

# C.A.T.S. Tuner ECM 8D Parameter List

## (ECM Configuration File Version BN)

### ECM Switch Parameters

VATS Select  
Manual/Auto Trans. (X = Man.)  
Open Loop Purge  
4th Gear Switch N.O.  
Cansiter Purge when Output Energized  
Magnetic Speed Sensor Installed  
Power Steering Switch Installed  
N.O. Fan Request Input  
TCC Control, (X = RPM else MPH)  
Unlock TCC in Decel Fuel C/O  
TCC Locked Highway Spark Enable Check  
4th Gear Highway Mode Spark Check  
Single/Dual Air Valve (X = Dual)  
Enable Inv. MAT Term Lookup Table  
Inj. Offset Volt. Select (X = Battery)  
Reset Integrator when A.E. in Progress  
O2 Sensor Diagnostic (Error 13)  
MAT Sensor Low Diagnostic (Error 23)  
Vehicle Speed Diagnostic (Error 24)  
MAT Sensor High Diagnostic (Error 25)  
EGR Diagnostic (Error 32)  
MAP Sensor High Diagnostic (Error 33)  
MAP Sensor Low Diagnostic (Error 34)  
Cylinder Select Diagnostic (Error 41)  
EST Monitor Diagnostic (Error 42)  
Knock Diagnostic (Error 43)  
O2 Sensor Lean Diagnostic (Error 44)  
O2 Sensor Rich Diagnostic (Error 45)  
VATS Diagnostic (Error 46)  
Oil Temp Sensor Low Diag. (Error 52)  
Fuel Pump Voltage Diagnostic (Error 54)  
Oil Temp Sensor High Diag. (Error 62)

### ECM Constants

Fuel Cut Off Speed  
Fuel Resume Speed  
Fuel Cut Off Engine Speed  
Fuel Resume Engine Speed  
Shift Light On RPM Threshold  
Shift Light Enable RPM Threshold  
Shift Light Off RPM Threshold  
Shift Light Disable RPM Threshold  
Fan 1 Disable Speed  
Fan 2 Disable Speed  
Fan 2 Disable Speed w/ High A/C Pres Sw  
Cylinder Volume  
Number of Cylinders  
Initial Spark Advance  
Maximum Spark Advance  
Min. Coolant Temp for Highway Spark Adv.  
Min. RPM for Highway Spark Advance

Max MAP for Highway Spark Advance  
Highway Spark Advance Delay Timer  
Knock Retard Enable RPM  
Knock Retard Enable Speed  
Knock Retard Enable Coolant Temp.  
Knock Retard Enable Cool. Temp. Change  
Cold Spark Disable Coolant Temp.  
Add to Idle In Park/Neut  
Add To Idle A/C On, (Eng. Speed)  
IAC Command Speed Open Loop Offset  
Maximum %TPS for Idle  
Maximum Vehicle Speed for Idle  
IAC Park Position  
IAC Learn - Min Coolant Temp  
IAC Learn - Max Coolant Temp  
IAC Learn Timer  
Idle Deadband Max RPM Error (in P/N)  
Idle Deadband Max RPM Error (in Drive)  
IAC Underspeed Error Proportional Gain  
IAC Overspeed Error Proportional Gain  
Throt. Follow Extend Decay Timer (Drive)  
Throt Follower Extend Decay Timer Adder  
Throt. Follow Extend Decay Timer (P/N)  
Injector Flow Rate  
Stoichiometric Air Fuel Ratio  
Min Coolant Temp. For Closed Loop Fuel  
Open Loop %Change Fuel/Air Ratio at Idle  
Minimum BLM Value  
Maximum BLM Value  
BLM Update Cell Amount  
BLM Update - Min Pos. Integrator Error  
BLM Update - Min Neg. Integrator Error  
BLM - Update Rate  
Force BLM Idle Cell CCP %D.C. Threshold  
Minimum Integrator Value  
Maximum Integrator Value  
Min Coolant Temp. For High Temp P.E. AFR  
Minimum MAP for Power Enrich  
Min. Coolant Temp. for Highway Mode Fuel  
Maximum MAP for Highway Mode Fuel  
Min. Vehicle Speed for Highway Mode Fuel  
Highway Mode Fuel Delay Timer  
Maximum Time in Highway Fuel Mode  
Accel Enrich Delta TPS Scale Factor  
Accel Enrich Delta TPS PW Scale Factor  
EGR %TPS Enable Threshold  
EGR %TPS Disable Threshold  
Minimum MAT for EGR Enable  
EGR Diagnostic Minimum Vehicle Speed  
TCC Lock Speed (Low Gears)  
TCC Unlock Speed (Low Gears)  
TCC Lock Speed (Not Low gears)  
TCC Unlock Speed (Not Low Gears)  
TCC Unlock Prevention Speed Threshold  
TCC Enable Coolant Temp. Threshold  
Low Octane Retard MAP Threshold  
Low Octane Retard Diff MAP Threshold  
Low Octane Knock Retard Increase Amount  
Low Octane Knock Retard Decrease Amount  
Low Octane Knock Retard Amount  
Decel Fuel C/O RPM Enable  
Decel Fuel C/O Disable RPM  
Decel Fuel C/O MAP Enable

Decel Fuel C/O Disable MAP  
Decel Fuel C/O Min Time Between C/O's  
Canister Purge - Coolant Temp. Enable  
Canister Purge - Vehicle Speed Enable  
Canister Purge - Vehicle Speed Disable  
Canister Purge - MAP Enable  
Canister Purge - MAP Disable  
Canister Purge - TPS Enable  
Canister Purge - TPS Disable  
Min Canister Purge Duty Cycle (Low TPS)  
Fast O2 Rich/Lean Threshold at Idle  
Fast O2 R/L Threshold Hysteresis at Idle  
Upper Zero Error Ref Slow O2 R/L at Idle  
Lower Zero Error Ref Slow O2 R/L at Idle  
AIR Divert Enable Coolant Temp.  
AIR Divert O2 mV Rich/Lean Thresh Reduc.  
Road Speed Constant  
Instrument Panel VSS Pulse Divisor  
C.A.R.S. Enable Coolant Temp.

## **Tables**

ECM Switch Table  
ECM Constant Table  
Main Spark Advance Vs. RPM Vs. Load  
Main Spark Advance Vs. RPM Vs. Load (EXT)  
Base Cool. Adv. Correction Vs. Load Vs. Cool. Temp  
Start Up Spark Advance Vs. Coolant Temp.  
Power Enrich. Spark Advance Vs. RPM  
Closed TPS Spark Advance Vs. RPM  
Highway Mode Spark Advance Vs. MAP  
Spark Latency Time Correction Vs. RPM  
Knock Attack Rate Vs. RPM (Deg/msec)  
Knock Recovery Rate Vs. RPM (%/sec)  
Low Octane Knock Retard Mult. Vs RPM  
Low Octane Knock Retard Mult. Vs MAP  
Maximum Knock Retard Vs. RPM (in P.E.)  
Maximum Knock Retard Vs. MAP  
Startup Spark Decay Delay Vs. Startup Cool. Temp.  
Startup Spark Advance Decay Vs. Startup Cool. Temp  
Volumetric Efficiency Vs. RPM Vs. MAP  
Volumetric Efficiency Vs. RPM Vs. MAP , (EXT)  
Volumetric Efficiency Multiplier Vs. Baro  
TPS Threshold For Power Enrich. Vs RPM  
TPS Threshold For PE Vs RPM, (High Coolant Temp.)  
P.E. %Change to Fuel/Air Ratio Vs. Coolant Temp.  
P.E. %Change to Fuel/Air Ratio Vs. RPM  
Accel Enrich. Delta TPS Multiplier Vs. Delta TPS  
Accel Enrich Delta TPS PW Factor Vs Async Pulse  
Accel Enrich Delta TPS PW Factor Vs Coolant Temp.  
Accel Enrich Delta MAP PW Multiplier Vs. Delta MAP  
Accel Enrich Delta MAP PW Mult. Vs. Coolant Temp.  
Accel Enrich Delta MAP PW Decay Factor Vs. Coolant  
Accel Enrich Delta MAP Factor Multiplier Vs. TPS  
Accel Enrich Delta MAP Enable Threshold Vs TPS  
Accel Enrich TPS Filter Coefficient Vs. RPM  
Decel Enlean Factor Vs. Injects in DE  
Decel Enlean Factor Vs. Delta MAP  
Decel Enlean Term Multiplier Vs. Coolant Temp.  
Open Loop Change to Fuel/Air Vs. Coolant Temp.  
Open Loop Change to Fuel/Air Vs. MAP

Highway Mode Air/Fuel Ratio Vs. MAP  
Injector PW Correction Vs. Battery Voltage  
Low Pulse Width Injector Offset Vs. BPW  
MAT Compensation Counts Vs. MAT  
Inv. MAT Term Lookup Delta Multiplier Vs Airflow  
Start Up Enrichment Vs. Coolant Temp.  
Start Up Enrich Decay Amount Vs. Coolant Temp.  
Start Up Enrich Decay Delay Vs. Coolant Temp.  
Crank Fuel PW Multiplier Vs. Ref. Pulses (1-16)  
Crank Fuel PW Multiplier Vs. Ref. Pulses (>17)  
Crank Fuel Pulse Width Vs. Coolant Temp.  
Crank Fuel Delivery Delay Vs. MAT  
Startup Enrichment Offset Vs. MAT  
DFCO Enable TPS Threshold Vs. RPM  
BLM Cell RPM Boundaries  
BLM Cell MAP Boundaries  
O2 Closed Loop Time Delay Vs. Coolant Temp.  
Fast O2 Rich/Lean Threshold Vs. MAP  
Rich/Lean Offset Vs. Coolant Temp.  
Upper Zero Error Reference for Slow O2 R/L Vs. MAP  
Lower Zero Error Reference for Slow O2 R/L Vs. MAP  
Closed Loop Fuel Integrator Delay Vs. AirFlow  
Slow O2 Filter Coefficient Vs. AirFlow  
Proportional Step Size Gain Vs. AirFlow  
Proportional Step Duration Offset Vs. RPM  
Proportional Step Size Vs. Error  
Proportional Step Duration Vs. Error  
Integrator Delay Multiplier Vs. Error  
Target Idle RPM Vs. Coolant Temp.  
IAC Warm Park Position Vs. Coolant Temp.  
IAC Warm Park Position Multiplier Vs. Baro  
Idle Speed Timeout Steps vs Coolant Temp.  
Idle Spark Retard Vs. Idle Speed Error  
Idle Spark Advance Vs. Idle Speed Error  
Stall Saver Spark Advance RPM Thresholds  
IAC Manual Throttle Follower Offset Vs. MPH  
Idle Spark Retard Multiplier Vs. MAP  
Idle Spark Advance Multiplier Vs. MAP  
Idle Deadband Max RPM Error Vs. Gear  
Throt. Follow Extend Decay Timer Vs. Gear  
Hot Restart Command Speed Offset Vs. MAT  
EGR % Duty Cycle Vs. Vacuum Vs. RPM  
EGR Duty Cycle Multiplier Vs. Coolant Temp.  
TCC Unlock %TPS Vs. Speed (Low Gears)  
TCC Lock %TPS Vs. Speed (Low Gears)  
TCC Unlock %TPS Vs. Speed (High Gear)  
TCC Lock %TPS Vs. Speed (High Gear)  
E-Light On %TPS Threshold Vs. RPM  
E-Light Off %TPS Threshold Vs. RPM  
E-Light On Delay Modifier Vs. %TPS  
Fan On/Off Coolant Temp Thresholds  
High RPM DRPs for Engine Run Vs. Cool. Temp.  
Barometric Pressure Offset Vs. RPM Vs. TPS