Deploying the Complete Lean Daily Management System

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Deploying the Complete Lean Daily Management System

CONTENTS

• Lean Daily Management System
• Employee Improvement System
• Change Management
• Leader Development
• Coaching Strategies
• Business Results
Site Overview

- 285 Employees
- $70 MM operating budget
- 700K units per year
- 3,010 SKU’s
Site Overview

- Machining
- Chemical Finishing
- Assembly
- Laser Etching
- Packaging & Labeling
Product Overview
Operational Excellence Strategy

Quality

Velocity

Efficiency
Theory ➔ Practice ➔ Results
Lean Daily Management System

A visual daily performance management system is:

- **Visual**
- **Timely**
- **Drives Action & Learning**
Guiding Principles for Success

Chairman Fujio Cho

Three Keys to Leadership

• Go See
  - “Sr. Mgmt. Must spend time on the front lines.”

• Ask Why
  - “Use the “Why” technique daily.”

• Show Respect
  - “Respect your people.”
Critical Success Factors

Attributes of Visual Management Tools

- Provides “understanding at a glance”
- Emphasize graphics rather than numbers and words
- Clear information actionable at the point of communication
- Maintained by those carrying out the work
- Those performing the work are the first to detect abnormalities
- Linked to high level business metrics and objectives

Lean Enterprise Institute
Elements of a Lean Daily Management System

- Leader Standard Work
- Visual Controls
- Accountability & Discipline

RESULTS
- Safety
- Quality
- Delivery
- Cost

Stability
- Discipline
Visual Controls

Enterprise

Plant

Daily Performance Delivers Value and Achieves Business Goals

Business Unit (value stream)

Production Cell (work center)

High-level business objectives cascade down the organization
Visual Controls

Organization of a Mini-Company Meeting Area

Kiyoshi Suzuki

The New Shop Floor Management

EMPOWERING PEOPLE FOR CONTINUOUS IMPROVEMENT

Association for Manufacturing Excellence

Share • Learn • Grow
Visual Controls

Plant Level (Tier 3)

Department Level (Tier 2)

Cell Level (Tier 1)

People
Quality
Velocity
Efficiency
Visual Controls combined with disciplined Leader Standard Work

- People (P)
- Quality (Q)
- Velocity (V)
- Efficiency (E)

Plant Level (Tier 3)

Department Level (Tier 2)

Cell Level (Tier 1)
Leadership is Essential

"Leadership and management are two distinctive and complementary actions. Both are necessary for success … The real challenge is to combine strong leadership and strong management and use each to balance the other."

John Kotter, Author and Professor of Organizational Behavior, Harvard Business School

“more than 70 percent of failures are driven by unproductive management behavior and negative employee attitudes”

Keller & Price authors of Beyond Performance

"Soft leadership and culture boosts or blocks strategy, structure, and change initiatives”

Jim Clemmer, author of The Leader's Digest
## Manage Things and Lead People

<table>
<thead>
<tr>
<th>Management</th>
<th>Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes</td>
<td>People</td>
</tr>
<tr>
<td>Facts</td>
<td>Feelings</td>
</tr>
<tr>
<td>Head</td>
<td>Heart</td>
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<td>Position power</td>
<td>Persuasion power</td>
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<tr>
<td>Control</td>
<td>Commitment</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Possibility thinking</td>
</tr>
<tr>
<td>Doing things right</td>
<td>Doing the right things</td>
</tr>
<tr>
<td>Provide Answers</td>
<td>Questions to promote thinking</td>
</tr>
<tr>
<td>Light a fire Under</td>
<td>Stoke the fire within</td>
</tr>
</tbody>
</table>

*Jim Clemmer, author of "The Leader's Digest: Principles for Team and Organization Success"*
Complete Lean Management System

LEAN DAILY MANAGEMENT

LEADER
- Standard Work
- Visual Controls
- Accountability
- Discipline

ACCOUNTABILITY & DISCIPLINE

BELIEFS

BEHAVIORS

SAFETY
QUALITY
DELIVERY
COST

LEAN LEADERSHIP

MANAGEMENT
- Standard Work
- Visual Controls
- Accountability
- Discipline

LEADERSHIP
- Communication
- Trust
- Direction
- Coaching

BELIEFS → BEHAVIORS → ACTIONS

Share • Learn • Grow
Who was asked to Change?

- **Plant Manager** … morning meeting held on the shop-floor (not in his office)
- **Business Unit Managers** … Standard Mgt Work
- **Supervisors** … cell-by-cell daily performance reviews with operators
- **Operators** … update their own daily KPIs
- **Engineers** … engage operators in daily learning
Change Management was critical

Many Changes ...
... everywhere, all at once

- Synthes Global Mfg Policy
- Plant Glass Wall
  - Additional QVE metrics
  - Daily performance monitoring
  - Line of Site into BU KPI trends
- Cell Communications Board
  - Additional QVE Metrics
  - Daily performance monitoring
- Plant Mgr’s morning meeting
- BU Mgr / Supervisor’s morning routines …
- Operator role in KPI tracking
  (update of the cell KPI daily logs)
- Weekly afternoon Gemba Walks
  (BU/Dept weekly rotation schedule)
Change Management was critical

Many Changes:

everywhere, all at once
- Synthes Global Mfg Policy
- Plant Glass Wall
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Goal
Install an Effective Lean Daily Management System with a highly engaged and supported workforce

What
Daily Lean Management System

How (Level 1)
- Lean Leader understanding, behaviors & practice
- Glass Wall Visual Mgt Tools
  - “Go-See” ELM fieldtrip
  - Kick-off Leader Q&A Sessions
  - Plant-level Glass Wall Preview
  - Employee Q&A Sessions
  - Lean Leader Training
  - Lean Leader Coaching
  - Glass Wall Visual Mgt Tools
    - Plant-level Glass Wall
    - BU-level Glass Walls
    - Cell-level Glass Walls
“First week” Results

Machinists discuss rare scrap event, identify inconsistency in inspection standard work and triggers management awareness to a non-conformance quality problem.
Assembly operators find new communication techniques to “see” delayed components upstream in their value stream that prevent assembly production according to the daily build schedule.
The “soft stuff” is the hard work

Management
- Standard Work
- Visual Controls
- Accountability
- Discipline

Leadership
- Communication
- Trust
- Direction
- Coaching
Lean Leadership Development

Session #1
Lean Management

Session #2
Gemba Walk
Coaching

Session #3
Lean Leadership
Results from our LDMS Deployment

Contributions in the first 90 days

- Work Order lead time improved 20%
- 66% reduction of historical overtime costs
Visual Continuous Improvement Process

Theory ➔ Practice ➔ Results
Employee Engagement is Good for Business

Top ¼ Over the Bottom ¼

Increases:
- 12%: Customer Loyalty
- 16%: Profitability
- 18%: Productivity
- 49%: Safety Incidents
- 37%: Absenteeism
- 60%: Defect Elimination
“Everyone has 3 Jobs”

People in Teams Drive Performance
Let Employees Drive Innovation

Visual Improvement Idea Management
(by the employees for the employees)

Why Do Employees Step Forward with Ideas?
- They trust that they will be listened to and supported with implementation;
- They want to eliminate impractical things that they have to do;
- To make their jobs easier and more interesting;
- There is nothing more frustrating than watching money being wasted.

Figure 1: Visual Management Idea Board

Proposal

In Progress

Complete

7 Day Turnaround Time
Our Employees Driving Innovation

Generate Ideas → Idea Accepted → Operator WIP → Operator Complete → Engineer WIP → Engineer Complete

The “OFI” Form

OFI OPPORTUNITY FOR IMPROVEMENT
Name: ___________________ Date: ___________________
Product Family: ______________ Part Number: ______________
Part Name: ______________ Process / Machine Number: ______________

Idea Category (circle):
- Safety (SA)
- Scrap / Rejection reduction (QA)
- Setup Time (ST)
- Cycle Time (CT)
- Machine Utilization (ME)
- Other (OT)

Current Situation:

Recommended Solution:

Implemented Solution and Savings:

Accepted for Project List: YES ______ NO ______
Date reviewed: _____________ OFI assigned to: _____________
Evaluator: _____________ Completion Date: _____________

© 2006-2007/Engineer/1015/OFI Form - revised 4-15-07.doc

The “OFI System”

... our Kaizen Promotion Office
Brandywine Scrap and Rework
Plant Overall Percent - Last 13 Months

Impact on Quality
# Long-Term Performance Trends

<table>
<thead>
<tr>
<th></th>
<th>LDMS YR -1</th>
<th>LDMS YR 0</th>
<th>LDMS YR +1</th>
<th>LDMS YR +2</th>
<th>% Improved</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Pass Acceptance Rate (%)</td>
<td>97.5%</td>
<td>98.5%</td>
<td>99.2%</td>
<td>99.2%</td>
<td></td>
</tr>
<tr>
<td>Non-Conformance Rate (%)</td>
<td>2.5%</td>
<td>1.5%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>68%</td>
</tr>
<tr>
<td>Scrap &amp; Rework %</td>
<td>2.1%</td>
<td>1.9%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>52%</td>
</tr>
<tr>
<td>Velocity (days)</td>
<td>5.9</td>
<td>4.0</td>
<td>3.3</td>
<td>3.5</td>
<td>41%</td>
</tr>
<tr>
<td>WIP Turns (component inventory)</td>
<td>8</td>
<td>26</td>
<td>31</td>
<td>23</td>
<td>188%</td>
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</tbody>
</table>
Daily Communications for Great Performance and Continuous Improvement
Thank You!

Please complete the session survey at:
www.ame.org/survey

Session: WP30
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