1. Unit Price = 39367 + 6.85 Operating Capacity - 215 Horse Power + 0.87 Weight
2. $72312 = 39367 + 6.85 \* (5700) - 215 \* (83) + 0.87 \* (13500)
3. R-Sq = 67.3%
4. ???

**Regression Analysis: Unit Price versus Operating Ca, Horse Power, Weight**

The regression equation is

Unit Price = 39367 + 6.85 Operating Capacity - 215 Horse Power + 0.87 Weight

Predictor Coef SE Coef T P VIF

Constant 39367 18341 2.15 0.075

Operating Capacity 6.850 4.397 1.56 0.170 2.111

Horse Power -214.5 105.4 -2.04 0.088 2.290

Weight 0.867 1.483 0.58 0.580 3.711

S = 3349.04 R-Sq = 67.3% R-Sq(adj) = 50.9%

PRESS = 198402161 R-Sq(pred) = 3.57%

Analysis of Variance

Source DF SS MS F P

Regression 3 138461187 46153729 4.11 0.066

Residual Error 6 67296227 11216038

Lack of Fit 5 64421025 12884205 4.48 0.343

Pure Error 1 2875202 2875202

Total 9 205757414

8 rows with no replicates

Source DF Seq SS

Operating Capacity 1 70344680

Horse Power 1 64287073

Weight 1 3829434

Operating Unit

Obs Capacity Price Fit SE Fit Residual St Resid

1 5000 60560 61562 2811 -1002 -0.55

2 6000 72491 73707 1798 -1216 -0.43

3 5500 67383 67069 2444 314 0.14

4 5500 70090 71976 1660 -1886 -0.65

5 5500 74060 72191 1664 1869 0.64

6 6000 78870 74490 1959 4380 1.61

7 6000 68275 73454 1753 -5179 -1.81

8 5500 71600 68379 1690 3221 1.11

9 5000 69935 70948 3116 -1013 -0.83

10 5500 72488 71976 1660 512 0.18

Durbin-Watson statistic = 3.11767

Lack of fit test

Possible curvature in variable Horse Po (P-Value = 0.070 )

Overall lack of fit test is significant at P = 0.070





