# JMP Output for Surface Finish Data
# Randomized Complete Block

## Response Finish - Full Factorial in Depth of Cut and Feed Rate, Bar as a Block

### Summary of Fit

| | |
|---|---|
| RSquare | 0.972224 |
| RSquare Adj | 0.949078 |
| Root Mean Square Error | 4.051749 |
| Mean of Response | 94.25 |
| Observations (or Sum Wgts) | 12 |

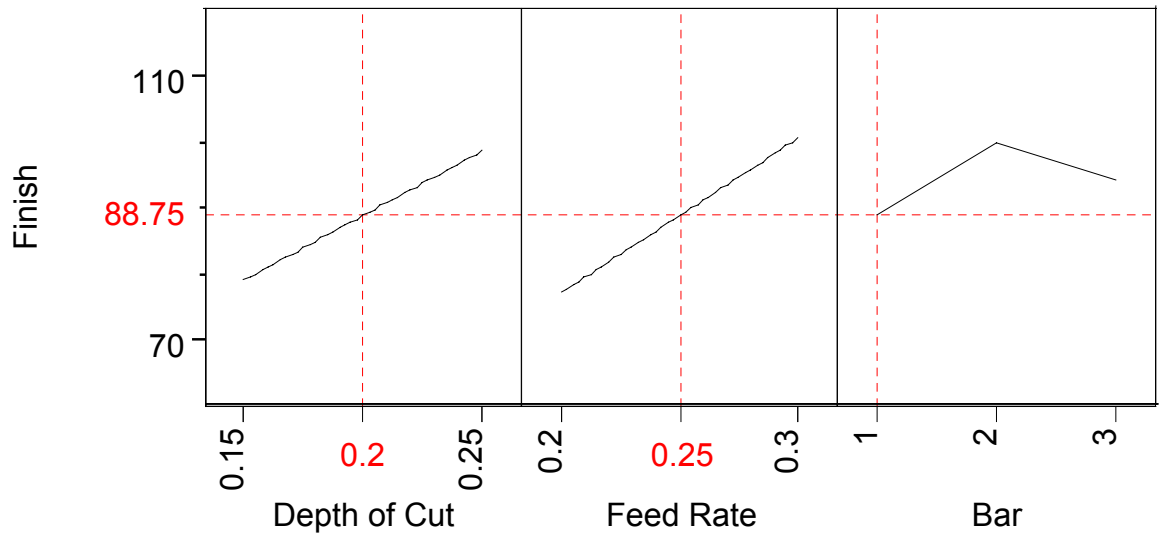
### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Ratio |
|---|---|---|---|---|
| Model | 5 | 3447.7500 | 689.550 | 42.0030 |
| Error | 6 | 98.5000 | 16.417 | Prob > F |
| C. Total | 11 | 3546.2500 | | 0.0001 |

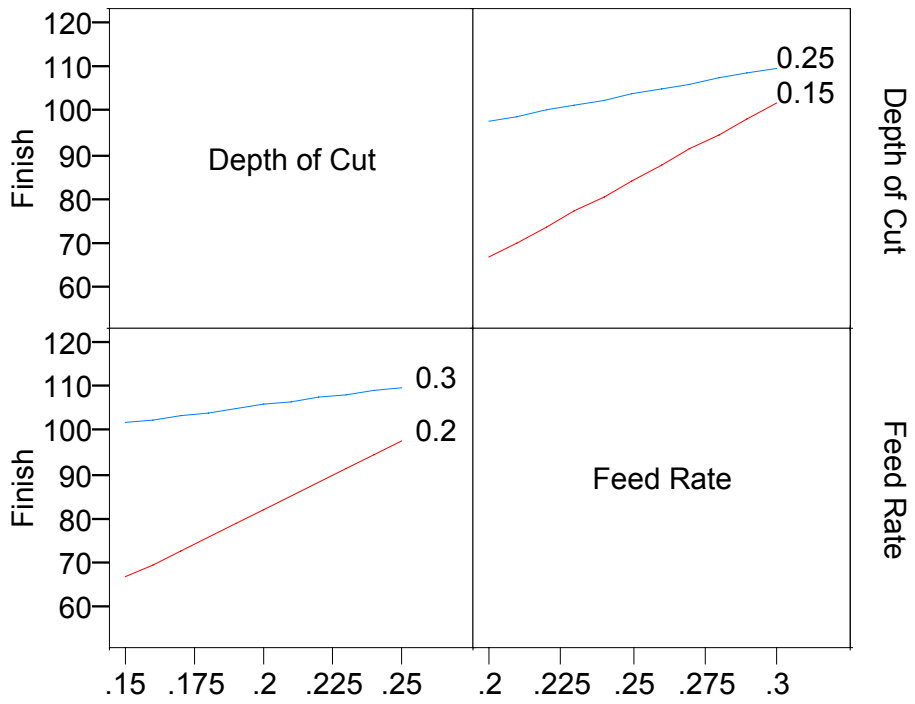
### Effect Tests

| Source | Nparm | DF | Sum of Squares | F Ratio | Prob > F |
|---|---|---|---|---|---|
| Depth of Cut | 1 | 1 | 1140.7500 | 69.4873 | 0.0002 |
| Feed Rate | 1 | 1 | 1656.7500 | 100.9188 | <.0001 |
| Depth of Cut*Feed Rate | 1 | 1 | 396.7500 | 24.1675 | 0.0027 |
| Bar | 2 | 2 | 253.5000 | 7.7208 | 0.0219 |

### Prediction Profiler



## Interaction Profiles




## Response Finish - Full Factorial in XD and XF, Bar as Block

### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Ratio |
|---|---|---|---|---|
| Model | 5 | 3447.7500 | 689.550 | 42.0030 |
| Error | 6 | 98.5000 | 16.417 | Prob > F |
| C. Total | 11 | 3546.2500 | | 0.0001 |

### Parameter Estimates

| Term | Estimate | Std Error | t Ratio | Prob>\|t\| |
|---|---|---|---|---|
| Intercept | 94.25 | 1.169639 | 80.58 | <.0001 |
| Xdepth | 9.75 | 1.169639 | 8.34 | 0.0002 |
| Xfeed | 11.75 | 1.169639 | 10.05 | <.0001 |
| XDepth*Xfeed | -5.75 | 1.169639 | -4.92 | 0.0027 |
| Bar[1] | -5.5 | 1.654119 | -3.33 | 0.0159 |
| Bar[2] | 5.75 | 1.654119 | 3.48 | 0.0132 |

### Effect Tests

| Source | Nparm | DF | Sum of Squares | F Ratio | Prob > F |
|---|---|---|---|---|---|
| XDepth | 1 | 1 | 1140.7500 | 69.4873 | 0.0002 |
| XFeed | 1 | 1 | 1656.7500 | 100.9188 | <.0001 |
| XDepth*XFeed | 1 | 1 | 396.7500 | 24.1675 | 0.0027 |
| Bar | 2 | 2 | 253.5000 | 7.7208 | 0.0219 |