

Is this the standard idle timing for the MSM? I used the trigger wizard to match the timing mark to 14

Trigger Wizard

**14.0**  
Advance (degrees)

Match above value with timing light reading.

Ignition Offset angle(deg)  - +

Press Up/Down arrows to adjust. Hold Shift to adjust by 5x

↶ ↷ Burn Close

Spark Advance Table1

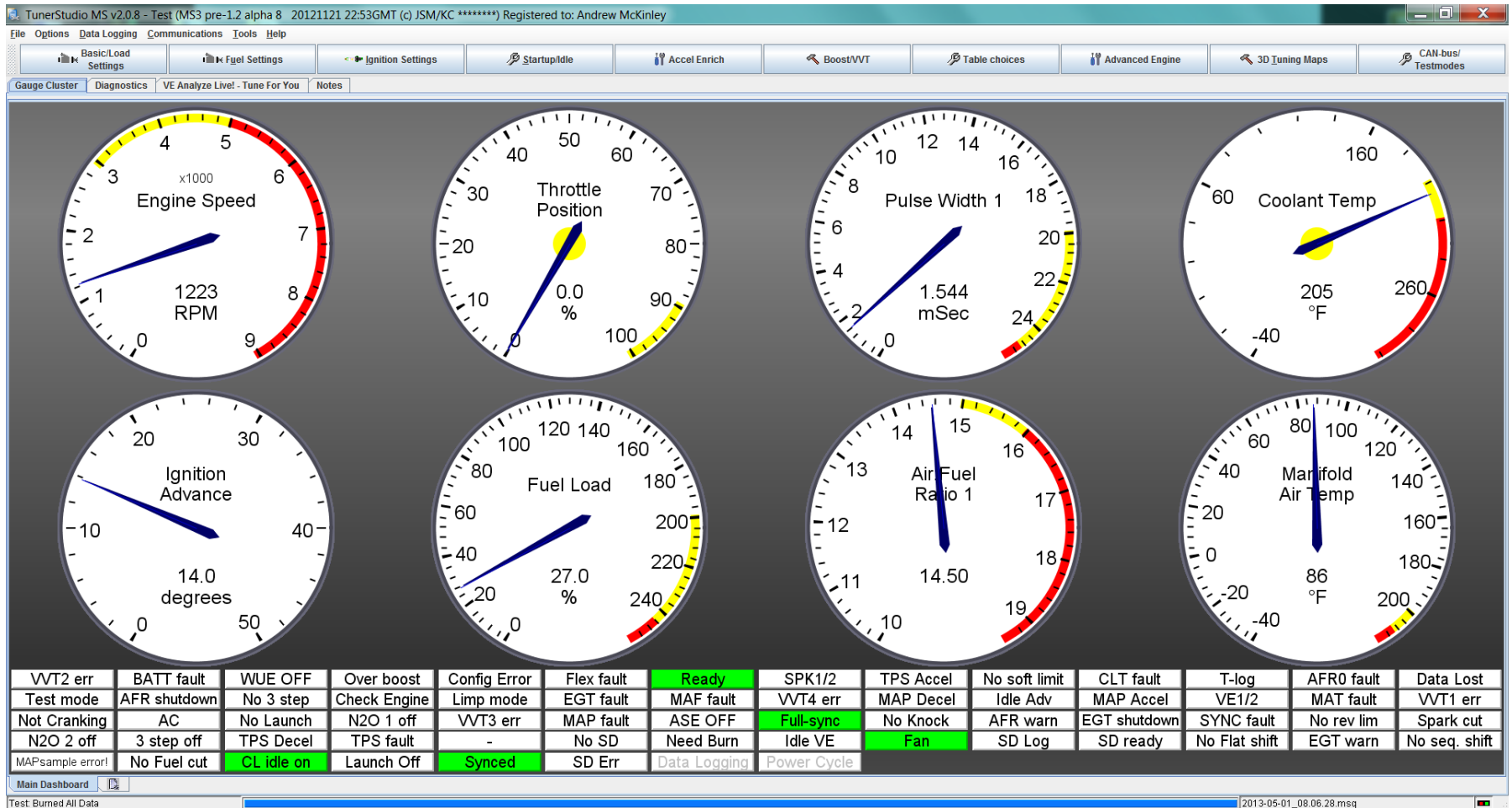
File 3D View

240.0	0.0	0.0	2.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.3	7.1	7.8	8.5	9.0	9.0
219.0	0.8	0.8	2.8	5.6	6.6	6.8	6.8	6.8	6.8	6.8	7.1	7.8	8.6	9.3	9.8	9.8
198.0	1.5	1.5	3.8	7.0	8.8	9.3	9.7	10.0	10.0	10.3	10.7	11.1	11.8	12.5	13.0	13.5
178.0	2.2	2.2	5.2	9.3	11.4	12.5	13.3	13.9	14.0	14.7	15.1	15.3	15.9	16.6	17.1	17.9
157.0	3.0	3.0	6.7	11.6	13.7	15.2	16.3	17.0	17.7	18.4	19.1	19.8	19.8	20.4	20.8	20.9
137.0	3.7	3.7	7.9	13.3	15.2	16.2	17.1	17.8	18.5	19.3	20.0	20.7	20.7	21.2	21.7	22.4
116.0	4.0	4.0	8.5	14.5	17.4	18.7	19.5	20.3	21.0	21.5	22.0	22.7	23.1	23.7	24.1	24.7
97.0	4.8	4.8	9.2	15.5	19.8	21.5	22.5	23.1	23.9	24.1	24.5	25.3	26.0	26.7	27.2	27.2
86.0	7.5	7.5	11.3	16.8	20.5	22.2	22.9	23.1	23.9	24.5	25.2	25.9	26.7	27.4	27.9	27.9
78.0	10.7	10.7	13.8	18.1	20.8	22.8	23.9	24.5	25.2	25.9	26.7	27.4	27.6	28.2	28.7	28.7
68.0	12.7	12.7	15.2	18.7	21.1	23.4	24.8	25.5	26.2	27.0	27.7	28.4	28.4	28.9	29.4	29.4
53.0	14.0	14.0	15.9	18.8	21.9	24.3	25.7	26.5	27.3	27.9	28.6	29.2	29.2	29.7	30.1	30.1
38.0	14.0	14.0	15.9	19.1	23.3	26.3	28.3	29.5	30.3	30.5	30.6	30.7	30.7	30.8	30.9	30.9
30.0	14.0	14.0	15.9	19.4	24.6	27.4	29.4	30.7	31.4	31.9	32.1	32.1	32.6	32.7	32.7	32.7
26.0	14.0	14.0	15.9	19.6	25.5	28.0	29.8	31.1	31.9	32.6	33.0	33.1	33.8	34.0	34.0	34.0
19.0	14.0	14.0	15.9	20.0	27.3	29.3	30.8	32.1	32.9	33.6	34.3	35.1	35.8	36.5	37.0	38.0
	700	1400	1600	1900	2300	2700	3100	3500	4000	4400	4800	5200	5600	6000	6500	7500

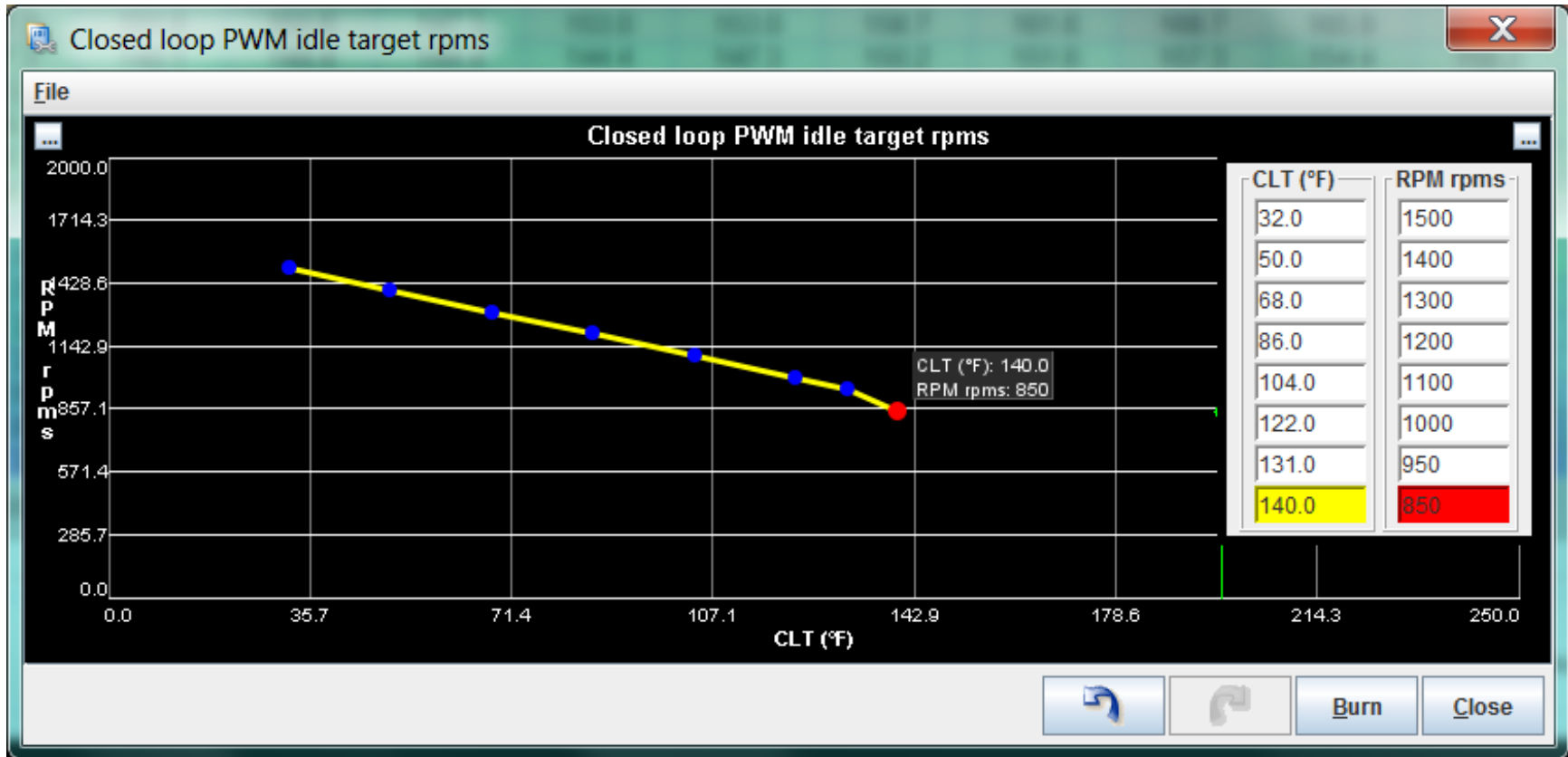
rpm

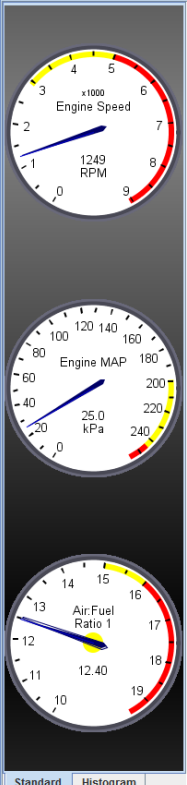
↶ ↷ Burn Close

This is warmed up. RPM is at 1200. AFR 14.5



Closed loop settings look correct to me.





Fuel VE Table 1 Control Panel

Update Controller

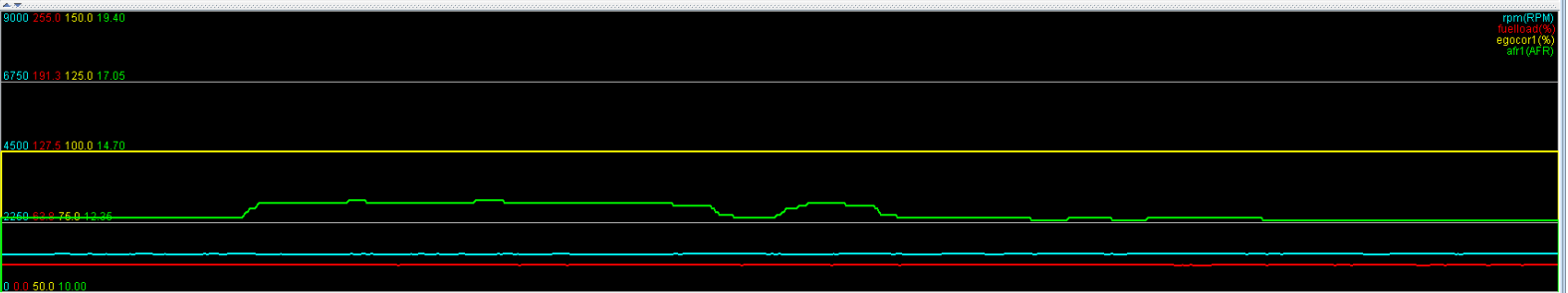
Correcting Table

240.0	111.5	121.6	128.7	144.4	155.9	158.7	163.0	170.2	175.9	175.9	175.9	180.2	194.5	181.6	180.2	180.2
220.0	108.7	120.1	127.3	143.0	154.4	157.3	161.6	161.6	167.3	167.3	167.3	171.6	175.9	173.0	171.6	171.6
200.0	107.3	113.0	120.1	135.9	147.3	151.6	151.6	147.3	153.0	153.0	158.7	161.6	168.7	165.9	161.6	161.6
180.0	98.7	108.7	110.1	125.8	137.3	140.1	144.4	144.4	144.4	147.3	150.2	151.6	157.3	154.4	150.2	148.7
160.0	95.8	108.7	110.1	124.4	135.9	137.3	141.6	141.6	141.6	144.4	147.3	151.6	153.0	150.2	145.9	144.4
140.0	94.4	107.3	113.0	127.3	134.4	134.4	138.7	138.7	138.7	141.6	145.9	148.7	150.2	150.2	143.0	138.7
128.0	103.0	115.8	118.7	128.7	130.1	131.6	134.4	135.9	137.3	141.6	141.6	147.3	145.9	145.9	138.7	134.4
110.0	97.2	107.3	111.5	128.7	128.7	128.7	128.7	130.1	131.6	134.4	134.4	135.9	137.3	141.6	137.3	133.0
99.0	90.1	98.7	100.1	100.1	100.1	100.1	100.1	103.0	107.3	114.4	117.3	121.6	123.0	123.0	121.6	117.3
84.0	80.1	90.1	90.1	90.1	90.1	98.7	100.1	104.4	113.0	113.0	111.5	118.7	115.8	118.7	117.3	115.8
75.0	72.9	71.5	84.4	88.7	88.7	94.4	94.4	94.4	103.0	100.1	103.0	101.5	98.7	103.0	100.1	95.8
65.0	62.9	60.1	71.5	80.1	87.2	90.1	90.1	90.1	94.4	91.5	101.5	101.5	94.4	98.7	93.0	90.1
55.0	54.3	58.6	64.4	68.6	77.2	81.5	84.4	82.9	84.4	81.5	94.4	97.2	94.4	91.5	85.8	88.7
40.0	57.2	62.2	66.7	64.0	72.9	72.9	75.8	74.4	74.4	74.4	87.2	90.1	81.5	78.7	78.7	74.4
26.0	57.2	65.5	68.2	68.7	65.8	65.8	61.5	55.8	58.6	61.5	78.7	75.8	61.5	68.6	67.2	75.8
19.0	60.1	60.0	69.0	66.9	57.2	57.2	57.2	57.2	57.2	57.2	61.5	58.6	54.3	51.5	55.8	72.9
	500	700	1200	1500	1800	2300	2900	3400	3900	4300	4800	5300	5800	6300	6800	7300

rpm

VeAnalyze Stats

Total Records: 7219	Filtered Records: 391	Used Records: 6828
Total Table Cells: 256	Cells Altered: 9	Average Cell Weight: 0.00
Average Cell Change: 5.7	Max Cell Change: 9.0	Active Filter:



# Injector settings

**Required Fuel Calculator**

Engine Displacement: 1839  
Number of Cylinders: 4  
Injector Flow: 775  
Air-Fuel Ratio: 14.7

Units:  CID  CC  
 lb/hr  cc/min

Ok Cancel

**Engine and Sequential Settings**

File

Engine and Sequential Settings

Calculate Required Fuel  
Required Fuel... 4.5  
(ms) 4.50

Control Algorithm: Speed Density  
Squirts Per Engine Cycle: 2  
Injector Staging: Alternating  
Engine Stroke/Rotary: Four-stroke  
No. Cylinders/Rotors: 4  
Injector Port Type: Port Injection  
Number of Injectors: 4  
Engine Type: Even fire  
Engine size(cc): 1839  
Injector size each(cc): 775

Sequential Fuel Injection  
Main fuel outputs: MS3X fuel  
Sequential On: Fully Sequential  
Angle specifies: End of squirt  
Injector Trim: Off

Firing Order  
A. 1  
B. 3  
C. 4  
D. 2  
E. 0  
F. 0  
G. 0  
H. 0

Burn Close

**Injector Dead-time/PWM**

File

**MS3X Injectors**

MS3X parameters Same

Dead time

@ 13.2V

A(ms) 1.150

B(ms) 1.000

C(ms) 1.000

D(ms) 1.000

E(ms) 1.000

F(ms) 1.000

G(ms) 1.000

H(ms) 1.000

Voltage dead time curve

Curve 1

Curve 1

Curve 1

Curve 1

Curve 1

Curve 1

Curve 1

**Mainboard Injectors**

BANK 1 Dead time @ 13.2V(ms) 1.000

Correction curve Curve 1

PWM current limiting Off

PWM Current Limit(%) 75

PWM Time Threshold(ms) 1.0

Injector PWM Period(us) 66

BANK 2 different settings Off

Dead time(ms) 1.000

Correction curve Curve 1

PWM current limiting Off

PWM Current Limit(%) 75

PWM Time Threshold(ms) 1.0

Injector PWM Period(us) 66

**Dead Time Voltage % Curve 1**

Voltage (V)	Dead Time Voltage (%)
7.2	220
9.2	170
11.2	120
13.2	80
15.2	40
17.2	10
19.2	0

**Injector Dead Time Curve 2**

Voltage (V)	Injector Dead Time (%)
7.2	220
9.2	170
11.2	120
13.2	80
15.2	40
17.2	10
19.2	0

**Injector Dead Time Curve 3**

Voltage (V)	Injector Dead Time (%)
7.2	220
9.2	170
11.2	120
13.2	80
15.2	40
17.2	10
19.2	0

**Injector Dead Time Curve 4**

Voltage (V)	Injector Dead Time (%)
7.2	220
9.2	170
11.2	120
13.2	80
15.2	40
17.2	10
19.2	0

⏪ ⏩ Burn Close

**Closed-loop Idle Control**

File

**Closed-loop Idle Control**

**Closed Loop Idle Valve Settings**

- Idle Open Duty(%) 80.0
- Idle Open Steps(steps) 204
- Idle Valve Closed Duty(%) 18.0
- Idle Valve Closed Steps(steps) 46
- Dashpot adder(%) 2.0
- Dashpot adder(steps) 5
- Dashpot decay factor 10
- Use last value or table Use last value
- Use CLT or MAT in table lookup Use MAT

**NOTE: Close delay of 0 means do not close**

- Close delay(sec) 0

**Shift Settings**

- Leave valve closed above:(rpm) 2000
- For this number of seconds:(sec) 3

**Closed Loop Idle PID Gains**

- Proportional Gain(%) 25.0
- Integral Gain(%) 40.0
- Derivative Gain(%) 60.0

**Closed Loop Idle PID activation Settings**

- Use VSS to activate PID Standard
- Idle Activation RPM adder(rpm) 300
- Idle Activation TPS threshold(%) 1.0

**Closed Loop Idle PID Delays and Behavior**

- Min Duty for PID(%) 18.0
- Min Steps for PID(steps) 46
- RPM with valve closed(rpm) 500
- RPM with valve open(rpm) 3500
- PID delay(sec) 2
- Crank to run delay(s) 3
- PID ramp to target time(sec) 4
- PID Control Interval(ms) 100

**Use so that engaging clutch without throttle Does not leave PID running**

- PID disable RPMdot 1000

**Closed Loop Idle PID Lockout detection**

- PID lockout RPMdot threshold(rpm/sec) 100
- PID lockout max decel load(%) 25.0

⏪ ⏩ Burn Close