

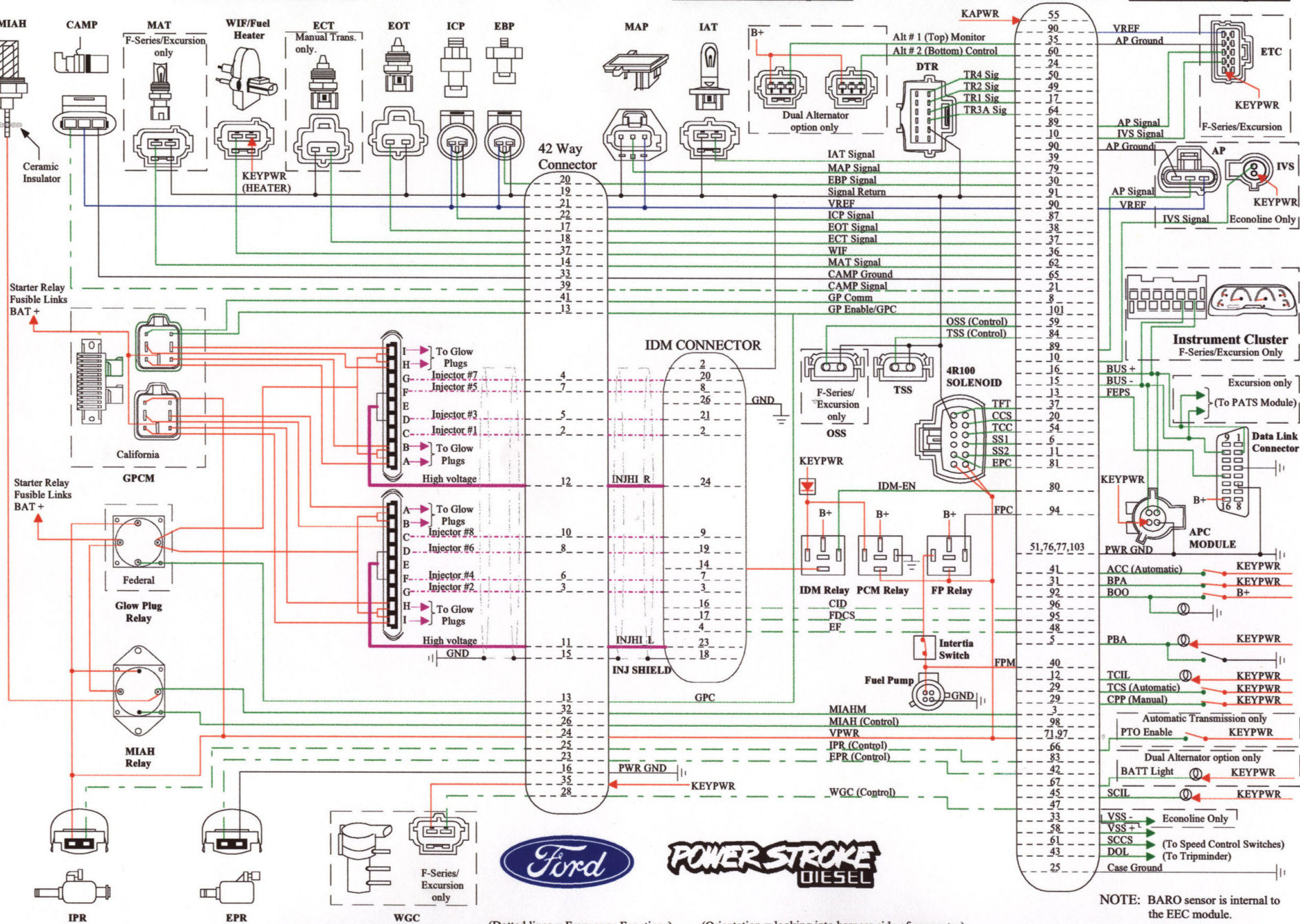
### **7.3L Powerstroke Diesel Powertrain Control System - 2002 F-Series/Excursion and Econoline**

### Engine Mounted Components

### Vehicle Mounted Components

### PCM Connector

### Cab Mounted Components



**NOTE:** BARO sensor is internal to the EEC module.

(Dotted lines = Frequency Functions)

(Orientation = looking into harness side of connector)

RED = 12 VOLTS

BLACK = GROUND CIRCUIT

GREEN = SIGNAL CIRCUIT

PURPLE = HIGH VOLTAGE

BLUE = VREF (5 VOLTS)



**POWERTRAIN CONTROL SYSTEM  
ELECTRONICS DIAGNOSTIC GUIDE**  
*2002 F-Series/Excursion and Econoline*

Fault Code	Circuit Index	Condition Description	Probable Causes
0107	* BARO	Barometric press sensor circuit low input	Internal BARO failed (PCM)
0108	* BARO	Barometric press sensor circuit high input	Internal BARO failed (PCM)
0112	* IAT	Intake air temp sensor circuit low input	Grounded circuit, IAT sensor, PCM
0113	* IAT	Intake air temp sensor circuit high input	Open/short to power circuit, IAT sensor, PCM
0117	ECT	Engine coolant temp sensor circuit low input	Grounded circuit, ECT sensor, PCM
0118	ECT	Engine coolant temp sensor circuit high input	Open/short to power circuit, ECT sensor, PCM
0122	* AP/ETC	Accelerator pedal sensor circuit low input	Grounded circuit, AP/ETC sensor, PCM
0123	* AP/ETC	Accelerator pedal sensor circuit high input	Open/short to power circuit, AP/ETC sensor, PCM
0197	* EOT	Engine oil temp sensor circuit low input	Grounded circuit, EOT sensor, PCM
0198	* EOT	Engine oil temp sensor circuit high input	Open/short to power circuit, EOT sensor, PCM
0220	TEST	Throttle switch B circuit malfunction	IVS Switch not detected during self-test, circuit, switch
0221	* AP/IVS	Throttle switch B circuit performance	Failed pedal assembly
0230	FP	Fuel Pump relay driver failure	Open FP relay, blown fuse, open/grounded circuit
0231	* FP	Fuel Pump circuit failure	Fuse, relay, inertia switch, fuel pump, open/short circuit
0232	FP	Fuel Pump circuit failure	Relay failure, short circuit, pump failure
0236	* MAP	Turbo boost sensor A circuit performance	MAP sensor, BP sensor or circuit failure
0237	* MAP	Turbo boost sensor A circuit low input	Circuit open, short to ground, MAP sensor
0238	* MAP	Turbo boost sensor A circuit high input	Circuit short to power, MAP sensor
0261	* INJ	Injector circuit low - Cylinder 1	Harness short to ground
0262	INJ	Injector circuit high - Cylinder 1	Miswired connector or harness
0263	INJ	Cylinder 1 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0264	* INJ	Injector circuit low - Cylinder 2	Harness short to ground
0265	INJ	Injector circuit high - Cylinder 2	Miswired connector or harness
0266	INJ	Cylinder 2 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0267	* INJ	Injector circuit low - Cylinder 3	Harness short to ground
0268	INJ	Injector circuit high - Cylinder 3	Miswired connector or harness
0269	INJ	Cylinder 3 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0270	* INJ	Injector circuit low - Cylinder 4	Harness short to ground
0271	INJ	Injector circuit high - Cylinder 4	Miswired connector or harness
0272	INJ	Cylinder 4 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0273	* INJ	Injector circuit low - Cylinder 5	Harness short to ground
0274	INJ	Injector circuit high - Cylinder 5	Miswired connector or harness
0275	INJ	Cylinder 5 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0276	* INJ	Injector circuit low - Cylinder 6	Harness short to ground
0277	INJ	Injector circuit high - Cylinder 6	Miswired connector or harness
0278	INJ	Cylinder 6 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0279	* INJ	Injector circuit low - Cylinder 7	Harness short to ground
0280	INJ	Injector circuit high - Cylinder 7	Miswired connector or harness
0281	INJ	Cylinder 7 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0282	* INJ	Injector circuit low - Cylinder 8	Harness short to ground
0283	INJ	Injector circuit high - Cylinder 8	Miswired connector or harness
0284	INJ	Cylinder 8 contribution/balance fault	Power cylinder, valve train or injector problem, circuit
0301-0308	* INJ	Fault cylinder 1-8 - Misfire Detected	No compression, mechanical engine failure
0340	CMP	Camshaft position sensor ckt malfunction	Open/short circuit, CAMP sensor
0341	* CMP	Camshaft position sensor ckt performance	Harness routing, charging circuit, sensor
0344	* CMP	Camshaft position sensor ckt intermittent	Open/short ckt, sensor/gap, low fuel pressure/no start
0380	* GPC	Glow plug circuit malfunction	Open/short ckt, GPCM/GP relay, PCM
0381	* GPL	Glow plug indicator circuit malfunction	Open/short circuit, lamp, fuse, PCM
0460	FLI	Fuel Level Sensor Circuit Malfunction	Open/short circuit, cluster, tank unit, open case GND
0470	EBP	Exhaust press sensor circuit malfunction	EBP sensor, open signal return ckt
0471	* EBP	Exhaust press sensor circuit performance	Plugged, stuck, sensor or leaking hose/tube
0472	* EBP	Exhaust press sensor circuit low input	Open/short to GND circuit, EBP sensor, PCM
0473	* EBP	Exhaust press sensor circuit high input	Circuit shorted to power, EBP sensor, PCM
0475	* EPR	Exhaust press control valve malfunction	Open/short circuit, EBPsolenoid, PCM
0476	TEST	Exhaust press control valve performance	Failed/stuck EPR, EBP fault, EPR circuit
0478	* EPR	Exhaust press control valve high input	Plugged sensor line, stuck butterfly, restricted exhaust
0500	* VSS	Vehicle speed sensor malfunction	Sensor, circuit, PCM, PSOM, low trans fluid
0503	VSS	Vehicle speed sensor noisy	Harness routing, sensor





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0541	MAIH	Manifold intake air heater circuit failure	Relay failure, open/short circuit
0542	MAIH	Manifold intake air heater circuit failure	Relay failure, short circuit
0560	N/A	System voltage malfunction	Charging system problem/load, glow plugs still enabled
0562 *	VPWR	System voltage low	Low sys voltage, charging sys, internal PCM failure
0563	VPWR	System voltage high	High sys voltage, charging sys, internal PCM failure
0565	TEST	Cruise "On" signal malfunction	Switch not detected during self-test, circuit, switch
0566	TEST	Cruise "Off" signal malfunction	Switch not detected during self-test, circuit, switch
0567	TEST	Cruise "Resume" signal malfunction	Switch not detected during self-test, circuit, switch
0568	TEST	Cruise "Set" signal malfunction	Switch not detected during self-test, circuit, switch
0569	TEST	Cruise "Coast" signal malfunction	Switch not detected during self-test, circuit, switch
0571	TEST	Brake switch A (BPA) circuit malfunction	Switch not detected during self-test, circuit, switch
0603	PCM	Powertrain Control Module KAM test error	PCM or BATT was disconnected, fuse, open ckt.
0605	PCM	Powertrain Control Module ROM test error	PCM or BATT was disconnected, Internal PCM failure
0606	PCM	PCM processor fault	Internal PCM failure
0640	MAIH	Manifold intake air heater relay failure	Open MIAH relay, blown fuse, open/grounded circuit
0670 *	GPCM	Glow Plug Control Module control line failure	Open/shorted circuit, GPCM, PCM
0671-0678 *	GPCM	Glow Plug failure 1-8	Open/shorted circuit, PCM, faulty Glow Plug
0683 *	GPCM	Glow Plug Control Module communication line failure	Open/shorted circuit, failed GPCM, PCM
0703	TEST	Brake switch B (BOO) circuit malfunction	Switch not detected during self-test, circuit, switch
0704	TEST	(CPP) Clutch input circuit malfunction	Switch not detected during self-test, circuit, switch
0705 *	TRS	Digital Trans range sensor circuit malfunction	Short or open digital TRS (pin 64 short only)
0707	TRS	Digital Trans range sensor circuit low input	Short to ground digital TRS
0708 *	TRS	Digital Trans range sensor circuit high input	Open pin 64 digital TRS
0712 \$	TFT	Trans fluid temp sensor ckt low input	Short to ground, TFT sensor, PCM
0713 \$	TFT	Trans fluid temp sensor ckt high input	Open/short to power, TFT sensor, PCM
0715 \$ *	TSS	TSS sensor circuit malfunction fault	Short/ open circuit, sensor, PCM
0717 \$	TSS	TSS intermittent failure	Short/ open circuit, sensor, PCM
0718	TSS	Noisey TSS	Erratic signal, sensor, int. circuit
0720 \$ *	OSS	OSS sensor circuit malfunction fault	Short/ open circuit, sensor, PCM
0721	OSS	Noisey OSS	Erratic signal, sensor, int. circuit
0722 \$	OSS	OSS intermittent failure	Short/ open circuit, sensor, PCM
0732	GRV	Gear 2 incorrect ratio	Mechanical/hydraulic failure, 4x4 switch failure
0733	GRV	Gear 3 incorrect ratio	Mechanical/hydraulic failure, 4x4 switch failure
0741	TCC	Torque converter clutch ckt performance	Faulty solenoid, PCM, converter hydraulic system
0743 \$ *	TCC	Torque converter clutch system electrical	Faulty solenoid, circuit, PCM
0750 *	SS1	Shift solenoid A malfunction	Circuit failure, faulty solenoid, PCM
0755 \$ *	SS2	Shift solenoid B malfunction	Circuit failure, faulty solenoid, PCM
0781 \$	N/A	1-2 shift error	Circuit, solenoid, hydraulic/mechanical failure
0782 \$	N/A	2-3 shift error	Circuit, solenoid, hydraulic/mechanical failure
0783 \$	N/A	3-4 shift error	Circuit, solenoid, hydraulic/mechanical failure
1000	N/A	OBDII monitor status	OBDII monitors/drivecycle incomplete
1105	ALT	Dual Alternator upper fault (monitor)	Circuit failure, alternator failure, PCM
1106	ALT	Dual alternator lower fault (control)	Circuit failure, alternator failure, PCM
1107 *	ALT	Dual alternator lower circuit malf. (control)	Circuit failure, alternator failure, PCM
1108	ALT	Dual alternator BATT lamp ckt. malf.	Open/short circuit, lamp, fuse, PCM
1118 *	MAT	Manifold Air Temp sensor out of range low	Short to ground MAT circuit, MAT sensor
1119 *	MAT	Manifold Air Temp sensor out of range high	Open/short to power circuit, MAT sensor
1139	WIFL	Water-in-Fuel Lamp circuit malfunction	WIF lamp, circuit failure, fuse, PCM
1140	WIF	Water-in-Fuel condition failure	Water in fuel, grounded circuit, shorted sensor, PCM
1184	TEST	Engine oil temp out of self test range	Engine too cold/hot, leaking thermostat, ckt, sensor
1209 *	IPR	ICP system fault	IPR valve stuck
1210 *	IPR	ICP above expected level	ICP sensor, open signal return
1211 *	IPR	ICP pressure above/below desired	IPR valve, grounded IPR circuit, high pressure oil leak
1212	ICP	ICP press not detected during crank	low oil in reservoir, IPR fault
1218 *	CI	CI stuck high	CI circuit intermittent open
1219 *	CI	CI stuck low	CI circuit intermittent short to ground
1247 *	MAP	Turbo boost pressure low	MAP hose, sensor, EBP sys, intake leaks, Turbo
1248 *	MAP	Turbo boost pressure not detected	MAP hose, sensor, EBP sys, intake leaks, Turbo



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1249 *	WG	Waste-gate failure steady state	GND short, plugged hose/port, solenoid, actuator
1260	EPATS	Anti theft module signal detected	Anti theft condition detected, EPATS module
1261-1268	INJ	High to low side short cyl#1 - #8	Short circuit, shorted injector, failed IDM
1271-1278	INJ	High to low side open cyl#1 - #8	Open circuit, open injector, failed IDM
1280 *	ICP	ICP circuit out of range low	Open/grounded circuit, ICP sensor, PCM
1281 *	ICP	ICP circuit out of range high	Circuit shorted to power, ICP sensor, PCM
1282 *	IPR	Excessive ICP pressure	Faulty IPR regulator (sticking), circuit short to ground
1283	TEST	IPR circuit failure	Open/short circuit, loose connection
1284	TEST	ICP failure - aborts KOER test	See codes 1280, 1281, 1282, 1283, 1211
1291	INJ	High side short to grd or B+, bank #1 (right)	Shorted circuit, faulty IDM
1292	INJ	High side short to grd or B+, bank #2 (left)	Shorted circuit, faulty IDM
1293	INJ	High side open bank #1 (right)	Open circuit, faulty IDM
1294	INJ	High side open bank #2 (left)	Open circuit, faulty IDM
1295	INJ	Multiple faults on bank #1 (right)	Miswired connector or harness, short to ground
1296	INJ	Multiple faults on bank #2 (left)	Miswired connector or harness, short to ground
1297	INJ	High sides shorted together	Shorted wires, faulty IDM
1298	IDM	IDM failure	Internal IDM failure
1316 *	IDM	Injector circuit/IDM codes detected	Injector circuit/IDM codes detected
1397	VPWR	System voltage out of self test range	Voltage too high or low for glow plug monitor test
1464	TEST	A/C demand out of self test range	A/C on during self-test, circuit shorted to power
1501	TEST	VSS out of self test range	VSS detected during self-test
1502	TEST	Invalid test - APCM functioning	APCM active while KOER test is running
1531	TEST	Invalid test - accelerator pedal movement	AP detected during self-test, switch or circuit fault.
1536	PBA	Parking brake switch circuit failure	Switch not detected during self-test, circuit, switch
1636	SS	Inductive signature chip comm error	Faulty PCM
1660	OCC	OCC signal high	High system voltage, internal PCM fault
1661	OCC	OCC signal low	Low system voltage, internal PCM fault
1662	IDM-EN	IDM_EN circuit failure	Open IDM relay, blown fuse, open/shorted circuit
1663	FDCS	FDCS circuit failure	Open/shorted circuit, faulty IDM, PCM
1667	CI	CI circuit failure	Open/shorted circuit, faulty IDM, PCM
1668	EF	PCM-IDM diagnostic communication error	Open/shorted EF or FDCS, open IDM ground
1670 *	EF	EF signal not detected	Open/shorted EF circuit
1690 *	WG	Waste-gate failure	WGC circuit or Solenoid, PCM
1702 \$	TRS	Digital TRS intermittent circuit malfunction	Sensor, wiring, PCM, mechanical alignment
1704	TRS	Digital TRS failed to transition state	Sensor, wiring, PCM, mechanical alignment
1705	TEST	Digital TRS out of self test range	Operator error, circuit failure, faulty sensor, PCM
1711	TEST	TFT sensor out of self test range	Trans too hot/cold, sensor or circuit fault, PCM
1713 \$	TFT	TFT stuck in-range-low below 50 deg. F	Sensor, Circuit, PCM
1714 *	SS1	Shift Solenoid 1 inductive	Circuit, Solenoid or PCM
1715 *	SS2	Shift Solenoid 2 inductive	Circuit, Solenoid or PCM
1718 \$	TFT	TFT stuck in-range-high above 250 deg. F	Sensor, Circuit, PCM
1728 \$	TCC	Transmission slip error	Solenoid failure or mechanical failure
1729 \$	4x4L	4x4 Low switch error	Circuit short to GND, faulty switch, PCM
1744 *	TCC	Converter not functioning	Converter solenoid/hydraulic/mechanical failure
1746 \$	EPC	EPC solenoid open circuit	Open circuit, faulty solenoid, PCM
1747 *	EPC	EPC solenoid short circuit	Short to GND circuit, faulty solenoid, PCM
1754	CCS	Coast clutch solenoid circuit malfunction	Circuit failure, faulty solenoid, PCM
1760 \$	EPC	EPC solenoid short intermittent	Circuit failure, faulty solenoid, PCM
1780	TEST	TCS circuit out of self test range	Switch not detected during self-test, circuit, switch
1781	4X4L	4X4L circuit out of self test range	Operator error, short to ground, PCM
1783 \$	TFT	Transmission overtemperature condition	Internal transmission failure, circuit failure, sensor

(FMEM) MIL illumination occurs after 1st fault - Federal calibrations only

\* (OBDII) MIL illumination occurs after 2nd consecutive fault

\$ Transmission Control Indicator Light (TCIL) flashes with fault present