Vehicle 2 (Ford 500)

- $A = 285.15 \, {lb}/{in}$
- $B = 70.80 \, {lb}/{in^2}$
- $G = 574.22 lbs$

Note: These values were calculated by balancing the Ford to the S-10 Average values.

- $x_1 = C_1 + 2C_2 + 2C_3 + 2C_4 + 2C_5 + C_6$

$$x_1 = 8.5 + 2(15.9) + 2(15.5) + 2(11.4) + 2(6.3) + 1.1$$

$$x_1 = 107.8$$

- $x_2 = C_1^2 + 2C_2^2 + 2C_3^2 + 2C_4^2 + 2C_5^2 + C_6^2$

$$x_2 = 8.5^2 + 2(15.9)^2 + 2(15.5)^2 + 2(11.4)^2 + 2(6.3)^2 + 1.1^2$$

$$x_2 = 72.25 + 505.62 + 480.5 + 259.92 + 79.38 + 1.21$$

$$x_2 = 1398.88$$

- $x_3 = C_1C_2 + C_2C_3 + C_3C_4 + C_4C_5 + C_5C_6$

$$x_3 = (8.5)(15.9) + (15.9)(15.5) + (15.5)(11.4) + (11.4)(6.3) + (6.3)(1.1)$$

$$x_3 = 637.05$$

- $E = \frac{L}{5}\left(5G + \frac{Ax_1}{2} + \frac{B(x_2 + x_3)}{6}\right)(1 + \tan^2\alpha)$

$$E_2 = \frac{64.2}{5}\left(5(574.22) + \frac{(285.15)(107.8)}{2} + \frac{70.8(1398.88 + 637.05)}{6}\right)(1 + \tan^2(0))$$

$$E_2 = 12.84(2871.1 + 15369.58 + 24023.97)(1) = 542678.15$$

$$E_2 = 542678.15 \, {in}/{lbs} \div 12 = 45223.17 \, {ft}/{lbs}$$

- $\Delta V_2 = \Delta V_1\left(\frac{W_1}{W_2}\right)$; **See Chevrolet page for** ΔV_1

$$\Delta V_2 = 20.93\left(\frac{3400}{3675}\right) = \underline{\mathbf{19.25 \text{ mph}}}$$

- $\gamma = .99$; **See Gamma values which take into account rotation**.

$$\Delta V_2 = 20.83\left(\frac{3400}{3675}\right) = \underline{\mathbf{19.16 \text{ mph}}}$$