

List of Figures

Figure 1.1 Machining Center Layout	15
Figure 1.2 Typical Part Process Flow	16
Figure 1.3 Current Work Breakdown by Customer in the Machining Center as Percentages of Factory Direct Labor Hours.....	17
Figure 1.4 Boeing Defense and Space Business Process Flow	19
Figure 2.1 The Product-Process Matrix	27
Figure 2.2 Effect of Repeating the PDCA and CAPD Cycles	33
Figure 2.3 Cell Design and Implementation Process.....	34
Figure 3.1 Part Family definition process in the Machining Center	49
Figure 3.2 Primary Routing Sequences of Candidate Cell Part Family	52
Figure 3.3 Cell Process.....	52
Figure 4.1 Cell Layout.....	61
Figure 4.2 Average Variance to Standard for all Cell Machines for First Quarter of Operation..	66

List of Tables

Table 1.1 Boeing Defense and Space Manufacturing Initiatives.....	13
Table 1.2 Standard and Puget Sound Flow Times for a Fictitious Part	22
Table 2.1 The PDCA and CAPD Cycles	32
Table 3.1 Current Situation at Shop using a Sample of Commercial Parts	39
Table 3.2 Current Situation at Shop through its Own Metrics	39
Table 3.3 Suggested Part Data for Cell Design Database	44
Table 3.4 Work Type Code Field Specifications	48
Table 3.5 Result of Part Family Definition First Iteration	51
Table 3.6 Initial Required Capacity and Machine Availability Calculations	54
Table 3.7 Final Cell Capacity Calculations and Allocated Resources	55

