

Lean Practitioner Project Example – Names Removed for Confidentiality

Problem Statement:

Currently it takes about 18.5 hours/month and costs about \$1200 in labor/month. When making a manual for the 1800RBH, the current process for making manuals has allowed for 6 out of 10 manuals to have incorrect drawings. I would like to eliminate the errors caused by incorrect drawings and to improve the number of hours for making manuals by 8 hours per month. This should improve the quality of the manuals and reduce cost to better serve the customer and improve our margins on machines. The goal would be to accomplish this by 12/31/18.

Timeline:

Map Process	11/30/2018
Manual Program	12/7/2018
Work Instructions	12/7/2018

Lean Tools Used

- 5s
- 5s Audit
- Visual Management
- Mistake Proofing

Current State:

Currently we make custom manuals for each customer, so this means that we use a standard operations manual and then add drawings for each of the options that are unique to the customer. We print off the manual and assemble it into a manual. Next, we make digital copies in the customer service file and burn those to a CD. The problem that we have with this method is that not all of the assemblies are listed in Epicor so quite frequently we then have to go through each drawing and look for assemblies which takes a large amount of time and is prone to quality issues. The process that is currently used is not intuitive enough or easy enough to grasp for a new person to take over the responsibilities if necessary. It would take months of training because there are too many machine specific rules for gathering the correct drawings.

Goals:

The goals we planned to achieve included: (bulleted list or goal to result chart example below)

Goal	Current	After	Results
Reduce labor Hours Searching for Parts. <u>Attain 75% Labor Reduction.</u>	We Spend 4 HR a day Looking for parts/shortages. 4 HR		
Reduce the Amount of Double Issued Parts. <u>Attain a 70% Improvement</u>	10 Parts Per Machine is Double Issued. 10 Parts Per Machine		

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Major Project Activities and Challenges:

A. Planning

- We received approval for the project at the beginning of November. We spent a lot of time choosing and defining what specific way we could impact the issues that we were having with the amount of time we spent looking for parts and the significant amount of parts that were getting double issued.

B. Training

- All the members of the project team completed or are in the process of completing the Lean Practitioner Certification course.

C. Project Details

- 5S Implementation
 - ◆ Sort, Set in Order, and Shine- Fully implemented in the FFS staging area and Scales/Conveyors staging area.
 - ◆ Standardize- Implemented through the Picking and Staging Process.
 - ◆ Sustain- Added a line on the 5S Activity Chart and the 5S Audit sheet.
- Visual Management, Mistake Proofing
 - ◆ Taped out part staging areas and shortage areas in each department (FFS and Scale/Conveyors).
 - ◆ Color coded the taped areas for each department and painted carts for each department to match the staging areas.
 - ◆ All carts and pallets are tagged with the job number and the different assemblies on the cart are tagged with the job and assembly numbers.
 - ◆ All shortage parts are now tagged with the job number, assembly number, part number, and placed in the shortage area.

After we set up the original staging area in the FFS department we got immediate interest in making a staging area for the Sales/Conveyors department. The team then designed a picking and staging process for FFS, Scales/Conveyors and the Robot department. (Creating a staging area for the Robot department will be a future project due to the lack of space and because of the robot cell layout always changing with new systems.)

The team finalized the picking and staging process to meet the needs of each department according to the input from the leads and assemblers in each department. We then trained the warehouse department to the new process and fielded questions. The warehouse had some good feedback that will now be used to enhance the picking and staging process.

The team improved on the visual management aspect of the staging area and the picking and staging process by coming up with the idea of painting carts. Each department had carts painted to match a staging area color. This will help the warehouse personnel place the cart in the correct area and this will also let production know if another departments cart ended up in their area.

We added a staging area for the shortage parts in each part staging area. Steps were added to the picking and staging process to reflect the tagging and staging of shortage parts. The shortage parts will now be labeled with the part number, job number and will be placed in the designated shortage areas.

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Results & Final Conditions:

Goal	Current	After	Results
<p>Reduce labor Hours Searching for Parts.</p> <p><u>Attain 75% Labor Reduction.</u></p>	<p>We Spend 4 HR a day Looking for parts/shortages.</p> <p><u>4 HR</u></p>	<p>We reduced labor hours searching for parts to 0.5 HR a day.</p> <p><u>Attained 87% labor reduction</u></p>	<p>Improved labor hours spent looking for parts by 3.5 HR</p> <p><u>Improved 87%</u></p>
<p>Reduce the Amount of Double Issued Parts.</p> <p><u>Attain a 70% Improvement</u></p>	<p>10 Parts Per Machine is Double Issued.</p> <p><u>10 Parts Per Machine</u></p>	<p>1 Part per machine is being double issued</p> <p><u>Attained a 90% Improvement</u></p>	<p>Improved double issuing by 9 parts per machine</p> <p><u>Improved 90%</u></p>

Sustainment

Production and the Warehouse will share ownership of the picking and staging process to make sure that future improvements do not inadvertently cause issues for either the warehouse or production.

The staging area and carts were added to the existing 5S activity and 5S audit sheet, so it will be audited on a daily basis.

The double issuing of parts due to not being able to find where the parts were placed should be eliminated by having a designated shortage area and having all carts being staged in the correct staging area.

Conclusions/Lessons Learned

The first project was a success. We were able to complete everything in a short amount of time with favorable results. The improvements that we identified are as follows:

- We would include more people outside of the process. We would do this because at times we suffered from tunnel vision and it was not until someone from a different area came over and made a suggestion did we realize that we were doing so.
- We would make more time for training the warehouse and have them work closely with the leads and assemblers instead of just creating a process for them to follow. We needed to provide more examples of how to stage the assemblies on the carts.
- We would increase the amount of data points that we could pull from so it would be easier to identify what other areas were causing double issuing.

Next steps would include:

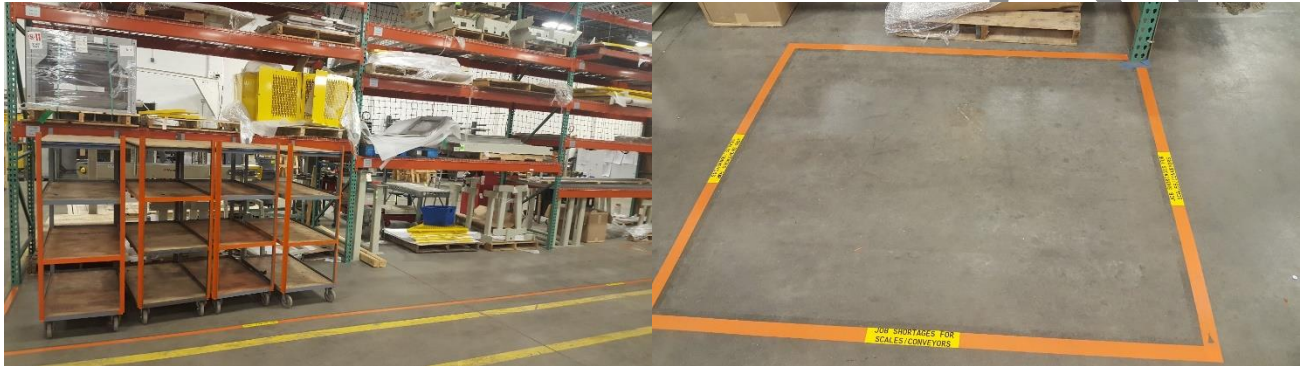
- Finding a flexible solution for staging of parts for the Robot department.
- Create a more effective feedback loop from production to the warehouse and vice versa.

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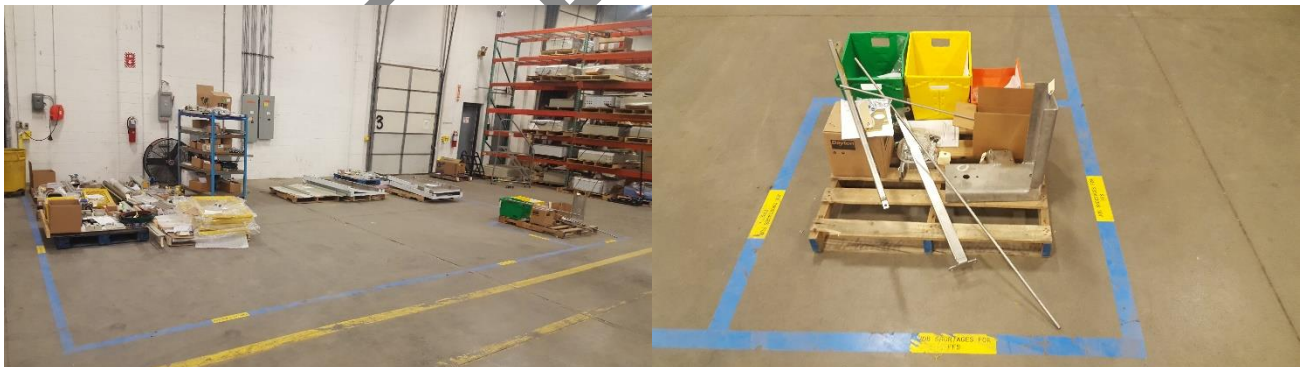
- Utilize kaizen events to further drive visual management ideas that pertain to part staging
- Work with the warehouse to tackle double issued parts caused by multiple people picking shortages off of non-updated shortage lists.

Appendices

Scales/Conveyors Staging Area and Shortage Area

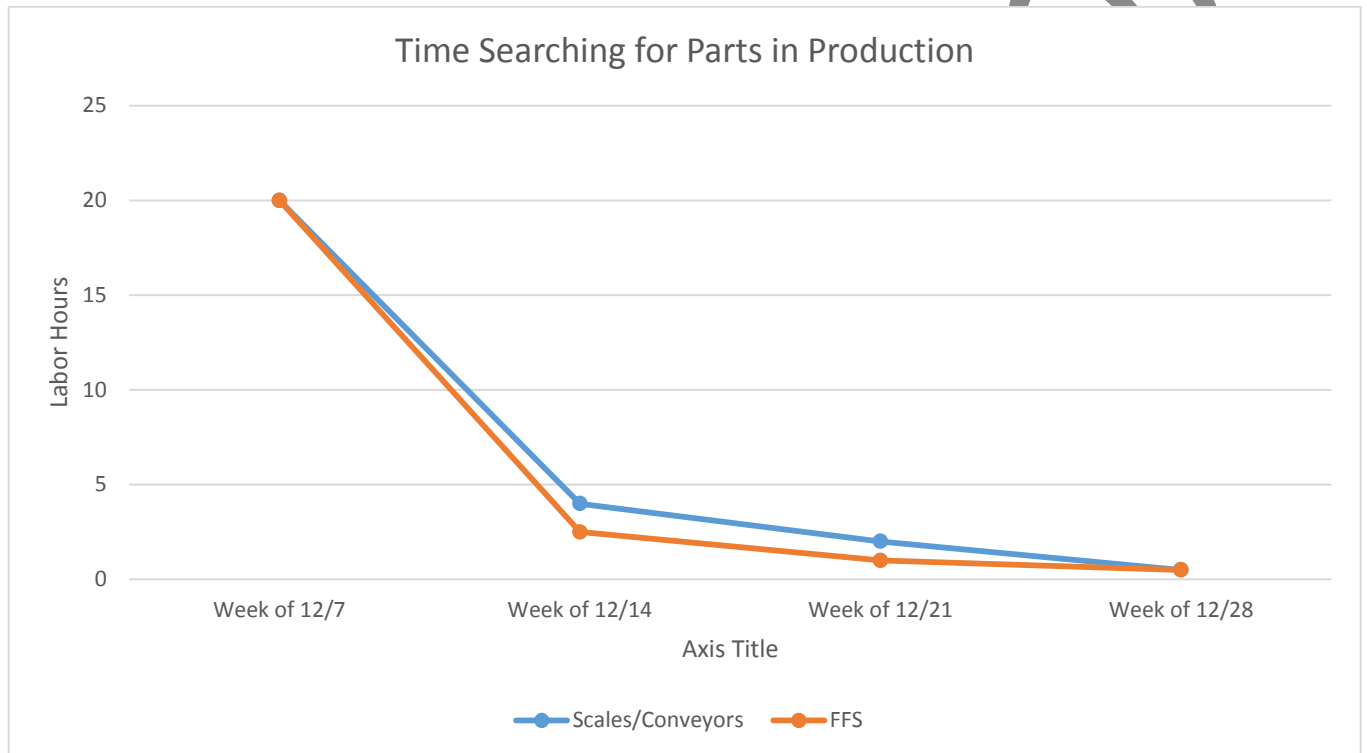


FFS Staging Area and Shortage Area



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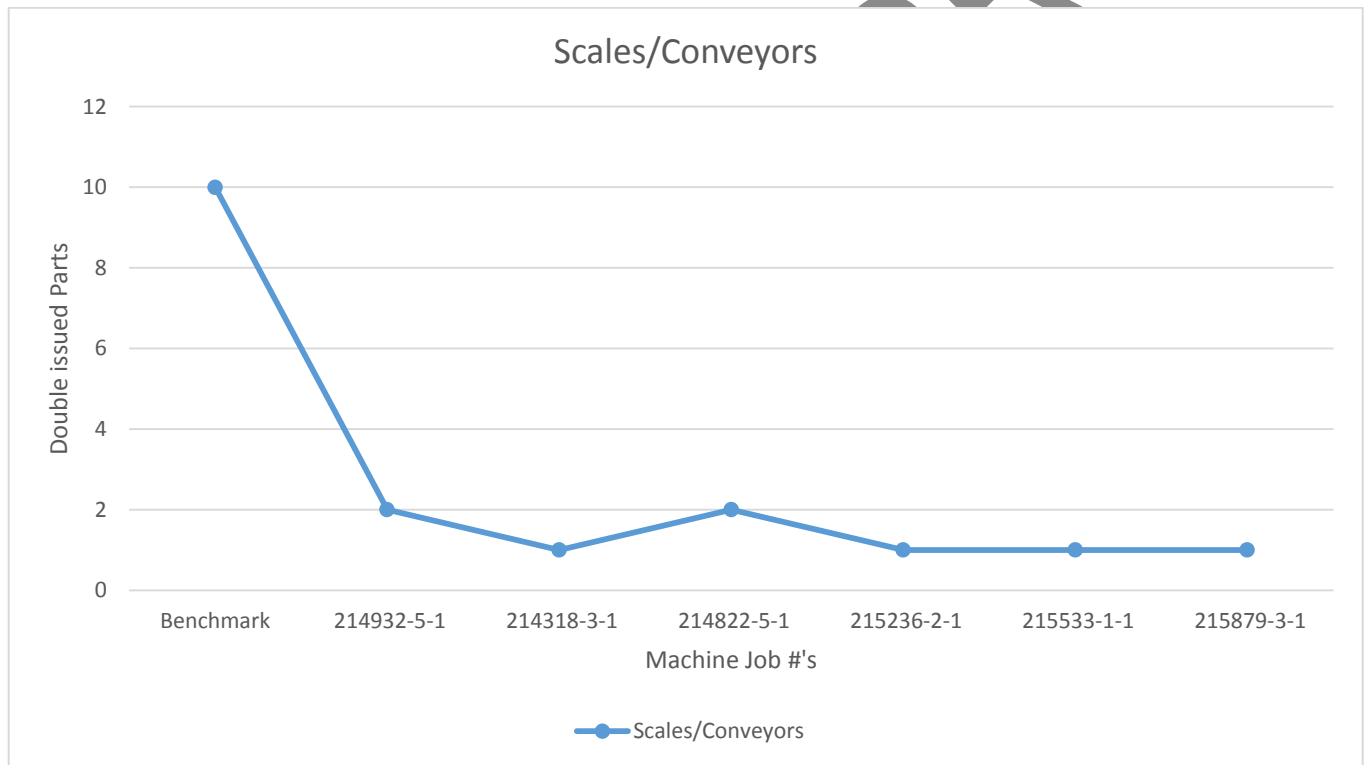
Time Searching for Parts Graph



EXAMPLE

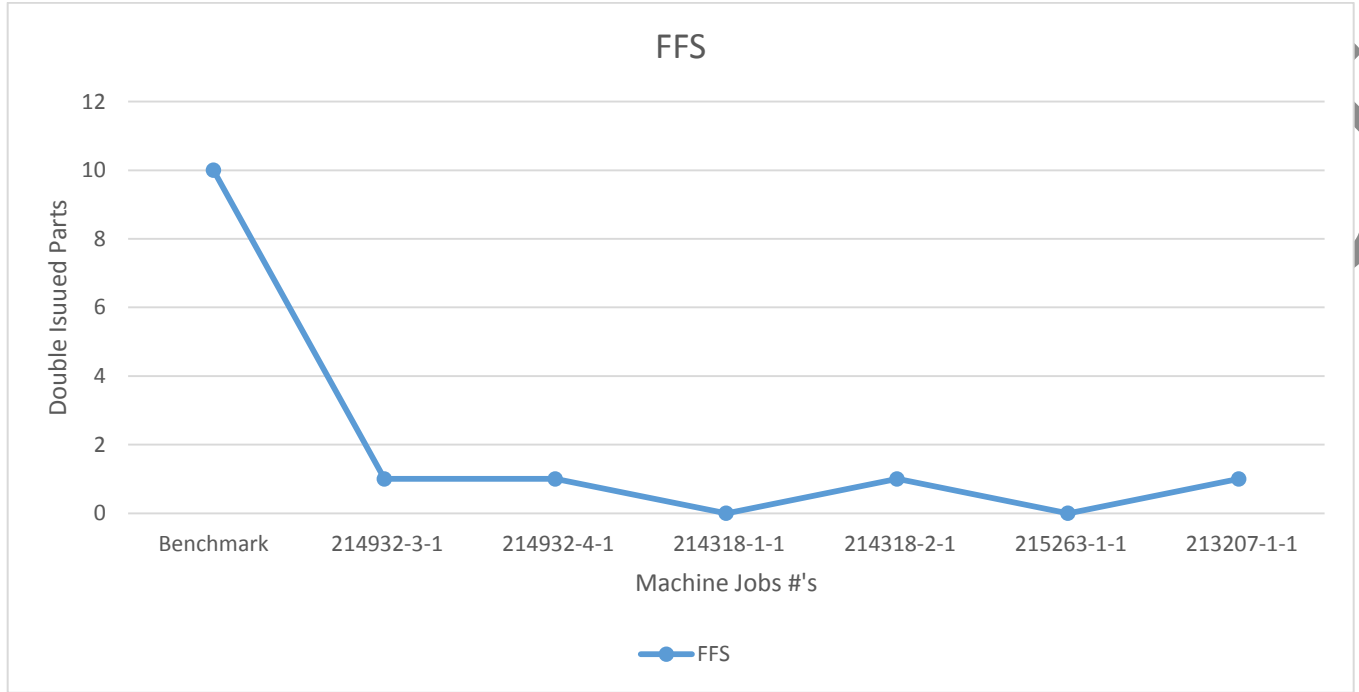
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Double Issued Parts Graphs



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