



Lambda Calculations:

Fuel Curve

| | Input--- Red Only | | |
|-------------------------------------|--------------------------|-------------|-------------|
| | Gasoline | Eth--E85 | Methanol |
| Engine Air/Fuel Ratio Target | <u>12.8</u> | <u>7.9</u> | <u>5.7</u> |
| Engine Ox/Fuel Ratio | <u>2.69</u> | <u>2.80</u> | <u>3.39</u> |
| Engine Horsepower | <u>700</u> | <u>700</u> | <u>700</u> |

Lambda

| | |
|----------|-----------------|
| Gasoline | <u>0.870748</u> |
| Eth--E85 | <u>0.806122</u> |
| Methanol | <u>0.880989</u> |

Fuel Curve --- Nitrous Oxide

| | Gasoline | Eth--E85 | Methanol |
|--|---------------|---------------|---------------|
| Nitrous/ Fuel Ratio Target | <u>6.00</u> | <u>4</u> | <u>3.00</u> |
| Nitrous Ox/ Fuel Ratio | <u>2.16</u> | <u>2.49</u> | <u>3.16</u> |
| Nitrous Horsepower | <u>250</u> | <u>250</u> | <u>250</u> |
| Fuel vol. in cc's for 10 sec. Gasoline based on 6#/gal. | <u>262.85</u> | <u>363.94</u> | <u>477.90</u> |
| Combined Ox/Fuel Ratio | <u>2.55</u> | <u>2.72</u> | <u>3.33</u> |

Fuel Ratio : Example

| Gasoline | Eth--E85 | Methanol |
|-----------------------|-----------------------|-----------------------|
| 5.0---5.5 Rich | 3.3---3.8 Rich | 2.0---2.5 Rich |
| 5.5---6.0 Safe | 3.8---4.2 Safe | 2.5---3.0 Safe |
| 6.0---6.5 Lean | 4.2---4.7 Lean | 3.0---3.5 Lean |

| | | | |
|----------------------------------|-----------------|-----------------|-----------------|
| New Lambda w/Nitrous | <u>0.825738</u> | <u>0.782407</u> | <u>0.865005</u> |
| Equivalent Air/Fuel Ratio | <u>12.13835</u> | <u>7.745832</u> | <u>5.596582</u> |



Air Fuel Ratio

Lambda

| | Gasoline | E-85 Eth | Methanol | LPG | Diesel |
|------|-----------------|-----------------|-----------------|------------|---------------|
| 0.70 | 10.3 | 6.9 | 4.6 | 10.9 | 10.2 |
| 0.75 | 11.0 | 7.4 | 4.9 | 11.6 | 10.9 |
| 0.80 | 11.8 | 7.8 | 5.2 | 12.4 | 11.6 |
| 0.85 | 12.5 | 8.3 | 5.5 | 13.2 | 12.3 |
| 0.90 | 13.2 | 8.8 | 5.9 | 14.0 | 13.1 |
| 0.95 | 14.0 | 9.3 | 6.2 | 14.7 | 13.8 |
| 1.00 | 14.7 | 9.8 | 6.5 | 15.5 | 14.5 |