SHORT FT [1] #2, %	- / + Value	Short-term [2] fuel trim refers to dynamic or instantaneous adjustments.
LONG FT #1, %	- / + Value	Long-term [3] fuel trim refers to much more gradual adjustments to the fuel calibration schedule than short-term trim adjustments.
SHORT FT#1, %		Same as B2
LONG FT#2, %		Same as B1
COOLANT TEMP, °C	-40(-50) - +127	Engine Coolant Temperature input as sent to the vehicle ECM and calculated by the ECM; based on cooling system thermostat condition and engine operation mode.
CALC LOAD (CLV), %		Calculated load value [4] refers to an indication of the percent engine capacity (J1979 "E/E Diagnostic Test Modes – Equivalent to ISO/DIS 15031-5). For diesel applications, the calculated load value is determined by the ratio of current output torque to maximum output torque at current engine speed.
FUEL SYS [5] 1	CL / OPEN	Closed Loop / Open Loop
FUEL SYS 2	CL / OPEN	Closed Loop / Open Loop
#CODES	Numbers	
MIL [6]	OFF / ON	Status Malfunction Indicator Lamp aka Check Engine Lamp
AFM , gm/sec (m^3/h)	0 – 510 (0 – 255)	Результат пересчета ECM выходного напряжения Air Flow Meter. This parameter applies to AFM equipped engines only. Идентифицируется как PID #10 (два байта, пересчитывается по формуле: Air Flow, gm/sec=((b1*256)+b2)/100.
INTAKE AIR, °C		Ambient Air Temperature input as sent to the vehicle ECM.
IGN ADVANCE, ° BTDC	-30 -+90	Ignition timing Spark Advance or Retard signal based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.
VEHICLE SPEED, km/h		Vehicle speed signal as input to vehicle ECM and calculated by the ECM; based on vehicle speed sensor input.
ENGINE SPEED, rpm	0-10,000	
O2S B2S1, V		Up-Stream O2S Output Voltage (Bank 2)
O2 FT B2S1, %		FT based on it O2S Output Voltage
O2S B1S2, V		Downstream O2S Output Voltage (Bank 1)
O2 FT B1S2, %		FT based on it O2S Output Voltage
O2S B1S1 [7], V		Up-Stream O2S Output Voltage (Bank 1 on Cyl. No.1)
O2 FT B1S1, %		FT based on it O2S Output Voltage
THROTTLE POS, %		Voltage Output of Throttle Position Sensor Calculated as a percentage [8]
O2S B2S**2**, V		Downstream O2S Output Voltage (Bank2)
O2 FT B2S**2**, %		FT based on it O2S Output Voltage (UNUSED)
IDLE SIG	ON / OFF	Idle Switch signal status as sent to the vehicle ECM; based on idle switch state in throttle position sensor. ON=switch closed (engine idling), OFF=switch open (engine off-idle).
FC IDLE [9]	OFF / ON	Fuel Cut idle: Fuel cut when throttle valve fully closed, during deceleration
STARTER SIG	OFF / ON	On at cranking
A / C SIG	OFF / ON	Air Conditioning switch state of dashboard A/C switch position.
PNP SW (NSW)		Park/Neutral Position (PNP) Switch Signal
ELECT LOAD SIG	OFF / ON	ON if Defogger SW ON

* On my "Diagnostic Computer" (!) ☺

[1] "Fuel trim" refers to feedback adjustments to the base fuel schedule (FINAL REGULATION ORDER). Топливная коррекция.

[2] Кратковременная коррекция состава топливно-воздушной смеси

[3] Долговременная коррекция состава топливно-воздушной смеси.

[4] Расчетное значение нагрузки. Нагрузка на двигатель, которая определяется в процентах от максимально возможной. В бензиновых двигателях обычно рассчитывается как отношение воздушного потока в настоящий момент к максимально возможному потоку (иногда с учетом атмосферного давления в настоящий момент). Идентифицируется как PID #04 (один байт), пересчитывается по формуле: Calculated load = b/255*100.

[5] Режим инжекторной системы:

[6] The MIL shall be located on the driver's side instrument panel and be of sufficient illumination and location to be readily visible under all lighting conditions and shall be amber in color when illuminated.

[7] Следует обратить внимание на особенности диагностики этого напряжения на автомобилях, использующих **Wide Range Air Fuel Ratio Sensors** (подробности в брошюре http://www.autodata.ru/old/legion/2169.htm).

[8] 0 V->0%, 5 V ->100 %

[9] Сигнал «отсечки» подачи топлива при принудительном ХХ. Прекращение подачи топлива при отпущенной педали газа, но еще достаточно большой скорости вращения двигателя.

STOP LIGHT SW1	OFF / ON	Brake light switch delivers an input signal to STP terminal of Engine Control Module (ECM) to indicate when brakes are applied. Input signal is mainly used for controlling fuel cut-off engine speed. Brakelight switch may also be referred to as stoplight switch.
STOP LIGHT SW2	OFF / ON	
PS OIL PRESSUR SW	OFF / ON	Power Steering Oil Pressure Switch Signal, ON if turning Steering Wheel (> 10 °)
PS SIG	ON / OFF	ON if Engine run
ENGINE STOP SIG	ON / OF	ON if IGN is ON Engine OFF
IAC DUTY RATIO [10], %	0 - 100	Idle Speed Control (ISC) valve percentage opening based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.
INJECTOR [11], ms	0 - 33	Injector solenoid Pulse Width (on-time) based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.
TOTAL FT#1	0.8 - 1.2	Total Fuel Trim Bank 1: Average value for fuel trim system of Bank 1
TOTAL FT#2	0.8 - 1.2	Total Fuel Trim Bank 2: Average value for fuel trim system of Bank 2
A/C CUT SIG	OFF / ON	OFF if IGN is ON Engine OFF. Air Conditioning switch status as input to ECM.
VARIBL INTK VSV	OFF	
FUEL PRESS UP VSV	OFF	VSV for Pressure switching Valve [12]
INTAKE CTRL VSV1	OFF / ON	ACIS (on Throttle Body) Vacuum Switching Valve No.1
FUEL PMP SP CTR [13]	SPD ON / H SOFF / M.L	Fuel pump operating speed (low, medium or high) is controlled by operating condition of engine such as: starting, idling, light load or heavy load. Engine Control Module (ECM) delivers an input signal from FPC terminal on ECM to FPC terminal on fuel pump Electronic Control Unit (ECU) in accordance with engine operating condition. Fuel pump ECU uses this input signal to determine how much voltage should be delivered to fuel pump for varying fuel pump operating speed.
EGR SYSTEM		
SECOND AIR VSV	OFF	VSV for PAIR System
SCV VSV	OFF	
A/C IDLE UP VSV	OFF	VSV (device No.1) for A/C Idle-Up Valve
FUEL PUMP		
PURGE CUT VSV	OFF	VSV между впускным коллектором и Air Inlet Valve (on Canister) - Outline EVAP System
A/C MAG CLUTCH	OFF / ON	Air Conditioning switch status as input to vehicle ECM; based on state of dashboard A/C switch position. ON=A/C commanded on, OFF=A/C commanded off.
EVAP VSV	OFF / ON	EVAP (Purge) VSV (Canister Purge Solenoid aka VSV for EVAP) or VSV FOR CANISTER CLOSED VALVE (CCV VSV on LX430, RX300) Pressure switching valve Vacuum Switching Valve (VSV) is also known as vapor pressure sensor Vacuum Switching Valve (VSV). The Engine Control Module (ECM) monitors fuel tank pressure to determine if a leak or an abnormality exists in EVAP system. A pressure switching valve Vacuum Switching Valve (VSV) is located in vapor line to EVAP canister. A canister closed valve (CCV) with VSV is located between EVAP canister and air intake system (except LX470). ECM will operate pressure switching valve VSV and canister closed valve VSV (if applicable), while vapor pressure sensor monitors fuel tank pressure and EVAP system. Vapor pressure sensor delivers an input signal to ECM to indicate fuel tank pressure. If a leak or an abnormality exists in EVAP system, a diagnostic trouble code will be stored in ECM.
VAPOR PRESS VSV	TANK/ VOFF/CAN	Three Way VSV, on Early Type (Non-Intrusive) EVAP System (LX470, LC. Tacoma, Tundra). Not use on Intrusive EVAP System.
VVT CTRL B1, B2	ON / OFF	OCV Control Valve (B1, B2). The VVT system controls the intake valve timing to proper timing in response to driving condition. The ECM controls the Oil Control Valve (OCV) to make the intake valve timing properly, and oil pressure controlled with OCV is supplied to the VVT controller, and then VVT controller changes relative position between the camshaft and the crankshaft. On at Idle.
SUPER CHRG	ON	

[10] Степень «открытости» клапана регулировки XX.
[11] Время открывания форсунок.
[12] Э/м вакуумный переключатель управления регулятором давления в топливной системе (FPU)
[13] Режим топливного насоса

BOOST PRESSURE VSV	OFF	
AUTO OIL SUPPLY	OFF	
AIR BLEED VSV	OFF / ON	OFF at Idle; OFF at acceleration
INT AIR CTRL (Valve) VSV	ON/OFF	Вакуумный переключатель системы ACIS, который управляет вакуумной диафрагмой привода заслонки изменения геометрии впускного коллектора(ACV - Air Control Valve). ACIS (on Intake Air Chamber) Vacuum Switching Valve No.2 Intake Air Control Valve (IACV) closed (VSV: ON) if Throttle valve opening angle>30 degr. and Engine Speed>3700 rpm. [14]
EXH GAS CTRL VSV [15]	ON/OFF	On at Idle; OFF at acceleration and high Engine Speed
EXH BYPASS VSV		
CHECK MODE [16]	MIL flashes	Режим проверки. Этот режим используется для ускорения диагностики. В этом режиме увеличена чувствительность системы к обнаружению (проявлению) неисправностей при неизменном перечне проверяемых параметров. Этот режим не используется для проверки кодов самодиагностики EVAP системы и «пропусков зажигания» (misfire). Описание использования см. в Repair Manual.
IGNITION	0 - 4000	Total number of ignition for every 1,000 (200) revolutions
LOCK UP SOLENOID		
O/D CUT SOL		
SPEED (NC)		Counter gear speed sensor (Sensor may also be referred to as NC revolution sensor)
SOLENOID SLD		Shift solenoid DSL controls hydraulic pressure acting on lock-up relay valve, which contains torque converter clutch lock-up. Shift solenoid DSL is located on transaxle valve body.
SOLENOID SLT		Linear Solenoid Valve SLT. ECM controls line pressure by sending a predetermined duty ratio to shift solenoid SLT, modulating line pressure and generating throttle pressure. Shift solenoid SLT is used to precisely and minutely modulate and generate line pressure according to accelerator pedal effort, or engine power output detected. This reduces line pressure and provides smooth transaxle shifts. Upon receiving throttle valve opening angle signal, ECM controls line pressure by sending a predetermined duty cycle to shift solenoid SLT, modulating line pressure and generating throttle pressure. Duty cycle is ratio of period of continuity in one cycle. On RX300 – Shift Solenoid Valve SLT
SOLENOID SLU		Linear Solenoid Valve SLU
SOLENOID SLN		Linear Solenoid Valve SLN
SOLENOID SLS		
SOLENOID DSU		
SOLENOID SLC		
OVER DRV CUT SW1		
KICK DOWN SW		
OVER DRV CUT SW2		
PATTERN SW (M)		
REVERSE		
2ND SW		
LOW SW		
Shift Solenoids SL1, SL2 & S4		ECM controls transaxle shifting by delivering an output signal to operate proper shift solenoid.
LINE PRESS UP		
SLIP CTRL		
Input Turbine Speed Sensor		Input turbine speed sensor (NT) signal (aka Counter Gear Speed Sensor). By comparing counter gear speed sensor signal (NC) and it sensor (NT) signal, ECM detects shift timing of gears and controls engine torque and hydraulic pressure in response to various conditions, resulting in smooth transaxle shifting.
AUTOMATIC		Automatic Transaxle Fluid Temperature Sensor.

[14] Похоже, что он есть Variable Induction Control Valve системы измерения геометрии.
[15] Вакуумный переключатель управления выхлопными газами
[16] Check mode is an operation to speed up diagnosis. Compared to the normal mode, the check mode has an increased sensitivity to detect malfunctions. Furthermore, the same diagnostic items that are detected in the normal mode can also be detected in the check mode.
Check the DTC in the Repair Manual to see if Check Mode is used to verify the condition. Check Mode will not work for Evaporative System misfire DTC's. The MIL flashes when in Check Mode.

TRANSAXLE FLUID TEMPERATURE SENSOR		ATF temperature sensor converts fluid temperature into a resistance value which is input to ECM. DTC is set when temperature sensor resistance is less than 79 ohms, or after engine has been operating for 15 minutes or more, temperature sensor resistance is more than 156 k/ohms.
AFM SIG. PERIOD, ms	0-66	Time period of Karman-Vortex airflow meter sent as an input to the vehicle ECM from the Karman-Vortex airflow meter; based on the rate of air flow through the KV-AFM
AFM OUTPUT (A/F METER RATIO), V	0 - 5	Air Flow Meter (AFM) output voltage signal sent to the vehicle ECM from the Air Flow Meter; based on the rate of air flow through the AFM.
LEAN MIX SENSOR or LEAN CURNT [17] B1S2, ma	0 -72	Lean mixture sensor current as input to the vehicle ECM; based on air-fuel ratio (O2 content) of exhaust gases.
LEFT A/F FB	ON / OFF	Leftside air-fuel feedback signal state as commanded by vehicle ECM; based on engine load and left O2 sensor signal inputs to ECM.ON=feedback enabled, OFF=feedback disabled.
LEFT A/F TARGET, V	0 - 5	Target (commanded) air fuel ratio in left-hand exhaust manifold as calculated by vehicle ECM.
LEAN SENS B1S2 or LEFT O2S SIGNAL	RICH/LEAN	Left Oxygen Sensor state flag based on input to vehicle ECU; based on oxygen content in left exhaust stream, RICH=air fuel ratio above 14.7, LEAN=air fuel ratio below 14.7:1.
RIGHT A/F FB	ON / OFF	Right side air-fuel feedback signal state as commanded by vehicle ECM; based on engine load and right O2 sensor signal inputs to ECM. ON=feedback enabled, OFF=feedback disabled.
RIGHT A/F TARGET, V	0 - 5	Target (commanded) air fuel ratio in right-hand exhaust manifold as calculated by vehicle ECM.
LEAN S FT B1S2 **LEN** CTRL B1S2		I don't understand it PID
RIGHT O2S SIGNAL	RICH/LEAN	Right Oxygen Sensor state flag based on input to vehicle ECU; based on oxygen content in right exhaust stream, RICH=air fuel ratio above 14.7, LEAN=air fuel ratio below 14.7:1.
VV1, 2		VVT sensor (VV1 or VV2 signal) consist of a signal plate and pickup coil. The VV1 or VV2 signal plate has 1 tooth on its outer circumference and is mounted on the intake camshafts. When the camshafts rotate, the protrusion on the signal plate and the air gap on the pickup coil change, causing fluctuations in the magnetic field and generating an electromotive force in the pickup coil. The actual camshaft angle is detected by the VVT sensor and it provides feedback to the ECM to control the intake valve timing in response to during condition. If DTC P1345 is displayed, check left bank VVT sensor.
PIM, kPa or mmHg	Pressure Intake Manifold	Intake Air Pressure/Vacuum signal sent as an input to the vehicle ECM from the MAP/VAC sensor; based on engine load. Абсолютное давление во впускном коллекторе
ISC VALVE [18], steps		Idle Speed Control (ISC) valve step based on output calculated by the vehicle ECU; based on engine load, engine RPM and Throttle Position.
KNOCK SIGNAL	ON / OFF	Knock sensor signal correction as commanded by vehicle ECM; based on engine load and indicates that the ECM advance/retard strategy is controlling ignition timing. ON=correction enabled, OFF= correction disabled.
		Variable Valve Timing Actuator Position Sensor

To be continue [19] for MMC and Nissan

Notes.

[17] Ток датчика Sensor Lean Mixture
[18] Положение клапана управления XX двигателя.
[19] Also take a look files Acronyms.pdf and PIDs.pdf on my WEB-site http://alflash.com.ua/toyota.htm