

# C.A.T.S. Tuner ECM NS2 Parameter List

## (ECM Configuration File Version G)

### ECM Switch Parameters

VATS Option (X = Enabled)  
No Distributor Signal (Error 12)  
Right O2 Sensor Not Ready (Error 13)  
Shorted Coolant Sensor (Error 14)  
Open Coolant Sensor (Error 15)  
Generator Volt. Out of Range (Error 16)  
Left O2 Sensor Not Ready (Error 17)  
Executive Loop Overrun (Error 18)  
Shorted Fuel Pump Circuit (Error 19)  
Open Fuel Pump Circuit (Error 20)  
Shorted TPS Circuit (Error 21)  
Open TPS Circuit (Error 22)  
EST/Bypass Circuit (Error 23)  
Speed Sensor Circuit (Error 24)  
Shorted Throttle Switch (Error 26)  
Open Throttle Switch (Error 27)  
Open 3rd/4th Gear Discrete (Error 28)  
Shorted 3rd/4th Gear Switch (Error 29)  
Idle Speed Control Circuit (Error 30)  
Shorted MAP Sensor (Error 31)  
Open MAP Sensor (Error 32)  
MAP Sensor Signal High (Error 34)  
Shorted MAT Sensor (Error 37)  
Open MAT Sensor (Error 38)  
TCC Engagement Problem (Error 39)  
Open P/S Pressure Switch (Error 40)  
CAM Sensor Circuit (Error 41)  
Left O2 Sensor Lean (Error 42)  
Left O2 Sensor Rich (Error 43)  
Right O2 Sensor Lean (Error 44)  
Right O2 Sensor Rich (Error 45)  
Right to Left Fuel Imbalance (Error 46)  
BCM-ECM Data Problem (Error 47)  
EGR System Fault (Error 48)  
A.I.R. Management System (Error 49)  
2nd Gear Pressure Disc. (Error 50)  
EPROM Checksum (Error 51)  
ECM Memory Reset (Error 52)  
Dist. Signal Interrupt (Error 53)  
ISC System Problem (Error 54)  
TPS Out of Adjustment (Error 55)  
VATS Malfunction (Error 58)  
C/C Trans. Not in Drive (Error 60)  
C/C Vent Solenoid (Error 61)  
C/C Vacuum Solenoid (Error 62)  
C/C Speed/Set Speed Error (Error 63)  
C/C Vehicle Accel High (Error 64)  
C/C Servo Position Sensor (Error 65)  
C/C Engine RPM High (Error 66)  
C/C Switch Enabled Too Long (Error 67)  
C/C Servo Stroke Too Large (Error 68)  
T/C Active in Cruise (Error 69)  
Intermittent Throttle Pos. (Error 70)

Intermittent MAP (Error 71)  
Intermittent MAT (Error 74)  
Intermittent Vehicle Speed (Error 75)  
Fuel System Rich (Error 80)  
Brake Input Problem (Error 90)  
PRNDL Input Problem (Error 91)  
Heated W/S Request Too Long (Error 92)  
Engien Stall Detected (Error 95)  
Torque Conv. Overstress (Error 96)  
P/N - Drive at High Throttle (Error 97)  
P/N - Drive at High RPM (Error 98)  
C/C Servo Stroke High (Error 99)

## **ECM Constants**

Low Fan On Coolant Temp.  
Low Fan Off Coolant Temp.  
High Fan On Coolant Temp.  
High Fan Off Coolant Temp.  
Min. Low Fan On Time  
Warm Start Spark Adv. Enable Cool Temp  
Fuel Cutoff RPM  
Fuel Resume RPM  
Fuel Cutoff Vehicle Speed  
Fuel Resume RPM After MPH Cutoff  
MAT Spark Comp. Enable Throttle Angle  
Altitude Spark Enable Baro Threshold  
EGR Spark Ramp-in Delay  
EGR Spark Ramp-out Delay  
EGR Spark Ramp-in Update Period  
EGR Spark Ramp-Out Update Period  
Heavy Load Spark Retard Enable MAP  
Base Pulse Constant  
Stoichiometric AFR  
Power Enrich. Enable RPM  
Low Throttle Angle P.E. Disable RPM  
Low Throttle Angle P.E. Enable RPM  
Low Throttle Angle P.E. Enable Throt.  
Time-out AFR Decay Multiplier  
Warm Start AFR Baro High/Low Threshold  
Key-on Prime Pulse Disable Cool. Temp.  
Maximum Allowable Open Loop AFR  
Engine Cooling Enrich Enable Cool Temp.  
Engine Cooling Enrichment Factor  
Block Learn Low MAP Enable Threshold  
Block Learn High MAP Disable Threshold  
Block Learn Low RPM Enable Threshold  
Block Learn High RPM Disable Threshold  
BLM Step Size  
BLM MAP Boundary Hysteresis  
BLM RPM Boundary Hysteresis  
Minimum Closed Loop BLM  
Minimum Open Loop BLM  
Minimum BLM - Partial CCP  
Maximum Closed Loop BLM  
Maximum Open Loop BLM  
Decel Enlean Enable Vehicle Speed  
Decel Enlean Disable Vehicle Speed  
Decel Enlean Disable RPM  
DFCO Enable Delay - High MPH  
DFCO Enable RPM Threshold

DFCO Disable RPM Threshold  
DFCO Disable MAP Threshold  
DFCO High/Low Vehicle Speed Threshold  
CCP Enable Coolant Temp.  
CCP Enable Vehicle Speed  
EGR Disable Low RPM Threshold  
EGR Enable Low RPM Threshold  
EGR Disable High RPM Threshold  
EGR Enable High RPM Threshold  
EGR Disable High MAP Threshold  
EGR Enable High MAP Threshold  
Baro Update Enable Throttle Angle  
Part Throttle Baro Update Enable T. A.  
A/C Anticipate Extend/Retract P. W. Mult  
P/N -> Gear Anticipate Max. MPH  
Gear -> P/N Anticipate Max. MPH  
P/N -> Gear Anticip. Extend - A/C - P/S  
P/N -> Gear Anticip. Extend - A/C  
P/N -> Gear Anticip. Extend - P/S  
P/N -> Gear Anticip. Extend  
P/N -> Gear Anticip. Extend - HEL  
Gear -> P/N Anticip. Retract - A/C - P/S  
Gear -> P/N Anticip. Retract - A/C  
Gear -> P/N Anticip. Retract - P/S  
Gear -> P/N Anticip. Retract  
Gear -> P/N Anticip. Retract - HEL  
Speed Pulses Per Mile  
1 -> 2 Shift RPM  
2 -> 3 Shift RPM  
3 -> 4 Shift RPM

## **Tables**

ECM Switch Table  
ECM Constant Table  
Main Spark Advance Vs. RPM Vs. MAP - EGR Off  
Main Spark Advance Vs. RPM Vs. MAP - EGR On  
Warm Start Spark Advance Vs. RPM  
Warm Start Spark Altitude Multiplier Vs. Baro  
Coolant Temp Spark Compensation Vs, Cool. Temp.  
Cool Temp Spark Comp. Vs, Cool. Temp. at Idle  
MAT Spark Advance Correction Factor Vs. MAT  
MAT Spark Advance Compensation Vs. MAT at Idle  
Altitude Spark Retard Vs. RPM - EGR Off  
Alt. Spark Retard Multiplier Vs. Baro - EGR Off  
Altitude Spark Advance Vs. RPM Vs. MAP - EGR On  
Alt. Spark Retard Multiplier Vs. Baro - EGR On  
Maximum Idle Spark Advance Vs. Baro - In P/N  
Maximum Idle Spark Advance Vs. Baro - In Drive  
Dynamic Idle RPM Spark Control Delay Vs. Cool Temp  
Idle Under-speed Spark Vs. RPM Error - In Drive  
Idle Under-speed Spark Vs. RPM Error - In P/N  
Idle Over-speed Spark Vs. RPM Error - In Drive  
Idle Over-speed Spark Vs. RPM Error - In P/N  
Heavy Load Spark Retard Vs. RPM  
Heavy Load Spark Retard Factor Vs. MAT- Low Gears  
Heavy Load Spark Retard Factor Vs. MAT- High Gear  
Base Pulse Compensation Vs. MAT  
Volumetric Efficiency Vs. RPM Vs. MAP  
EGR V.E. Correction Vs. RPM Vs. MAP  
P. E. Enable Throttle Angle Vs. Baro Vs. MPH

Minimum P.E. AFR Vs. Coolant Temp.  
Sync. A.E. Pulse Width Vs. MAP  
Sync. A.E. MAT Correction Vs. MAT  
Altitude Fuel Compensation at Idle Vs. Baro  
BLM RPM Cell Boundaries  
BLM MAP Cell Boundaries  
Unfiltered O2 Rich Threshold Vs. MAP  
Unfiltered O2 Lean Threshold Vs. MAP  
Filtered O2 Rich Threshold Vs. MAP  
Filtered O2 Lean Threshold Vs. MAP  
Decel Enlean Delta MAP Multiplier Vs. Delta Map  
D.E. Delta Throttle Angle Mult. Vs. Delta T. A.  
P.W. Decel Enlean Multiplier Vs. Time in D.E.  
Decel. Enlean Coolant Comp. Factor Vs. Cool. Temp.  
Injector Offset Vs. Battery Voltage  
Crank AFR Vs. Coolant Temp.  
Initial Time-out AFR Vs. Coolant Temp.  
Time-out AFR Decay Delay Vs. Coolant Temp.  
Hot/Cold Start AFR Vs. Coolant Temp.  
Time-out AFR Decay Step Period Vs. Coolant Temp.  
Warm Start AFR Vs. Coolant Temp.  
Hot/Cold Start AFR Correction Vs. MAP  
Warm Start AFR Correction Vs. MAP - High Baro  
Warm Start AFR Correction Vs. MAP - Low Baro  
Cold Prime Pulse Width Vs. Cool. Temp.  
Hot Prime Pulse Width Vs. Cool. Temp.  
DFCO Enable Delay Vs. RPM - Low MPH  
Desired Idle Speed Vs. Cool. Temp. - in P/N  
Desired Idle Speed Vs. Cool. Temp. - in Gear  
Minimum Desired RPM Vs Vehicle Speed  
Desired Idle RPM Altitude Multiplier Vs Baro  
Maximum Idle RPM Limit Vs. Coolant Temp.  
RPM Error Extend P. W. Vs. RPM Error - In Gear  
RPM Error Extend P. W. Vs. RPM Error - In P/N  
RPM Error Extended Correction Vs. Cool Temp.  
RPM Error Retract Correction Vs. Cool Temp.  
RPM Error Retract P. W. Vs. RPM Error - In Gear  
RPM Error Retract P. W. Vs. RPM Error - In P/N  
RPM Rate Extend Pulse Width Vs. RPM Rate  
Over-speed RPM Rate Extend Pulse Width Vs RPM Rate  
Under-speed RPM Rate Extend P. W. Vs. RPM Rate  
P/N -> Gear Anticip. Extend Comp. Vs. Trans. Temp.  
Gear -> P/N Anticip. Retract Comp. Vs Trans. Temp.  
TCC Apply MPH Vs. Throttle Angle - 3rd Gear  
TCC Release MPH Vs. Throttle Angle - 3rd Gear  
TCC Apply MPH Vs. Throttle Angle - 4th Gear  
TCC Release MPH Vs. Throttle Angle - 4th Gear  
1->2 Normal Shift Vehicle Speed Vs. Throttle Angle  
2->1 Normal Shift Vehicle Speed Vs. Throttle Angle  
1->2 Hot Shift Vehicle Speed Vs. Throttle Angle  
2->1 Hot Shift Vehicle Speed Vs. Throttle Angle  
1->2 Shift Speed Correction Vs. Cool. Temp.  
1->2 Shift Speed Alt. Offset Vs. Throttle Angle  
1->2 Shift Speed Alt. Offset Correction Vs. Baro  
1->2 Shift RPM Correction Vs. Coolant Temp.  
2->3 Normal Shift Vehicle Speed Vs. Throttle Angle  
3->2 Normal Shift Vehicle Speed Vs. Throttle Angle  
2->3 Hot Shift Vehicle Speed Vs. Throttle Angle  
3->2 Hot Shift Vehicle Speed Vs. Throttle Angle  
2->3 Shift Speed Correction Vs. Cool. Temp.  
2->3 Shift Speed Alt. Offset Vs. Throttle Angle  
2->3 Shift Speed Alt. Offset Correction Vs. Baro  
2->3 Shift RPM Correction Vs. Coolant Temp.

3->4 Normal Shift Vehicle Speed Vs. Throttle Angle  
4->3 Normal Shift Vehicle Speed Vs. Throttle Angle  
4->3 Hot Shift Vehicle Speed Vs. Throttle Angle  
3->4 Hot Shift Vehicle Speed Vs. Throttle Angle  
3->4 Shift Speed Alt. Offset Vs. Throttle Angle  
3->4 Shift Speed Alt. Offset Correction Vs. Baro