KEY TO COLUMN HEADINGS

DTC	Diagnostic Trouble Code.
TOOL	EOBD – Indicates that the DTC is an EOBD code and can be accessed via a generic scan tool or WDS / PDU. JAG – indicates that the DTC is not an EOBD code and is accessed only via WDS / PDU.
FAULT DESCRIPTION	Fault description.
MONITORING CONDITIONS	"DIAGNOSTIC MONITOR DRIVE CYCLE" for the particular DTC. Operate the vehicle as described to check for a reoccurrence of the DTC. Use WDS Datalogger or Scan Tool to monitor specified engine parameter(s).
CHECK ENGINE MIL (CK ENG)	1 1 TRIP – indicates that the CHECK ENGINE MIL is activated by a fault occurring during ONE "TRIP". 2 2 TRIPS – indicates that the CHECK ENGINE MIL is activated by a fault occurring during TWO CONSECUTIVE "TRIPS". N NO – indicates that the CHECK ENGINE MIL is not activated.
OTHER	Driver Warnings: N None R RED MIL / Message A AMBER MIL / Message M Message
DEFAULT ACTION	Control Module default action: Logged – DTC stored in ECM memory buffer; Flagged – DTC stored in ECM memory / CHECK ENGINE MIL activated.
CM PIN	ECM Connector pin number(s)
POSSIBLE CAUSES	Possible causes are listed in the order of diagnostic checking. HIGH VOLTAGE – High voltage can be either sensor supply voltage (5 volts) or B+ voltage.

DTC	TOOL	FAULT DESCRIPTION	MONITORING CONDITIONS	CK ENG	OTHER	DEFAULT ACTION	CM PIN	POSSIBLE CAUSES
P0160	EOBD	HO2S sense circuit no activity – B bank (2), downstream (2)	Engine at normal operating temperature; drive > 64 km/h (40 mph); > 2 minute 30 seconds	2	N	None	EM83 -12 -22	HO2S disconnected HO2S mechanical damage HO2S to ECM wiring open circuit HO2S sense circuit: short circuit to high voltage HO2S short circuit to ground HO2S ground (BRD – braided shield): open circuit Exhaust leak Low exhaust temperature HO2S failure
P0161	EOBD	HO2S heater circuit malfunction –B bank (2), downstream (2)	Ignition ON > 5 seconds	2	N	None	EM84 -15	HO2S disconnected HO2S mechanical damage HO2S to ECM wiring fault HO2S heater failure
P0171	EOBD	A bank (1) combustion too lean	Engine at normal operating temperature; IAT > -8 °C (18 °F) Drive at steady speed > 64 km/h (40 mph); > 1 minute	2	2 [A, M]	When CK ENG MIL is activated (DTC flagged; second trip), ECM: – Inhibits downstream HO2S control If DTC P0174 is also flagged, ECM: – Limits engine speed to 3000 rpm – Inhibits canister purge* * Inhibited when “lean” fault is first detected	—	Engine misfire Air intake leak between MAFS and throttle Fuel filter, system blockage Fuel injector blockage Fuel pressure regulator failure (low fuel pressure) Low fuel pump output HO2S harness wiring condition fault Exhaust leak (before catalyst) ECM receiving incorrect signal from one or more of the following components: ECTS, MAFS, IATS, TPS

DTC	TOOL	FAULT DESCRIPTION	MONITORING CONDITIONS	CK ENG	OTHER	DEFAULT ACTION	CM PIN	POSSIBLE CAUSES
P1341	EOBD	CMPS range / performance – B bank (2) (CMPS pulse not detected at CKPS missing tooth)	Start engine; idle > 5 seconds (If the B bank (2) CMPS signal is not present, the engine may start – 50% chance. The engine will run normally if the B bank (2) CMPS signal is lost while running.)	2	N	None	EM83 -17 -18	CMPS disconnected CMPS gap incorrect / foreign matter on sensor face CMPS sense circuit: open circuit, short circuit to ground, short circuit to high voltage CMPS failure
P1367	EOBD	Ignition monitor – Group One (1A, 2B, 3B, 4A)	Run engine steady < 2500 rpm > 5 seconds	2	1 [A, M]	When fault is detected, ECM: – Limits engine speed to 3000 rpm	EM83 -10	Ignition monitoring circuit between splice and ECM: open circuit, short circuit to ground or short circuit to B+ voltage Ignition module / coil group ground circuit fault Ignition coil relay failure
P1368	EOBD	Ignition monitor – Group Two (1B, 2A, 3A, 4B)	Run engine steady < 2500 rpm > 5 seconds	2	1 [A, M]	When fault is detected, ECM: – Limits engine speed to 3000 rpm	EM83 -11	Ignition monitoring circuit between splice and ECM: open circuit, short circuit to ground or short circuit to B+ voltage Ignition module / coil group ground circuit fault Ignition coil relay failure
P1384	EOBD	VVT solenoid malfunction – A bank (1)	Drive vehicle; accelerate rapidly to cruise, decelerate to stop, repeat several times	2	N	When CK ENG MIL is activated (DTC flagged; second trip), ECM: – Sets VVT drive PWM duty cycle to 0 (intake camshaft fully retarded)	EM81 -01 -02	VVT solenoid valve to ECM PWM drive circuit fault VVT solenoid valve to ECM ground circuit fault VVT solenoid failure VVT oil flow fault VVT / camshaft mechanical failure
P1392	EOBD	VVT Circuit malfunction – A bank (1)	Drive vehicle; accelerate rapidly to cruise, decelerate to stop, repeat several times	2	N	When CK ENG MIL is activated (DTC flagged; second trip), ECM: – Sets VVT drive PWM duty cycle to 0 (intake camshaft fully retarded)	EM81 -01 -02	VVT solenoid valve to ECM PWM drive circuit fault VVT solenoid valve to ECM ground circuit fault VVT solenoid failure