MN12 EEC Tuner User Guide

The purpose of this guide is to give you an understanding of what each Scalar, Function, & Table is when recalibrating your EEC-IV.

Checksum Base Address:

This is Ford's internal program checksum designed to verify that the original EEC program is correct. If set to 0 you disable the checksum and the fault code 15 *ROM test failed* is not displayed during a KOEO or KOER test of the EEC.

Engine Displacement:

Defines the cubic inch displacement of the engine. The SC engine size is defined as 220.877. Increasing the engine size increases the load value.

Global Spark Adder:

This Scalar function allows additional timing to be set. Increase this above 0 to advance the ignition timing. Advance in .25 increments.

Max Spark Retard:

This is the amount of ignition timing the EEC pulls out of the engine when the knock sensor signals the EEC of detonation. Change in .25 increments.

WOT 1-2 Shift Point:

Change the rpm to increase the shift point at WOT. Each WOT shift point is different so you should try 500 rpm increments until you find the correct WOT shift rpm.

WOT 2-3 Shift Point:

Change the rpm to increase the shift point at WOT. Each WOT shift point is different so you should try 500 rpm increments until you find the correct WOT shift rpm.

WOT 3-4 Shift Point:

Change the rpm to increase the shift point at WOT. Each WOT shift point is different so you should try 500 rpm increments until you find the correct WOT shift rpm.

TV Adder 1-2 Shift:

Increases transmission line pressure during 1-2 upshift. Increase the number to add more line pressure. Don't exceed 50.

TV Adder 2-3 Shift:

Increases transmission line pressure during 2-3 upshift. Increase the number to add more line pressure. Don't exceed 50.

TV Adder 3-4 Shift:

Increases transmission line pressure during 3-4 upshift. Increase the number to add more line pressure. Don't exceed 50.

ECT HS Fan On:

Turns the high-speed fan on. Lowering the number causes the fan to come on sooner. Change in 1 degree increments.

ECT HS Fan Off:

Turns the high-speed fan off. Change this number so it is a few degrees lower than the High Speed ON temp. Change in 1 degree increments.

ECT Low Speed Fan On:

Turns the low speed fan on. Lowering the number causes the fan to come on sooner. Change in 1 degree increments.

ECT Low Speed Fan Off:

Turns the low speed fan off. Change this number so it is a few degrees lower than the Low Speed ON temp. Change in 1 degree increments.

ECT AUX Speed Fan On:

Turns the auxiliary speed fan on. Lowering the number causes the fan to come on sooner. Change in 1 degree increments.

ECT AUX Speed Fan Off:

Turns the auxiliary speed fan off. Change this number so it is a few degrees lower than the Auxiliary Speed ON temp. Change in 1 degree increments.

Enable Stage Two RPM Limiter:

Engine RPM limit. Increase to 7000 to disable.

Enable Stage Three RPM Limiter:

Engine RPM limit. Increase to 7000 to disable.

Max Output Shaft Speed:

Drive shaft speed in MPH. Change to 232 MPH to disable.

Max RPM Closed Throttle Idle:

The idle maximum in RPM's. Set to 0 to disable.

First Gear Ratio:

Represents the transmission first gear ratio on automatics. Changing ratio higher or lower causes the transmission to shift sooner or later.

Second Gear Ratio:

Represents the transmission second gear ratio on automatics. Changing ratio higher or lower causes the transmission to shift sooner or later.

Third Gear Ratio:

Represents the transmission third gear ratio on automatics. Changing ratio higher or lower causes the transmission to shift sooner or later.

Fourth Gear Ratio:

Represents the transmission fourth gear ratio on automatics. Changing ratio higher or lower causes the transmission to shift sooner or later.

Note: When changing the differential gear ratio you will want to use the formula: ***new differential gear ratio (3.73)/stock differential gear ratio (3.31)= increase in ratio (1.12688) * transmission gear ratio (2.83997)= new first gear ratio (3.20032)***

Low Injector Slope:

Change this to a higher value than the size of injector used. This scalar lowers the injector pulse width at idle. Some of the most common settings are: ***(33.336 when using 30lb injectors ; 50.400 when using 36lb injectors ; 48.000 when using 38lb injectors ; 52.000 when using 42lb injectors and 61.000 when using 50lb injectors)***

High Injector Slope (Injector Size):

Change this to the size of injector you have installed. Set number to 30, 36, 38, 42, 50 depending on the injector size you have installed. Lowering the number will cause a longer pulsewidth and deliver more fuel per injector cycle. A higher number will shorten the pulse width. Similar to changing jet sizes on a carburetor.

Neutral Idle:

Idle RPM with transmission in Park, Neutral (*automatics*) or Neutral (*manual*).

Drive Idle:

Idle RPM with transmission in gear (*automatics*). Set to same RPM as Neutral Idle on manual transmissions.

Tip In Retard:

Ignition timing retard during shifts. Set to 0 to disable the tip in retard.

Open Loop Fuel Multiplier:

Global open loop fuel adder. Increase value over 1 to decrease injector pulse width (*less fuel*) and decrease the number under 1 to increase the injector pulse width (*more fuel*).

EGR Type:

Controls EGR, change scalar to 2 to disable the EGR.

Speed Limiter On:

Turns rev limiter on when MPH is reached. Set to 232 to disable.

Speed Limiter Off:

Turns rev limiter off when MPH is reached. Set to 232 to disable.

Stage 1 RPM Limiter :

Turns rev limiter on when RPM is reached. Set to 7000 to disable.

Stage 2 RPM Limiter:

Turns rev limiter on when RPM is reached. Set to 7000 to disable.

SIL RPM On:

Turns on SIL (***shift indicator light***) rev limiter. Set to 7000 to disable upshift indicator light.

SIL RPM Off:

Turns off SIL rev limiter. Set to 7000 to disable upshift indicator light.

PIP:
Lower number gives a higher rev limit. Set PIP to **858** to set rev limit to 7000

PIP = 6006250/maxRPM
maxRPM = 6006250/PIP

PIP = 961 maxRPM = 6006250/961= 6250 rpms

The PIP is a sample rate frequency that limits the PCM program operating loop to a minimum rate. If the loop is sampled less then PIP times within one operating cycle (2 crankshaft revolutions), the PCM limits rpm.

MAF Voltage:

The WOT_VOLTAGE defines the throttle position that WOT operating mode is entered. You can control when the WOT functions and scalars are used by adjusting this value.
The following tags are only active during WOT operating mode:
WOT_ADVANCE_VS_RPM
WOT_FUEL_MULTIPLIER_VS_RPM
WOT_ADVANCE_VS_ECT
WOT_ADVANCE_VS_ACT

MAF Function:

MAF transfer table lists voltage then kg/hour (*airflow rate*). Increase the voltage or increase the kg/hour number to increase load calculation. Decrease the voltage or decrease the kg/hour number to decrease load calculation. Changes to the MAF table is not usually necessary unless your fuel injectors are insufficient or you have a Pro-M MAF installed for a different injector size. If adding fuel through the MAF table corrects hesitation then you should increase the installed injectors. *Note: To check fuel injector millisecond pulse using a Ford diagnostic NGS or equivalent the ms injector pulse should be no more than 25ms @WOT at 4,000rpm's.* If you have a Pro-M MAF calibrated for larger injectors you can modify the voltage table in the MAF Function to compensate for the voltage change. Using the flow sheet that came with the Pro-M MAF you can divide the voltage in the Pro-M chart by the voltage in the stock MAF table to get percentage of voltage change. Add the percent change to the kg/hour at that voltage.

(15.9998, 992.662) (4.75, 992.662) (4.5, 884.619)
(4.25, 754.715) (4, 661.247) (3.80005, 576.333)
(3.6001, 497.44) (3.3999, 428.052) (3.19995, 362.783)
(3, 310.187) (2.80005, 262.027) (2.6001, 218.303)
(2.3999, 179.015) (2.19995, 145.747) (2, 115.647)
(1.80005, 95.0522) (1.6001, 76.9923) (1.3999, 58.2987)
(1.19995, 42.7735) (1, 29.783)(0.899902, 24.7136)
(0.800049, 20.2778) (0.600098, 14.2578) (0.300049, 5.70313)
(0, 0) (0, 0) (0, 0)
(0, 0) (0, 0) (0, 0)

WOT Fuel Multiplier vs. RPM:

First number is RPM and second number is multiplier. Increase multiplier value of 1 to decrease injector pulse width (*less fuel*) and decrease the number under 1 to increase the injector pulse width (*more fuel*). You can also change the RPM value to add or remove fuel at any RPM.

WOT_FUEL_MULTIPLIER_VS_RPM # WOT Fuel Multiplier
(16383.8, 1) (1750, 1) (1250, 0.898438)
(1000, 0.796875) (0, 0.796875) (0, 0.796875) (0, 0.796875) (0, 0.796875)

WOT Advance vs. RPM:

The first number is RPM and the second is additional timing advance. Similar to the Global Spark Adder as it adds additional spark advance. Increase the advance number and increase the ignition timing at that RPM. Change the RPM value and change when spark is added. This table is used when the TPS voltage reaches 3 volts or higher.

(16383.8, 26) (5000, 26) (4000, 24)
(3000, 20) (2500, 17) (1500, 10) (0, 8) (0, 8)

Accelerator Pump vs. TP Voltage:

The first number is TP voltage and the second is accelerator multiplier. Increase value over 1 to decrease injector pulse width (less fuel) and decrease the number under 1 to increase the injector pulse width (more fuel).

(4.98047, 0.5) (2.44141, 0.75)
(0, 1) (0, 1) (0, 1)

Accelerator Pump Fuel Table:

A higher number adds more fuel.

	-30	3	4	8	14	20	23	32	35
	0	3	4	8	14	20	23	32	35
E	**30**	2.5	3	7	10	14	22	28	30
C	**60**	2.5	3	7	10	14	22	28	30
T	**90**	1.25	1.5	2	2	3	6	12	17
	120	0.5	0.75	1.5	2	3	6	10	15
	150	0.5	0.75	1.5	2	2	4	7	10
		16	**32**	**48**	**64**	**80**	**96**	**112**	**128**

Throttle Rate (deg/sec)

Base Spark Table:

A higher number increases ignition advance and a lower number decreases ignition advance. Changes to the Base Spark Table and the Altitude Spark Table are directly related. When modifying one also modify the other.

BASE SPARK

	0.15%	30	30	30	35	35	35	35	35	35	36	38
	0.30%	30	30	30	30	30	34	34	35	35	36	38
L	**0.45%**	20	21	23	26	26	27	29	30	34	36	38
O	**0.60%**	16	19	20	22	23	23	25	27	32	34	35
A	**0.75%**	13	17	18	20	18	18	25	28	30	33	34
D	**0.90%**	11	13	14	16	21	22	24	27	29	29	33
	1.05%	7	10	11	13	15	16	20	23	26	28	29
	1.20%	3	6	8	11	12	13	15	20	23	27	28
	1.40%	0	3	5	7	9	10	12	17	20	25	27
		600	**700**	**900**	**1100**	**1300**	**1500**	**2000**	**2500**	**3000**	**4000**	**5000**

RPM

Altitude Base Spark Table:

A higher number increases ignition advance and a lower number decreases ignition advance. Changes to the Base Spark Table and the Altitude Spark Table are directly related. When modifying one also modify the other.

BASE ALTITUDE SPARK

LOAD	600	700	900	1100	1300	1500	2000	2500	3000	4000	5000
0.15%	30	30	30	30	30	30	30	33	34	36	38
0.30%	30	30	22	24	25	29	29	33	34	36	38
0.45%	15	16	18	21	21	22	24	27	34	36	38
0.60%	10	10	10	12	17	18	19	25	32	32	35
0.75%	10	9	9	10	12	13	14	18	20	25	30
0.90%	8	8	8	8	7	8	12	16	18	23	29
1.05%	7	7	7	6	6	7	10	14	16	21	25
1.20%	3	6	7	6	6	6	8	12	14	19	23
1.40%	0	3	5	6	6	6	6	10	12	17	22

RPM

Crank Fuel Pulse Width vs. ECT:

First number is ECT and the second number is injector pulse width. This table determines how much the fuel injector pulses while the engine is cranking. To compensate for larger injector use the following formula:

stock injector size (30)/new injector size (36)= decrease in ratio (0.83333) * crank fuel pulsewidth (0.00256348)= new crank fuel pulsewidth (0.0021361)

(65534, 0.00256348) (190, 0.00256348) (90, 0.0072937)
(70, 0.0072937) (40, 0.00999451) (0, 0.0167999)
(-20, 0.026001) (-65536, 0.026001) (-65536, 0.026001)
(-65536, 0.026001) (-65536, 0.026001)

Exhaust Pulse Delay:

Increase the numbers higher for long tube headers. Changes the injector timing calculations. Currently no formula is know for corrected values with long tube headers.

Exhaust Pulse Delay

LOAD	700	900	1950	3000
0.15%	10	10	10	10
0.45%	9	9	9	9
0.60%	5	6	7	9
0.75%	5	6	7	9
0.90%	7	7	8	9
1.05%	7	7	7	9
1.20%	7	7	7	9
1.40%	7	7	7	9

RPM

Closed Throttle Open Loop (OL) Fuel Multiplier:

First number is RPM and second number is multiplier. Increase multiplier value of 1 to decrease injector pulse width (less fuel) and decrease the number under 1 to increase the injector pulse width (more fuel). You can also change the RPM value to add or remove fuel at any RPM.

(16383.8, 1) (850, 1) (700, 0.898438)
(0, 0.898438) (0, 0.898438) (0, 0.898438)

Dynamic 1-2 TV Pressure vs. TP voltage:

First number is throttle position (TP) voltage and second number is TV pressure. Increase the TV pressure number to add more line pressure during 1-2 shifts.

(4.98047, 21) (1.46484, 15) (0.742188, 15)
(0.488281, 7) (0, 7) (0, 7)
(0, 7) (0, 7) (0, 7)

Dynamic 2-3 TV Pressure vs. TP voltage:

First number is throttle position (TP) voltage and second number is TV pressure. Increase the TV pressure number to add more line pressure during 2-3 shifts.

(4.98047, 243)(0.253906, 243) (0, 0)
(0, 0) (0, 0) (0, 0)
(0, 0) (0, 0) (0, 0)

Dynamic 2-1 TV Pressure vs. TP voltage:

First number is throttle position (TP) voltage and second number is TV pressure. Increase the TV pressure number to add more line pressure during 2-1 shifts.

(4.98047, 246)(0.976562, 246) (0, 0)
(0, 0) (0, 0) (0, 0)
(0, 0) (0, 0) (0, 0)

Dynamic 3-2 TV Pressure vs. TP voltage:

First number is throttle position (TP) voltage and second number is TV pressure. Increase the TV pressure number to add more line pressure during 3-2 shifts.

(4.98047, 25) (1.46484, 25) (1.46484, 0)
(0, 0) (0, 0) (0, 0)
(0, 0) (0, 0) (0, 0)

Second Gear TC lockup:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to lock torque converter clutch in third gear.

(4.98047, 50) (2.92969, 50) (2.92969, 105)
(1.34766, 105)(1.34766, 30) (0.976562, 30)
(0.605469, 10)(0, 10)(0, 10)
(0, 10)

Third Gear TC lockup:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to lock torque converter clutch in third gear.

(4.98047, 32) (0.976562, 32) (0.488281, 17.5)
(0, 17.5) (0, 17.5) (0, 17.5)
(0, 17.5) (0, 17.5) (0, 17.5)
(0, 17.5)

Fourth Gear TC lockup:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to lock torque converter clutch in third gear.

(4.98047, 56) (0.898438, 56) (0.742188, 54)
(0.253906, 40) (0.253906, 35.5) (0, 35.5)
(0, 35.5) (0, 35.5) (0, 35.5)
(0, 35.5)

1-2 Part Throttle Upshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to change part throttle 1-2 upshift.

(4.98047, 50) (2.92969, 50) (2.92969, 30)
(1.95312, 30) (1.62109, 25) (1.01562, 19)
(0.820312, 12) (0.488281, 10) (0, 10)
(0, 10)

2-3 Part Throttle Upshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to change part throttle 2-3 upshift.

(4.98047, 80) (2.92969, 80) (2.92969, 68)
(2.03125, 68) (1.42578, 52) (1.23047, 45)
(1.01562, 35) (0.605469, 23) (0.410156, 20)
(0, 20)

3-4 Part Throttle Upshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to change part throttle 3-4 upshift.

(4.98047, 116) (3.06641, 116) (2.34375, 107)
(1.83594, 93) (1.17188, 65) (0.253906, 40)
(0.253906, 35.5) (0, 35.5) (0, 35.5)
(0, 35.5)

2-1 Part Throttle Downshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to shift part throttle 2-1 downshift.

(4.98047, 28) (3.53516, 28) (3.53516, 25)
(2.55859, 25) (1.23047, 9) (0, 9)
(0, 9) (0, 9) (0, 9)
(0, 9)

3-2 Part Throttle Downshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to shift part throttle 3-2 downshift.

(4.98047, 70) (3.53516, 70) (3.53516, 50)
(2.44141, 50) (2.20703, 40) (1.23047, 20)
(1.13281, 18.5) (0, 18.5) (0, 18.5)
(0, 18.5)

4-3 Part Throttle Downshift Speed vs. TP Voltage:

First number is throttle position (TP) voltage and second number is MPH. Increase or decrease the MPH to shift part throttle 4-3 downshift.

(4.98047, 100)(3.18359, 100)(3.18359, 92)
(2.38281, 80) (2.20703, 70) (1.71875, 50)
(1.52344, 40) (1.09375, 33.5) (0, 33.5)
(0, 33.5)

Spark Adder ECT:

Table is not used. You can add spark using this table. Example:

(254, 5) (210, 4) (150, 3)
(60, 2)(0, 1) (-50, 0)
(-256, 0)

WOT Advance vs. ECT:

The first number is engine coolant temp (ECT) and the second is ignition timing in degrees that is added or removed.

(254, -4) (230, -4) (216, 0)
(150, 0) (100, 4) (-256, 4)
(-256, 4)

WOT Advance vs. ACT:

The first number is air charge temp (ACT) and the second is ignition timing in degrees that is added or removed between temperatures.

(254, -3) (240, -3) (150, -4)
(120, 0) (-256, 0) (-256, 0)

Advance vs. BP:

The first number is barometric pressure and the second is ignition timing in degrees that is added or removed.

(31.875, 0)(27.75, 0) (26.5, -32)
(0, -32) (0, -32)

Advance Rate vs. RPM:

First number is RPM and the second is ignition advance rate. Increase the advance rate in .25 increments.

(8160, 0.5)(1600, 0.5)(800, 0.75)
(0, 0.75) (0, 0.75) (0, 0.75)

Dashpot Clip:

(16383.8, 0.100098) (2200, 0.100098) (1200, 0.0600586)
(0, 0.0600586) (0, 0.0600586)

Dashpot Decrement Rate:

(15.9998, 0.0161133) (2, 0.0161133) (0.399902, 0.00390625)
(0.100098, 0.00390625) (0, 0.000732422) (0, 0.000732422)
(0, 0.000732422)

Spark Adder RPM:

The first number is RPM and the second is additional timing advance. Similar to the Global Spark Adder as it adds additional spark advance. Increase the spark adder number and increase the ignition timing at that RPM. Change the RPM value and change when spark is added.

(16383.8, 10) (5000, 10) (3000, 8)
(2000, 6) (500, 0) (0, 0)
(0, 0)

Spark Adder Load:

The first number is Load and the second is additional timing advance. Adds spark advance based on EEC load calculations. Increase the timing advance number and increase the ignition timing at that load. Change the load value and change when spark is added.

(1.99219, 8) (1.60156, 8) (0.398438, 0)
(0, 0) (0, 0) (0, 0)

Stabilized Open Loop (OL) Air Fuel (AF) Ratio:

A higher number decreases fuel delivery and a lower number increases fuel delivery. Table is used for long trim fuel ratio calculations.

Stabilized OL Fuel Ratio

	0.15%	16	16	16	16	16	16	16	16	16	16
	0.45%	16	16	16	16	16	16	16	16	16	16
L	**0.60%**	16	16	16	16	16	16	16	16	16	16
O	**0.75%**	16	16	16	16	16	16	16	14.75	12.125	12.125
A	**0.90%**	16	16	16	16	16	16	16	13.625	11.25	11.25
D	**1.05%**	16	16	16	16	16	16	14.125	12	10.875	10.875
	1.20%	132.625	13.625	13.625	13.625	13.625	13.625	12.75	12	10.375	10.375
	1.40%	12.75	12.75	12.75	12.75	12.75	12.75	12.75	12	10.375	10.375
		-30	**0**	**30**	**60**	**90**	**120**	**150**	**180**	**210**	**240**

ECT

Startup Open Loop (OL) Air Fuel (AF) Ratio:

A higher number increases fuel delivery and a lower number decreases fuel delivery.

Startup OL Fuel Ratio

S	**0**	9.625	9.125	9.125	8	6.375	6.375	4.75	3.25	3.25	3.25
E	**4**	7.5	6.875	5	4	4	2.375	1.625	1.625	1.625	1.625
C	**8**	5.5	3.875	3.5	3.5	3.5	1.625	1.25	1.25	1.625	1.625
O	**12**	4	2.25	2.25	2.25	2.25	0.75	1.125	1.125	1.125	1.125
N	**16**	3	0.75	0.625	0.625	0.625	0	0.75	0.75	0.75	0.75
D	**20**	2.75	0	0	0	0	0	0.75	0.75	0.75	0.75
S	**24**	1.75	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0
		-30	**0**	**30**	**60**	**90**	**120**	**150**	**180**	**210**	**240**

ECT

Base Open Loop (OL) Fuel:

A higher number decreases fuel delivery and a lower number increases fuel delivery.

Base OL Fuel Ratio

	0.15%	15.25	15.25	15.25	16	16	16	16	16	16	16
	0.45%	15.25	15.25	15.25	16	16	16	16	16	16	16
L	**0.60%**	13.75	14.375	14.75	16	16	16	16	16	16	16
O	**0.75%**	12.75	13.625	14.375	15.375	16	16	16	16	16	16
A	**0.90%**	12	12.125	13.5	14.375	15.25	15.375	15.375	15.375	15.375	15.375
D	**1.05%**	12	12	12.75	13.5	14.375	14.875	14.875	14.875	14.875	14.875
	1.20%	10.75	10.75	12.125	13.5	14.375	14.375	14.375	14.375	14.375	14.375
	1.40%	10.25	10.25	11.5	12.75	13.625	13.625	13.625	13.625	13.625	13.625
		-30	**0**	**30**	**60**	**90**	**120**	**150**	**180**	**210**	**240**

ECT

Spark Adder vs. ECT:

Increasing the number will add ignition advance and a negative number will retard ignition advance.

Spark Adder vs. ECT

L	**0.15%**	15	10	5	0	0	0
O	**0.45%**	10	10	0	0	0	0
A	**0.75%**	0	0	0	0	-2	-3
D	**1.05%**	0	0	0	0	-2	-3
	1.40%	0	0	0	0	-3	-4
		-50	**0**	**60**	**150**	**210**	**254**

ETC

Engine Torque:

Calculates transmission line pressure based on Engine Torque (lb-ft). Max value is 512. Higher number increases TV line pressure at that load vs. RPM.

Engine Torque

LOAD	500	1000	1500	2000	3000	5000
0.15%	14	22	22	30	28	18
0.30%	108	120	128	130	130	122
0.60%	184	208	222	222	220	216
0.90%	246	286	302	304	302	302
1.20%	302	348	378	380	376	378
1.40%	346	398	440	448	450	448

RPM

Engine Frictional Torque:

Engine Friction Torque is used in conjunction with the Engine Torque table. Lower the value and it increases the transmission TV pressure at that load vs. RPM. Most transmission clutches slip under high load .75%-.90% so to increase line pressure under those conditions decrease the Engine Frictional value on those lines until needed TV line pressure is achieved.

Engine Frictional Torque

LOAD	500	1000	1500	2000	3000	5000
0.15%	26	30	38	46	54	62
0.30%	24	30	40	52	68	84
0.60%	24	30	44	60	80	104
0.90%	22	30	48	68	92	122
1.20%	20	30	50	74	102	138
1.40%	18	30	54	82	116	156

RPM

MN12 Performance
4110 Plaza Lane
Fairfax, VA 22033
703-968-6513
richt@erols.com

EEC Tuner Software Install

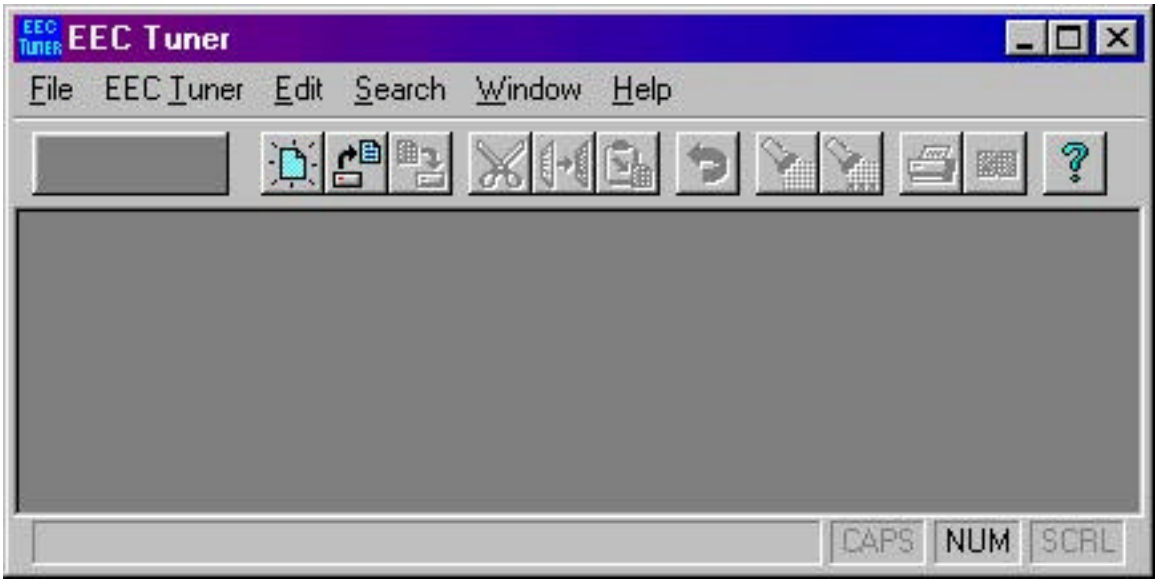
Insert diskette in drive **A:** and run setup.exe

Once software is installed "**double click**" on EECTUNER icon. 

Once the program is loaded connect the serial cable from the EEC Tuner board to your serial port. **Com1:** is the default but you can change the com port setting by editing the *eectuner.ini* file in the program directory. Change the section below to the correct com port for your system.

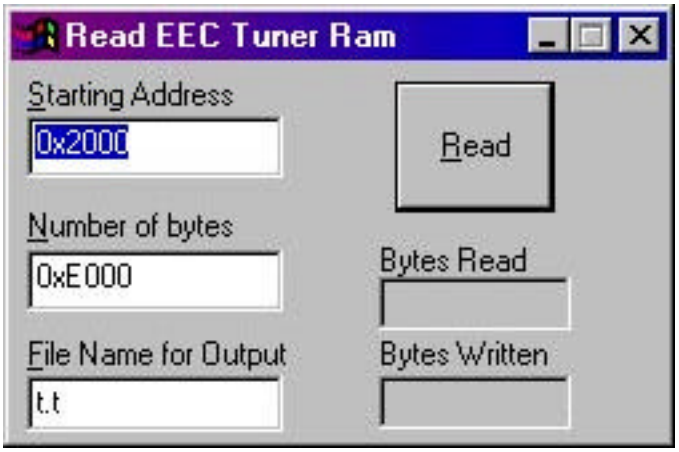
[EEC Tuner]
PORT=COM1

Your Tuner board already has a "performance enhanced" file loaded for your calibration when you get it. You can choose to start the car with the "pre installed" calibration or retrieve the Tuner board modifications and make changes. Included on the diskette are the "performance enhanced" calibrations in EEC format. You can retrieve the EEC file that is calibrated for your EEC-IV calibration if needed. You can program the EEC Tuner board outside the EEC-IV box by powering the unit with the power supply included with the kit or installed in the EEC-IV back in the car with the cars wiring harness reconnected. To program the EEC Tuner in the car you must turn the ignition on before attempting to **Retrieve Modifications** or **Download** to the EEC Tuner board.



Reading Ford ROM is available by clicking **EEC Tuner** and **selecting Read Ford ROM**.

Click **Read** and the stock calibration will be read from the EEC-IV processor. The Ford ROM code is stored in the file entered in the "*File Name for Output*" field. The image is stored in text format as a series of hex bytes. The raw binary image is always saved in file **t.bin** in the program directory. To preserve the contents of the t.bin you must rename the binary image file before performing another read operation. The text-formatted file, **t.t** is automatically opened in the EEC Tuner application as a plain text file. This t.t file is for information use only and the EEC Tuner cannot read this file format. Use the **t.bin** file to read the stock calibration from the EEC Tuner.



To verify the EEC Tuner board is operating properly click on **EEC Tuner** and select **Verify EEC Tuner**. The program will respond that the EEC Tuner board is working properly. If any "error messages" are displayed DO NOT start the vehicle and call MN12 Performance 703-968-6513 for technical assistance. To retrieve the Tuner boards current calibration click on **EEC Tuner** pull down menu and select **Retrieve Modifications**. To download your calibrations to the EEC Tuner board it is recommended that you save the file under another name before downloading the calibration to the board.

Calibrations are grouped into "families" each family has a "catch code" like M2Y. Several calibrations make up a "family". See listing of calibrations and the associated family below.

A9U2 *(family)*	**W1M** *(family)*
B9A1	E1X
COS	H2M
LOE1	W1M
A9U2	

M2Y *(family)*	**W4D2** *(family)*
Z1Z1	T4J1
D2L	W4D2
H2M1	
M2Y	
U2Y	
X1A2	
Z1Z2	
X1A2	

Note: Software updates will be available through the MN12 Performance web site at
http://www.mn12performance.com/eecsoftware/update.html