

# Milestone #1

## Initialization and Project Start-Up

Objective: Get Implementation project started! Establish a strategic vision for the company, select and train teams, document an action plan, empower teams and identify goals, begin to collect required information for line design and kanban.

### Steering Committee Tasks

1. Articulate Strategic Vision
2. Complete Executive Overview
3. Document Master Plan
4. Identify Team Members and Establish Teams
5. Complete Materials and Process Team Training
6. Confirm Target Line Design Area

### Material Team Tasks

7. Begin Product Identification for the Target Area
8. Identify Volume Required for Target Area
9. Begin Selection of Kanban Candidate Part Numbers

### Process Team Tasks

10. Establish Working Minutes per Day
11. Begin Creation of Process Flow Diagrams
12. Begin Writing Sequence of Events and Process Times

# Milestone #2

## Understanding Products, Processes, and Materials

Objective: Document all manufacturing processes, identify process throughput including options, rework and scrap, define product families by process, document consumption and replenishment points for kanban parts, establish pull chains and replenishment times and identify one time use kanbans parts.

### Steering Committee Tasks

1. Follow up Team Training
2. Review & Update Master Plan
3. Achieve Consensus for Products in Target Area

### Material Team Tasks

4. Complete 1st Iteration of Demand Volume for Products
5. Identify Parts for Kanban System
6. Develop Kanban Pull Chains
7. Calculate Cost of Kanban Replenishment Strategy

### Process Team Tasks

8. Complete Process Flow Diagrams
9. Quantify and Document Process Throughput Variables
10. Create Mixed-Product Process Flow Diagram
11. Review SOE's and Process Times
12. Generate First Iteration of Resource Requirements

# **Milestone #3**

## **Final Check**

Objective: Complete all information collection activities. Achieve consensus and steering committee sign-off for products, demands, and effective minutes per day identified for the target area. Complete SOE tasks, process times, and throughput variables. Make final selections of parts for the kanban system, and the pull sequences for target area. Complete all resource calculations for final line layout.

### **Steering Committee Tasks**

1. Follow-up Team Training
2. Review & Update Master Plan
3. Approve Products for Target Area
4. Approve Product Demand for Target Area
5. Approve Mixed Product Flow Diagram

### **Material Team Tasks**

6. Complete Selection of Parts for Kanban System
7. Develop Replenishment Strategy for One-Time Use Parts
8. Determine Final Cost of Kanban Replenishment Strategy

### **Process Team Tasks**

9. Complete SOE, Quality Criteria and Process Times
10. Populate the Final Resource Process Map
11. Complete All Resource Calculations

# Milestone #4

## Factory Design

Objective: Create facsimile Lean manufacturing factory layout using calculated resources for the resources identified on the process flow diagram. Identify and locate IPK and RIP locations. Develop Kanban system rollout plan. Identify requirements for operator training and develop a facility plan and a Lean line start-up strategy.

### Steering Committee Tasks

1. Review Organizational Training Requirements
2. Final Approval of Paper Line Layout
3. Final Approval of Kanban Replenishment Cost Strategy
4. Review and Update Master Plan

### Material Team Tasks

5. Finalize Kanban System Cost Strategy for Line Start-up
6. Develop Kanban System Installation Plan
7. Establish RIP Locations on the Final Line Layout
8. Establish Sequencing Points for the Location of One Time Use Parts
9. Identify Material Handler Training Requirements

### Process Team Tasks

10. Complete Process Map Resource Calculations
11. Create Paper Line Layout Following the Mixed Product PFD
12. Locate IPK's and Sequencing Points for Custom Product Configurations
13. Identify Operator Training Requirements
14. Develop Facility Plan for Line Start-up

# Milestone # 5

## Line Start-up

Objective: Start Line up. Test for balance to TAKT time and flexing of operators. Validate workstation tasks and check for ergonomic layout. Confirm all IPK's are clear and visible to operators. Exercise the two-bin material kanban system. Assure all training has been completed. Develop WIP reduction "bleed-down" plan. Check to assure a Continuous Process Improvement mechanism has been established.

### Steering Committee Tasks

1. Assure Operator Training is Completed Prior to Line Start-up
2. Master Plan Review & Update
3. Initiate and Monitor New Performance Measurements
4. Document Follow-up Items and Assign Responsibility for Completion
5. Final Approval of Lean Line Start-up Operation

### Material Team Tasks

6. Assure Principals of 5S are in Place
7. Validate Kanban Materials Presentation for Ease of Use
8. Exercise Two-Bin Material Kanban System

### Process Team Tasks

9. Validate Workstation Layout for Balance to TAKT
10. Confirm IPK Placement at Each Workstation
11. Assure Principals of 5S are in Place
12. Exercise the Lean Line at Full and Reduced Capacities
13. Test for Operator Flex Knowledge
14. Check for Operator Skills at Three Workstations
15. Install and Monitor Employee Qualification Board
16. Begin Continuous Process Improvement Activities

# Milestone # 6

## Internalize

Objective: Review Line performance and assess compliance to Lean methodologies. Identify variations and develop correction strategies. Review organizational responsibilities and modify policy and procedures to facilitate Lean line operation. Assure all systems to operate Lean line and kanban system are in place.

### Manufacturing Management Tasks

1. Observe Line for Balance to Takt and Operator Flexing
2. Validate New Line Performance Measurements
3. Document and Compare Lean Line Improvements to SBA Baseline
4. Master Plan Review & Finalize
5. Finalize Operator Training Program
6. Develop New Employee Orientation Training Program
7. Validate Daily Resource Planning and Sequencing Plans
8. Validate Employee Qualification Board
9. Audit Kanban System
10. Validate Adherence to 5S Principles
11. Validate Continuous Improvement Program
12. Demand Planner Identified and Procedures Documented
13. Kanban Manager Identified and Procedures Documented