



Lean Practitioner Certification – Sample Project

Project Introduction:

Date: June 14, 20XX

Company Name: Core-Heat Technologies, Inc.

Applicant: Art Sneen, Manufacturing Cell Lead

The Project Name: Meeting Customer Demand

The Team:

Bill Kerney – Manufacturing Engineering Manager

Dick Fettig – Production

Joey Lloyd – Production

Mark Mason – Department Lead

Tony Moline – Set-up mechanic

Susan Schifke – Production

The Company Description:

Core-Heat Technologies, Inc., is an Anoka-based company of 110 employees with about \$10 million in annual revenues. For over 55 years, the company has designed, manufactured, and marketed these products to world-wide customers involved in off-highway and marine markets. Core-Heat began to adopt Lean Manufacturing techniques in January of 20XX.

Approvals:

Manager: Brian Martin 6-7-20XX

Name: Brian Martin, VP Operations

Peer: Larry Fong 6-9-20XX

Name: Larry Fong, Mfg. Engineering Mgr

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Problem Statement:

From 8-1-20XX to 2-1-20XX our On Time Delivery has dropped from 95% to 85%. We have received notice from ABC Marine, our top customer, that if we are not able to meet their requirements of at least 95% On Time Delivery, they will need to consider switching to another supplier. ABC Marine makes up 25% of our annual revenue.

Timeline:

Action	Due	Owner
Identify team members	2-11	Art Sneen
Team training and initial RCA session	2-18	Art Sneen
Solution approach brainstorming session w/affinity buckets	2-27	Art Sneen
5S metric documentation	3-1	Susan Schifke
5S training	3-5	Art Sneen
5S Kaizen events	3-26	Art Sneen
Action Plan review and 5S audit	4-22	Dick Fettig
Action item adjustment and 5S audit	5-27	Joey Lloyd
Review of sustainment and results (metrics)	6-2	Art Sneen
Submit project to MA	6-14	Art Sneen

Current State: Waste opportunities have been identified and measurements of current state relevant to our OTD opportunities are Baseline OTD of 85%, pre-project 5S score of 35%, die-change avg of 21/week, lead time of 10 days

Goals:

The goals we plan to achieve: (Goal needs to be measurable, add extra boxes if you have multiple goals)

Goal	Current
Goal 1: OTD of 95%	85% OTD
Goal 2: 5S score of 80%	35%
Goal 3: 29 die-changes/week	21 die-changes/week
Goal 4: 5 Day lead time	10 day lead time

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Major Project Activities and Challenges:

A. Planning

I received approval for the project at the end of January and spent some time determining who the participants should be, in consultation with the department supervisor. Brian and I then met with the team and we explained Lean Manufacturing, why the area had been chosen, what the goals and timing were, and answered questions.

B. Training

The project team received three days of training in mid-February (from Lean Machine Training, Inc.) on 5S, Visual Management (VM) tools, and Kaizen techniques. This included a Kaizen event, led by Lean Machine, on Press #3, to provide hands-on experience in using the 5S methodology, implementing VM tools, and the Kaizen method. After the initial training, I became the in-house Lean trainer for subsequent training sessions. I also held awareness-level training sessions for the balance of the sheet metal area and included the warehouse people.

C. Project Details

Typical for each phase (or Press Kaizen event) the following tools were used:

- 5S implementation
 - Sort, Set-in-order, and Shine – completely implemented.
 - Standardize – preliminary standards created on dry-erase clip-boards with photos
- Visual Management:
 - Color-coded die-setting component storage areas
 - Shadow-boards attached to standardize die-setters carts, with color coded floor tape for cart storage areas
 - Color coded floor areas marked for empty bins, RM, WIP, FG, and scrap/QA hold parts.
 - Dry-erase/magnetic Press area board containing relevant Press area data
 - Press-specific performance metrics – completed and stored at each press – set-up start/stop times, order details, scrap, and OEE data. (see Figures 1, 2 & 3)

After the initial Lean Machine-led Kaizen, the team was anxious to complete the rest of the presses and the entire department. By the end of March, we had completed another three Kaizen events on the rest of the presses and completed a 5S on the entire department. We ended up including all other department employees in at least one 5S activity, even though





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the team had primary responsibility for completing the project. We changed the first-piece inspection procedure; the die-setters and press operators were trained to perform the first-piece inspections and record their data. The run could then begin. QA still has to sign off on the first part, and a last part. However, it saves set-up time and we’ve had no bad runs. We 5S’d the die storage area and “red tagged” 35 of our 178 dies. We also placed in “temporary” storage another 12 dies that we weren’t sure about. (Their red tags are dated Oct 31 – if we haven’t used them by then, they get scrapped). We re-numbered and permanently marked all remaining dies and stored them in permanent rack locations. Because of the reduced number of dies, we took out 2 rack bays, and moved heavy-duty racks in their place to store coil stock (RM) inside the press area, rather than in the warehouse. We designed and installed Communication Boards – 4’x8’ dry-erase boards that display daily Press area data. All relevant data is posted - quality, delivery, scrap, and productivity metrics, employee roster/photo, current and planned customer orders, color-coded drop boxes for warehouse personnel, current action plans resulting from Kaizen events.

Tools from Workshops used

- 5S
- Visual Management
- Kaizen
- 5S Audit
- Set up reduction
- Brainstorming and prioritizing

Results & Final Conditions:

Goal	Current	After	Results
Goal 1: OTD of 95%	85% OTD	96% OTD	12% Improvement 
Goal 2: 5S score of 80%	35%	79%	125% Improvement 
Goal 3: 29 die-changes/week	21 die-changes/week	29 die-changes/week	38% Improvement 
Goal 4: 5 Day lead time	10 day lead time	5 day lead time	50% Improvement 

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Sustainment

The 5S audits will continue, though the frequency will be reviewed.

The Press area Communication Board is being maintained daily by the Press area personnel, the Supervisor, and Scheduling.

Weekly “Gemba Walks” by the VP of Operations will address any concerns on the spot.

Conclusions/Lessons Learned

The first project was a success, with a reasonably short timeline and nearly every goal met.

Recommendations for improvements would include:

- Doing a better job of recording initial conditions and data. In some cases, we didn’t measure some critical things at all. Improvements were hard to quantify at first. Example: total die maintenance hours are much lower. We had no initial data, however.
- Spending more time with other employees affected by the changes. We would have had more support if we’d updated the other stakeholders more frequently.
- Be prepared to try things out and discard them quickly if they don’t work; we clung to some initial ideas too long, even when it was clear they weren’t working that well.

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Appendices:

Figure 1 – Die-setting Productivity (set-ups/week)

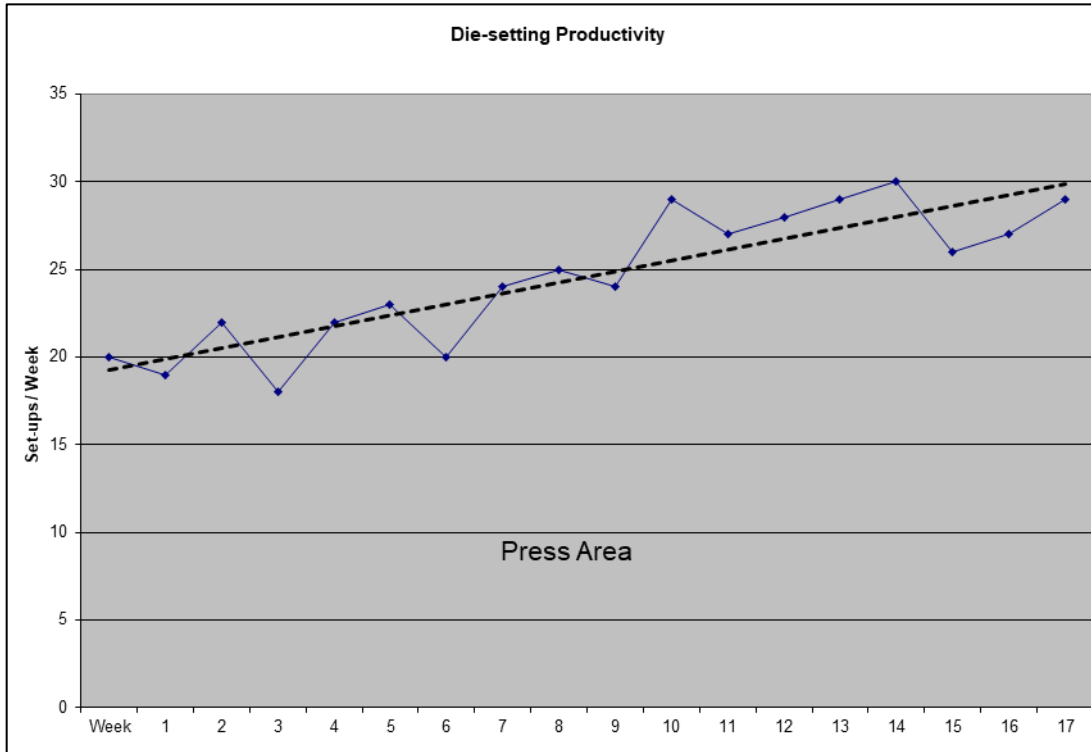
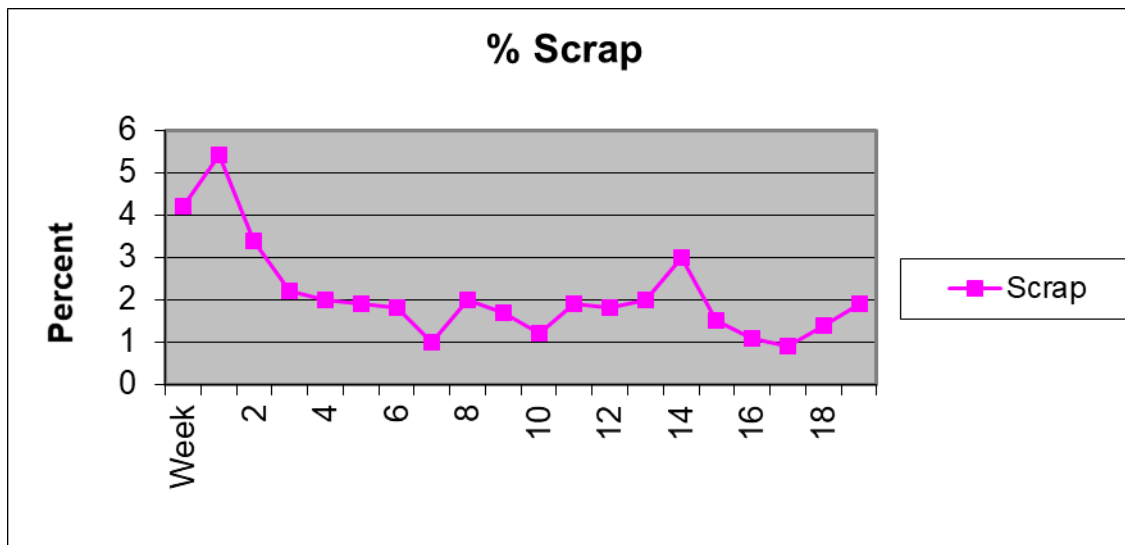
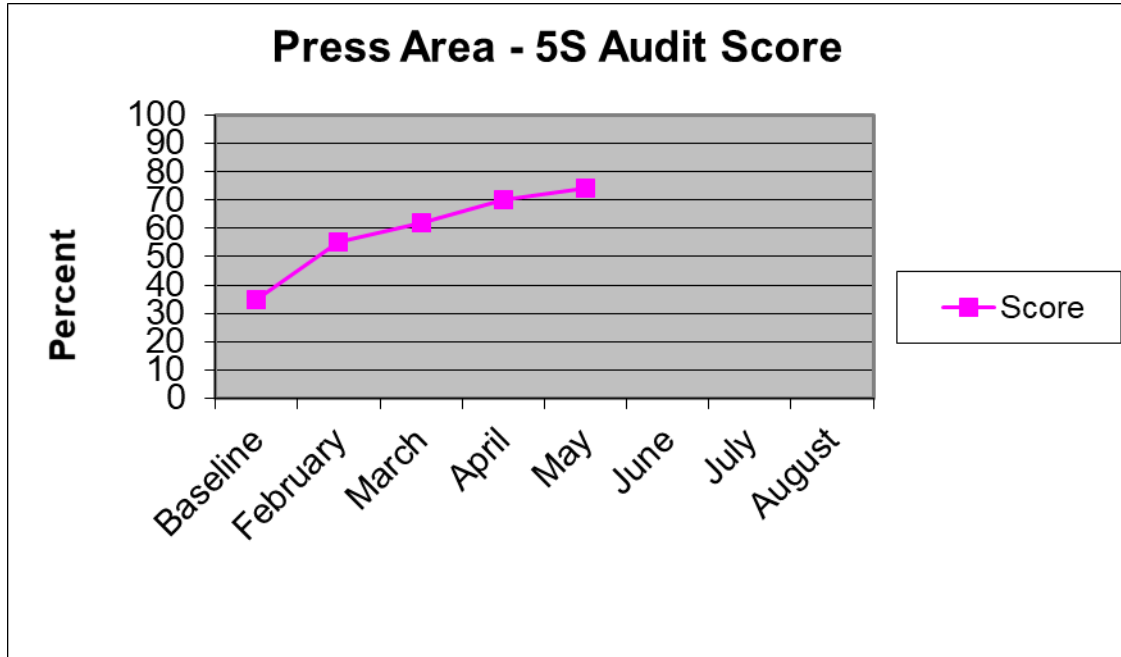


Figure 2 – Scrap Improvement



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Figure 3 – Press area – 5S audit scores



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