / faulty speed sensor, elect. noise in circuit	612*	CMP	Incorrect ECM installed for CMP timing wheel	Mismatch between ECM and engine target wheel (I6, V8)	Incorrect ECM strategy for engine
216	EPG	Electronic Pressure Governor signal Out of Range Low	EPG signal voltage below .039 V	Circuit open, short to ground (defective sensor)	614*	ECM	EFCR / EECM ING mismatched configuration	Programming problem	Incompatible components changed in the field
221	SCCS (RPTO)	Cruise PTO control sw. circuit fault (or remote PTO sw.)	SCCS signal and voltage incorrect for switch state	Short or resistance in SCCS circuit	621*	ECM	Engine using Mfg. engine default rating program	Engine operates at 25 hp default	ECM not programmed, but installed on truck
221	BRAKE	Brake switch circuit fault	Voltage at ECM (BNO2) are not the same	Faulty or misadjusted switch	622*	ECM	Engine using field default rating	Progamming problem. Eng.limited to160 hp (options not available)	ECM not programmed correctly. Internal ECM problem
225	EOP	Engine Oil Pressure signal In Range fault	EOP signal above 40 psi w/eng. Off, key On (disables eng. protection)	Wire harness, connector problem, or faulty sensor	623*	ECM	Invalid engine rating code. Check ECM programing	Programming problem	ECM not programmed correctly
226	EPG	Electronic Presssure Governor signal Out of Range High	EPG signal voltage above 4.9 V	Circuit short high (defective sensor)	624	ECM	Field defaults active	Programming or ECM problem	Programming or internal ECM problem
231	ATA	ATA Data Communication link error	ATA Link open or shorted, WTEC controller interference	ATA device grounded or overloaded	626	ECM_PW	Unexpected reset fault	ECM momentarily lost power	See ECM_PWR cicuit diagnostics
236	ECL	Engine Coolant Level switch circuit fault	Engine Coolant Level switch circuit fault	Open or short circuits	631*	ECM	Read Only Memory (ROM) self test fault	ECM failure	Internal ECM problem
241	IPR	Injection Control pressure Regulator OCC test failed	IPR Output Circuit Check (engine off test only)	Short high, low, or open	632	ECM	RAM memory CPU self test fault	ECM failure	Internal ECM problem
244	EDL	Engine to transmission Data Line OCC self test failed	EDL relay Output Circuit Check (engine off test only)	Open or short circuits	655	ECM	Programmable parameter list level incompatible	Programming problem	Progamming problem
246	EFAN	Engine Fan OCC self test failed	Fan relay Output Circuit Check (engine off test only)	Open or short circuits	661	ECM	RAM programmable parameter list corrupt	Programming problem or ECM memory problem	Programming or internal ECM problem
256	RSE	Radiator Shutter Enable OCC self test failed	Shutter relay Output Circuit Check (engine off test only)	Open or short circuits	664	ECM	Calibration level incompatible	Programming problem	internal ECM problem
262	COL	Change Oil Lamp OCC fault	Change Oil Lamp Output Circuit Check (engine off test only)	Open or short circuits (bulb failed)	665	ECM	Change Oil Lamp OCC fault	Change Oil Lamp Output Circuit Check (engine off test only)	Open or short circuits (failed bulb)
263	OWL	Oil Water lamp OCC fault	Oil Water Lamp Output Circuit Check (engine off test only)	Open or short circuits (bulb failed)					

\* Indicates WARN lamp ON when fault is set

\*\* \* Indicates faults only available if engine protection is enabled.



EGED - 185-1 September 2001 ©INTERNATIONAL TRUCK AND ENGINE CORPORATION