

A METHOD TO ORGANIZE THE STAMPING AREA IN A MANUFACTURING
COMPANY WITH LEAN SYSTEM

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Presented to

the Faculty of the College of Business and Technology

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

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Accepted by the faculty of the College of Business and Technology, Morehead State University,
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A METHOD TO ORGANIZE THE STAMPING AREA IN A MANUFACTURING COMPANY WITH LEAN SYSTEM

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This research has studied about applying Lean system methods on the stamping area in a manufacturing company. Stamping area at this company is where that production dies are kept and used to produce automobile parts.

The way that the dies were kept was unacceptable and caused much wasting of time. As part of research, author changed the situation of storing the dies and applied 5S method to reduce the time of finding and moving the dies to start the production process faster.

The results of this research show that the company had been successful to reach the goal of “Single Minutes Exchange of Dies”. Also, the collected data about production show that the company has about 11.13 percent increase in its production through stamping area after applying the changes.

Accepted by:

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Chapter 1: Introduction

The purpose of this research is to utilize a Lean Six Sigma approach for improving the production quality and quantity of the stamping area of a manufacturing company.

Background: The stamping area of the company has eight press machines to produce automobile parts. Producing each part needs to have a specific die to be assembled on a press. The number of different kind of parts, which are produced by one press every day, is different. Then, if a die is not used to producing its parts, basically it has to be in two other different locations. If there is a problem in production through a die, the die will be moved to the tooling room in order to investigate the problem and resolve it. Otherwise, if there is no problem and die is not in production line, then it has to be relocated to die storage section.

Project Rationale: The current situation of dies is not organized and it is hard to say where each die can be found in the floor. It seems necessary to have a database for information of each die location for every moment. The main purpose is to reduce wasted time to find, move, repair, assemble, and finally use the needed die to produce a specific part.

In addition to have the information of dies' places, it is necessary to pay attention to how they have been placed in each area, especially in the storage section.

The storage section of stamping area of this company is not managed and number of dies could be found left on the floor, because they have not been arranged to have a specific place on the shelf. This situation makes fork-lift drivers to spend more time to find a needed die and move it to another location.

Moving other dies to find a die behind them could damage the dies, and also they may be hit by moving or static objects such as fork-lifts.

Because there is enough room in the storage section, number of labeled shelves could be prepared to place the dies (each die in a shelf belongs to it).

As it was mentioned before, the company uses each press machine producing not just one kind of part, but several kinds of parts – possibly – every day. Then, it seems to be beneficial to have a table near each press to put next scheduled die on it to replace it in the press quickly when the die needs to be replaced.

This method even can help the production when a problem is found and a die needs to be moved to tooling room to be repaired. In this situation, the die that has been already in the press will be replaced with the reserve die (next die that has been placed on the table).

The result of this system hopefully would be reducing the holding time for every press.

Objectives: The objectives of this project are listed below:

- 1- To collect information about each die, including location and situation of the dies (ready to use, needs to repair).
- 2- Collecting the production data for each press machine individually, including needed die assembling time, number of parts that are produced by a press, number of scraped parts, and length of holding time of a press.
- 3- Analyzing and interpreting the production data for every press to recognize which groups of data need to be improved.
- 4- Improve the production quality and quantity for every press and ensure if the project has been profitable.

Chapter 2: Literature Review

Essentially, lean is a systematic method in order to eliminate waste (“Muri”), unnecessary production cost and reduce cycle time in manufacturing system. Based on the Japanese style of production, mainly Toyota Production System (TPS) in the 1980’s, a research group at Massachusetts Institute of Technology (MIT) introduced the concept of lean philosophy in manufacturing industries in 1989 (Lu, 2011). According to Cottyn et al, 2011, the primary concept of lean includes five principles such as increase throughput, maintain quality, improve process performance, define value, and continuous improvement. Overall, Cottyn et al, 2011 believe that manufactures can reach to a perfect lean system by eliminating defect, waste waiting, extra transportation and motion, extra processing, inventory, and production.

“Lean production not only successfully challenged the accepted mass production practices in the automotive industry, significantly shifting the trade-off between productivity and quality, but it also led to a rethinking of a wide range of manufacturing and service operations beyond the high-volume repetitive manufacturing environment” (Holweng, 2007).

Lean seeks to eliminate the non-value adding steps and inefficiencies of a process while reducing cycle times (Naslund, 2008). This is done by producing exactly what is needed, in the right amount, and when it is needed (Naslund, 2008). Also has been known as JIT which stands for Just-In-Time Production (Dennis, 2007).

Lean thinking has been mostly used in manufacturing and industries activities and results of using the application of lean system in car factories show that lean thinking can useful due to improve processing time, process performance, and “achieve more with less” (Radnor , 2006). The best result of lean system could be a saving time in order to Just-In-Time process. Hines and Lethbridge believe that the lean process is similar to an iceberg on the water (Figure 1). The

visible factors such as technology, tools, and techniques are on the water. The visible factors are important in the lean process however, take their power and force from the invisible factors under the iceberg. The Figure 1 shows a part of lean implementation that needs to mix both under and above activities on the water together. These activities are dependent on each other and it is important to implement the right balance between those activities.

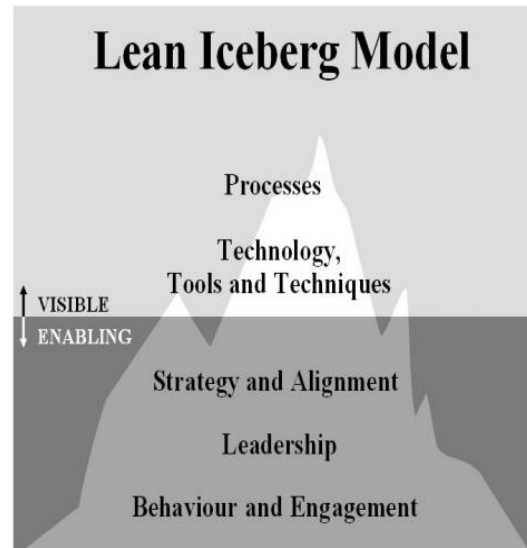


Figure 1: Lean Iceberg Model

Single Minute Exchange of Die: Setup change or Changeover is multiple activities such as hardware changes, setup programming, and locator finder from preparation to execution of work station in order to produce good parts. Mainly, the changeover is the difference between the producing last product to the next product in a right condition (appropriate quality and speed). Typically, the changeover time defines the capacity of production in each company (Santos, 2001).

Single-Minute Exchange of Die (SMED) is one of the lean production techniques that helps to reduce waste and time for changeover in industries. Shigeo Shingo, one of the Japanese industrial engineers, introduced the first concept of SMED when he was working on reducing

changeover waste on 20 factories. SMED provides a rapid and efficient way of converting a manufacturing process from running the current product to running the next product (Dave, 2012). By reducing changeover time, production lot size reduces and the result influence on improving process (Mura) (Moreira, 2011). Shingo believes “single minutes” does not mean changeover and startup need to take just one minutes, although it should take less than 10 minutes (Dave, 2012).

SMED is the term used to represent the Single Minute Exchange of Die or setup time that can be counted in a single digit of minutes. SMED is often used interchangeably with “quick changeover”. SMED and quick changeover are the practices of reducing the time it takes to change a line or machine from running one product to the next. The need for SMED and quick changeover programs are more popular now than ever due to increased demand for product variability, reduced product life cycles, and the necessity to significantly reduce inventories. Shingo suggested that the SMED could improve the process based on the four stages: 1) the next setup actions are ready to implement when the machine is still running, 2) make sure the setup of current and next dies are separated, 3) convert the current setup action to the next setup, 4) improve all setup action and save all record and information (Santos, 2001).

According to SMED system, Ohno in 1950 developed a method to implement a faster changeover dies. Based on his study, he was able the changeover dies time from a day to three minutes (Dave, 2012). He stated that there are two different kinds of setup: internal and external setup. Internal setup activities are those that can be carried out only while the machine is stopped, while external setup activities are those that can be done while the machine is running (Dave, 2012). Shingo and Dillon in 1989 (P.20) “when you conduct a setup on a process or a machine there are some parts of your setup that can be conducted while the machine is running

and others that require that the equipment is stopped.” Internal setup activities are those that require the process to be at a standstill before you can conduct them safely, while external activities can be done while the process is still running.

Accordingly, if the changeover time reduces, the batch size reduces as well and it would be an extra capacity for production to increase the productivity and efficiency. By implementing of lean method and SMED, other factors will be improved through the processes, such as delivery time, higher productivity, and working capital.

Value Stream Mapping: Value Stream Mapping (VSM) is one of the lean manufacturing methods that identify all of the value-added activities to producing a product or service based on customer needs. Basically, the most important principle of lean manufacturing is reducing waste and increasing quality. Reducing waste could be investigated in different aspects, such as reducing amount of defects, materials waste, and waste time. Industries typically use VSMs in order to visualize the future and current state processes in manufacturing. VSMs introduced in 1990 by Sohn Shook in Toyota plants (Coniam, 1990). VSMs are mostly used in different industries, such as product development, production systems, banks, and healthcare. Generally, VSM shows the series of events including flow of materials and activities information through the process (Ciniam, 1990). Wolniak et al. believed that VSM indicates the different activities that have more valuable and customers are willing to pay for (2014). VSM is one of the significant lean tools that used for visualizing a system by different universal symbols in flow charts. These elements and symbols in VSMs aim readers to better visualizing the process and activities.

In order to initially approach transitioning to use the JIT principle, lean improvement should be based on mapping and analyzing the activities in the process (Naslund, 2008). A

baseline assessment of the process must be made by using process observation to create a “current state” value stream map. This is also known as a VSM; which lays out the process’s information flow and product flow through value added and non-value added activities (Manos, 2012). Using the current state VSM, a lean team can then develop a plan to bring the lead time closer to a value-added processing time by working around constraints; this is known as a “future state” VSM (Lu, 2011).

Serrano (2008), introduced five steps in order to create a VSM process, such as 1) a product family should be identified: understand and determine various product families that have similar process. 2) Prepare a plan that shows the current situation. 3) Prepare a plan that shows the future situation. 4) Prepare and describe the work plan. 5) Reaching to the work plan. First of all, every VSM requires to investigate during the production cycle in order to integral implement. Therefore, a value stream manager needed to supervise on process flow or identify any problem that occurs. The first stage is to select a family product and workstations for production process. There are various information required to start the first step. As an example, a list of information should be provided to VS manager, such as the number of stocks and workstations availability, materials, machines and equipment requirements, and production planning methods. Based on the collected information and requirements, a current value stream map should be prepared to draw in the form of a graph. The main goal of VSM is to specify the wastages and show the elimination of wastages in a graphic way. A current VSM should be performed according to the collected information and established plan. Also, the production process is implemented based on the VSM and its measurement. After the process, a manager should evaluate the advantages and disadvantages of the process and the steps obtained from the VSM. Analyzing the current VSM and preparing a conclusion of process help managers to prepare better for future VSM

(Figure 1). Also, there are different ways to create a VSM, such as using pen and pencil in simple paper or using advanced programs. But the first and important step to create a VSM is to understand the value-added and non-value-added activities in the process.

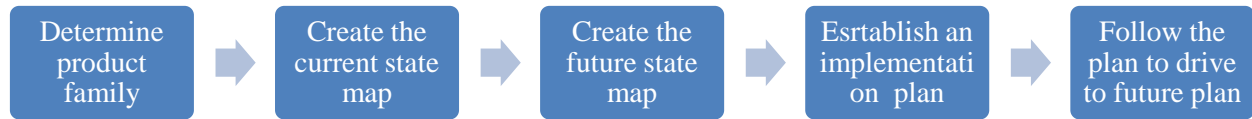


Figure 2: Serrano five steps to create a VSM

5S Standards and Discipline: 5s is shown to a workplace organization and standardization. Hiroyuki Hirano stated “Behind all workplace successes failure are the 5S’s (Manos, 2012). Chapman in 2005 addressed in his book that 5s score needs to be posted in each workplace for team leaders and workers to review and remind the continuous improvement opportunities. Table1 shows the 5s progression and translation from Japanese terms to English. 5s contains five simple and important verbs that start with “S”: Sort, Set in order, Shine, Standardize and Sustain (Chapman, 2005).

Table 1: The 5S

Japanese	Translation	Conversion	Other
Seri	Organization	Sort	Sorting
Seiton	Neatness	Set in order	Simplify
Seiso	Cleaning	Shine	Sweep
Seiketso	Standardization	Standardize	Standardize
Shitsuke	Discipline	Sustain	Self-discipline

- 1) **Sort:** during the sorting process, all products need to be identified in three categories 1) need to be in workplace 2) not need now in work place 3) not need in

workplace. Sorting area should be clean and organized. It is important to keep just those parts in workplace that need to be sorted. All other products, in categories 2 and 3 must be kept in separated area. Those three categories are identified by three different color tags: red, yellow, green. Red tag just used for scrap products, yellow used for holding parts in hold area, and green used in sorting process products. Also, all three tags should have identification items, such as date and a reason (Manos & Vincent, 2012. p, 104).

2) Set in order: every single item needs to be located in correct place or home for sake of easy availability. Set-in-order is applicable by using visual methods, such as sign, label, lines, and color code. Al-Aomar believes that companies can reduce their waste time and lot size by keeping items in a right place with the right tag. (Al-Aomar, 2011). In conclusion, every item should be found in a work area in 30 second or less.

3) Shine: shine is a part of 5s process of inspecting that focuses on cleanliness. Teams determine how and who is responsible for cleaning process. Cleaning process is mostly for storage area, machines, and equipment. In addition to cleaning, workers and operators are responsible to check the condition of equipment and machines.

4) Standardize: every stage in a company needs to have a guidelines, rules, and work instruction. Manos & Vincent (2012) stated in their book that standardize can be found in the first three stages (sort, set in order and shine). Usually, companies dedicate few minutes at the end of each shifts for cleaning and 5s activities.

5) Sustain: sustain is keeping the rules to continue the standard & maintain to improve every day.

Benefits of 5S workplace organization: “5S is related to workplace organization and it forms a solid foundation upon which many organizations base their drive for continuous improvement”. (Hodge, 2011) 5S is generally applicable and useful to reach high impact results. It is a systematic and methodical approach allowing teams to organize their workplace in the safest and most efficient manner. The discipline to check & repair equipment is included & adopted. The entire process is managed through the use of team generated audit documents, completed on an agreed frequency by responsible owners within the Gemba.

Visual Workplace: The visual workplace includes numerous of visual devices which are made by workers. Every worker can easily access functionality of devices and the information about devices help to providing waste time. Visual devices should answer most of the worker’s questions. First of all, organizations should have standards and teach workers on how to do the right thing in the right way, which is part of definition of operational excellence (Liu et al., 2017).

Some banners and signs are printed in order to help to keep workers and facility safe and efficient. Santos et al. suggested “addressing” idea that some of the equipment should be available and giving a visual name, place, and symbol since this method could decrease the waste and risk (2001). In our workplace, there were various kinds of steel metals and fittings that had different performance. Therefore, a brief specifications and explanation really help workers and executives to recognize all together.

Chapter 3: Methodology

The methodology of this project is based on quantitative data.

Method 1(Objective 1): To apply Lean System in this project on dies' section, some data should be collected; these data are the location and situations of them. To have information about every die, some hard forms will be prepared to collect die information. These forms also need to be recorded digitally by Microsoft Excel program.

Method 2(Objectives 1 and 4): Author is going to collect several groups of data to find out if applying Lean System on stamping area leads the company to improved production.

For this purpose, the data will be collected in two periods; before start of the project, and when the project is done.

First group of data is length of times that a fork-lift driver spends to move a die from the storage section to a press place. Length of this time will be calculated from the moment that the fork-lift arrives to the storage section till the moment the fork lift arrives to the press place.

Second group of data are length of times that a fork-lift driver needs to carry a die from a press place to the storage section. To calculate this duration, the timer will start at the moment that the fork-lift touches the die till it puts that die in the storage section.

The Next groups of data that need to be collected are about production of each press. The number of parts that are produced will be counted for every press machine every day. Also, In order to check the quality of the production, number of scrapped parts will be noticed too.

Last group of data are the length of the times that a press is on-hold for a day. However, it is necessary to have the holding reason to find out if that reason is related to the project purpose.

Method 3 (Objective 2, 3 and 4): After collecting all the data, it is time to compare the data for the first period of project with the second group of data. Outcome of this comparison is

what we were looking for. Statistical tools and software, such as tables (like table with median), graphs (like scatter diagram), and Microsoft Excel will be used for this purpose.

Chapter 4: Finding and Result

Data Collection Period: Data collection for this research, started on February, 8, 2017 and it continued until March, 31, 2017 in three phases. The first phase was before applying changes, from February 8th to March 5th, the second phase was during implemented changes to the dies moving process, from March 6th to March 12th, and the last phase was after the project is done from March 13th to March 31st.

Coding the Dies: Before that data collection were being started it was necessary to give a specific code to each die. Because the actual die numbers are classified for the company and they could not be used in the research. For this reason, each die was coded with following method.

Every code has three different parts. First part is a three digit number. This number can be 100, 101..., and 120, depends on the company that die is used to produce its parts. And also, every costumer has been given its own three digit number. For example, if the number 115 had been given to company "X", then all the dies that produce parts for company "X" have a code started with 115 in this research. The second part of a code shows the press machine(s) number(s) that the die is used by. This number can have one to eight digits ordered from smallest number to the largest number. For example, if a die is used by press machines number two, three, six, and eight, the second part of the code for this die would be 2368. Finally, the last part of the code is a specific four or five digit number to separate all the dies from each other by these codes. To give this number to each die, all the part numbers have been put in one column (the part number is different from actual die number sometimes) and then with the order of the column, a four digit number was assigned for each part. After that, this number was used as third part of the code. Also, for some parts there would be more than one die to be produced, then the

four digit number was used for one of the dies and for the next die, a “1” was added to the part code at the end. After that, this five digit number was given to the die as third part of die code. For example, if a part has the code number of 1234 and two different dies are used to produce this part, then one of them has the number 1234 as the last part of its code, and the other has the number of 12341. To find out more information about a part, its code could be started with one of the three different numbers of “one”, “two”, or “nine”. If a part is being moved to shipping area from stamping area, its code starts with “one”, if it has to go to welding section after stamping, it starts with “two”, and if it need to be painted after stamping, it will start with “nine”.

For an overview on coding the dies, there is an example about a die code. Let there is a die that produces a part for company “X” with the company code “115” and this die is used by press machines number “1”, “3”, “6”, and “7” to produce the part number “1234” (which means it will be moved to shipping area after stamping). Therefore, the number of “115-1367-1234” will be assigned to this die.

Data Collection Method: Different sets of data have been collected during three phases for the research and several types of tables have been provided to categorize data for future analyze. To fill out these tables, press operators and fork-lift drivers have been asked to record some information about their work. Die moving sheets were filled out by fork-lift drivers. Information about moving every die from storage to a press machine or moving from a press machine to the storage was collected. The information include die number, date of movement, starting time of the movement - which is the time that a fork- lift driver was told to bring (take) a die from (to) the storage-, ending time - which is the time that the fork-lift driver puts the die in the storage or the press machine-, and the location where they took the die and where they put it on.

The press operators have been asked to report some information about the production. They reported: which die they use, what day the part was produced, at what time the production started, at what time they stopped the press, how long the press was on hold during the production, how many parts they have produced, and how many of them were bad parts.

This information has been collected in all three phases of research. At the end of the phase two, recording the information about every die location has started. This information includes the date and time that a die has been moved from one location to another.

Preparing for the Project: After collecting the data, the first step was translating the die numbers to die codes for using in the research, then this information was recorded digitally with Microsoft excel.

During the phase one, In addition to data collection, the needed shelves have been ordered. Also, the dies that were not used in the production anymore have been labeled by a red label.

Applying the Changes: In the phase 2 the shelves have been placed in the storage area. Also, they have been located behind the location of every press machine.

For every die, a specific area has been chosen on the shelf in the storage and the dies have been placed on their specific locations. Also, all the dies with the red labels have been removed to outside of the company and stored in another place.

Analyzing the Collected Data: To explain the result of this research, in the first step, the collected data from each press will be reviewed separately, after that, combined data of all presses will be studied.

There are 18 work shifts in phase 1, 5 work shifts in phase 2, and 15 work shifts in phase 3. Therefore, since the length of each phase is different with the others, it makes more sense to calculate average of data for every phase for 1 shift during each week.

Analyzing the Collected Data for Press 1:

Table 2 shows the total and average data for press 1.

Table 2: Press 1 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	18.17	34.63	34.85	34.42	34.42	36.22	35.18	36.22
Running time per shift	3.63	3.85	3.87	3.82	3.82	4.02	3.91	4.02
Holding time	25.00	42.62	42.57	43.25	42.83	42.70	43.73	42.70
Holding time per shift	5.00	4.74	4.73	4.81	4.76	4.74	4.86	4.74
Good production	10492.00	20126.00	20254.00	19997.00	19997.00	21067.00	20453.00	21068.00
Good production per shift	2098.40	2236.22	2250.44	2221.89	2221.89	2340.78	2272.56	2340.89
Scrapped parts	371.00	688.00	711.00	689.00	662.00	704.00	683.00	722.00
Scrapped percentage	3.4153%	3.3055%	3.3914%	3.3308%	3.2044%	3.2337%	3.2315%	3.3134%
Total production	10863.00	20814.00	20965.00	20686.00	20659.00	21771.00	21136.00	21790.00
Total production per shift	2172.6	2312.667	2329.444	2298.444	2295.444	2419	2348.444	2421.111

There are two kinds of data in this table, some data are based on time, and the others are based on the number of produced parts.

Table 2 shows that there is an increase in average running time pre shift for the press 1 from phase 1 to phase 3. The highest average running time per shift in phase 1 is 3.87 hours, and the lowest average running time in phase 3 is 3.91 hours.

On the other hand, the data about the average holding time per shift doesn't show any tangible decrease or increase from phase 1 to phase 3. In phase 1, average holding times per shift are between 4.73 hours and 5.00 hours, and in phase 3 they are between 4.74 hours and 4.86 hours.

Figures 3 and 4 show the changes on running time and holding time in all three phases, and figure 5 shows both information together for sake of better comparison for press 1.

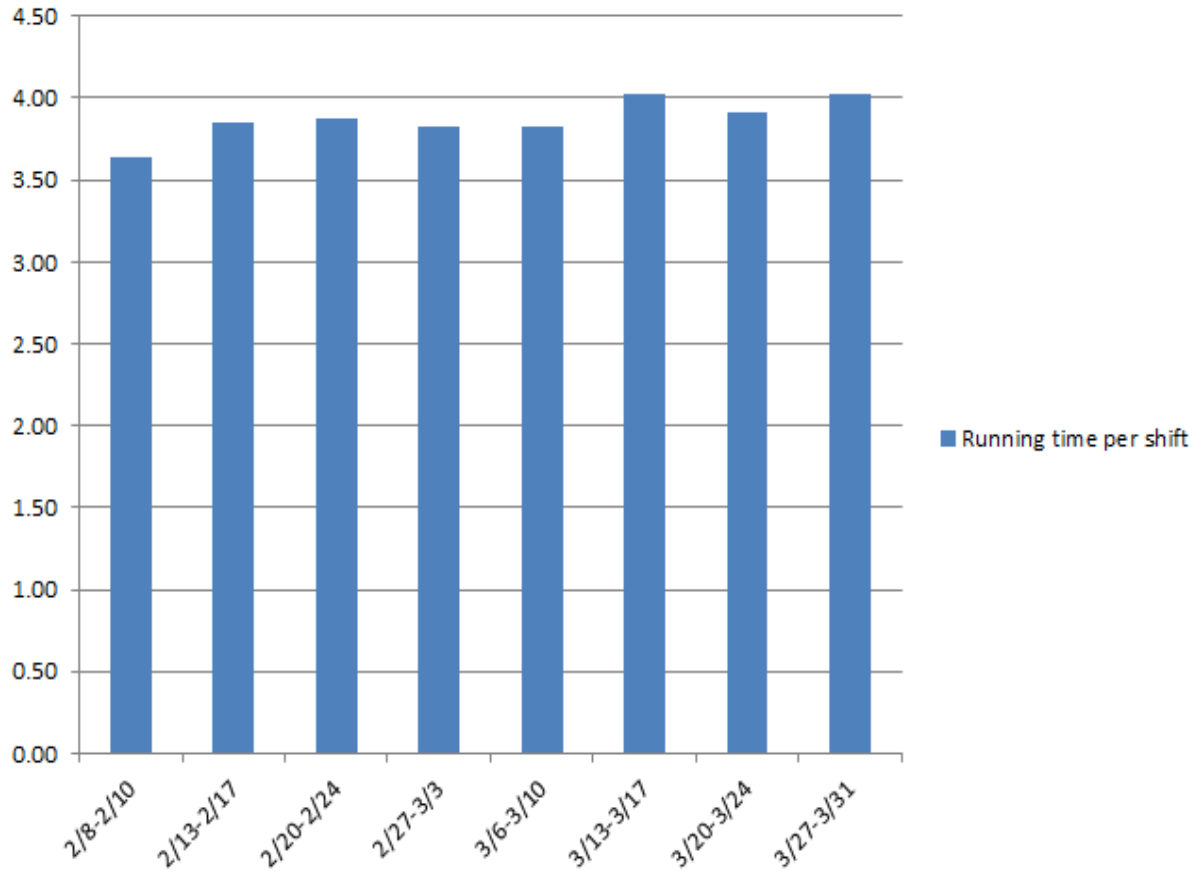


Figure 3: Average Running Time per Shift for Press 1

The improvement in running time for press 1 has affected the number of the parts, which are produced in every period.

Production in phase 1 is between 2172.6 parts and 2312.667 parts per shift in average and these numbers for phase 3 are between 2348.444 and 2421.111 parts per shift in average.

It is also clear that increase in production is not just in number of parts, but also in good parts as well. Figure 6 shows the increase of production of good parts from first week of phase 1 to the last week of phase 3, and accordingly, figure 7 shows that the changes in the number of production and number of good parts are very similar.

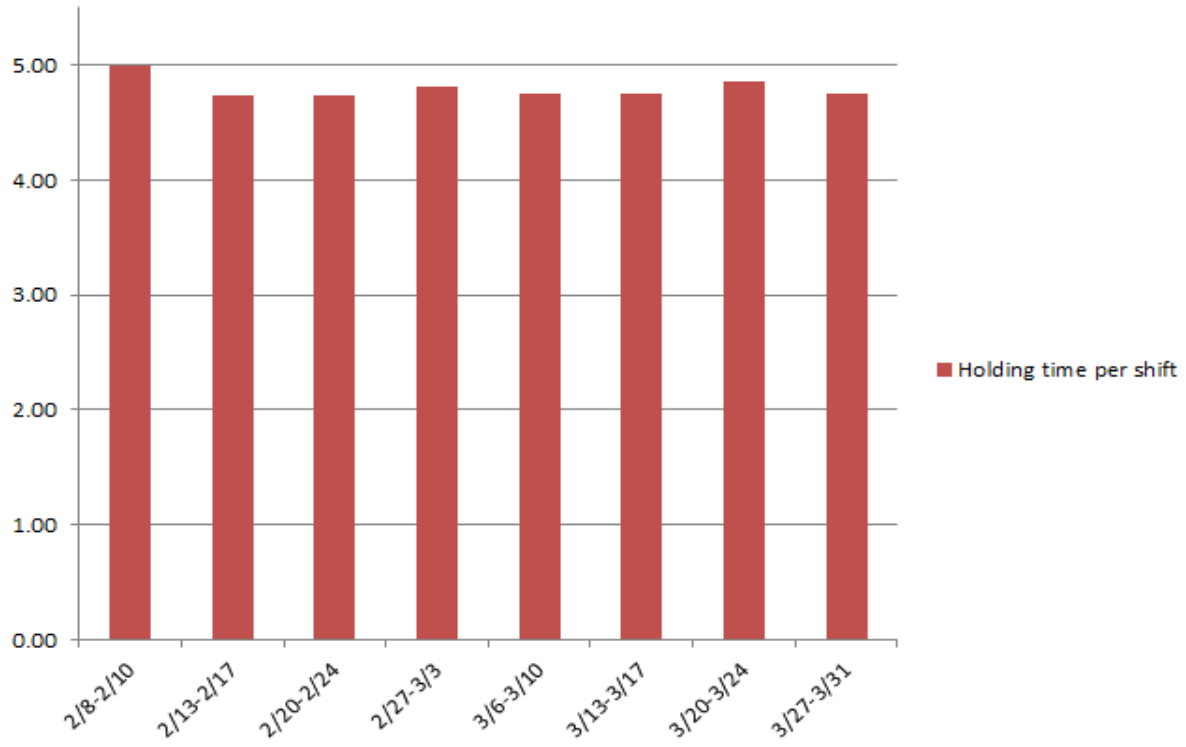


Figure 4: Average Holding Time per Shift for Press 1

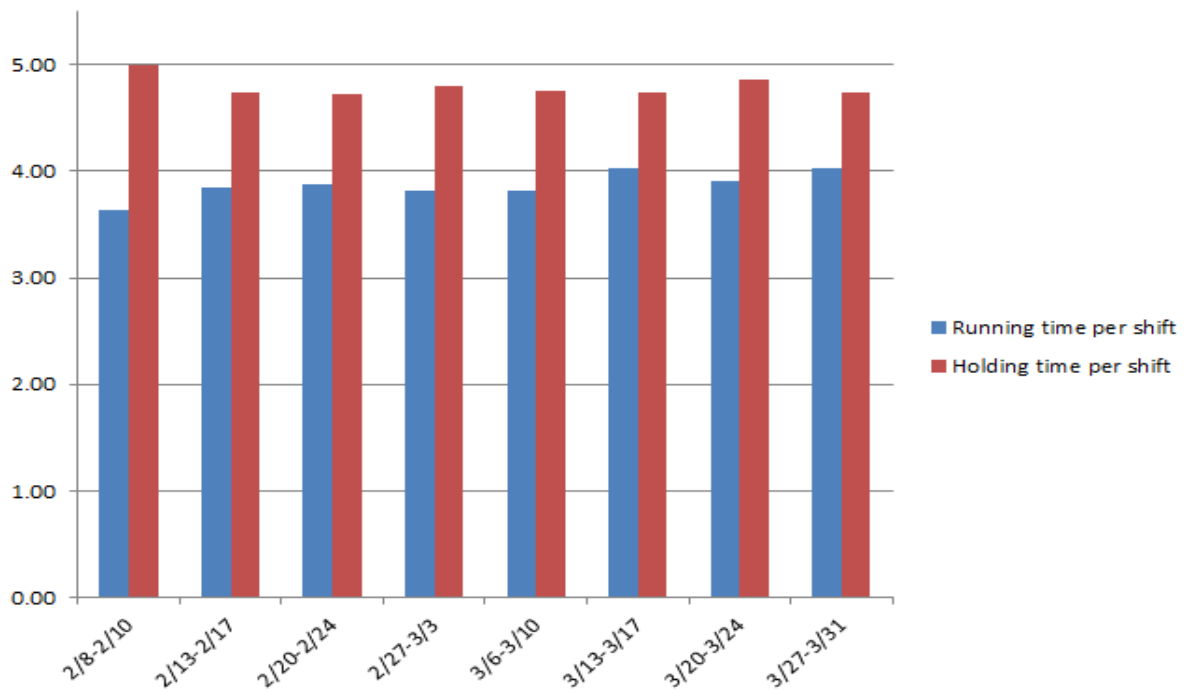


Figure 5: Average Running Time and Holding Time per Shift for Press 1

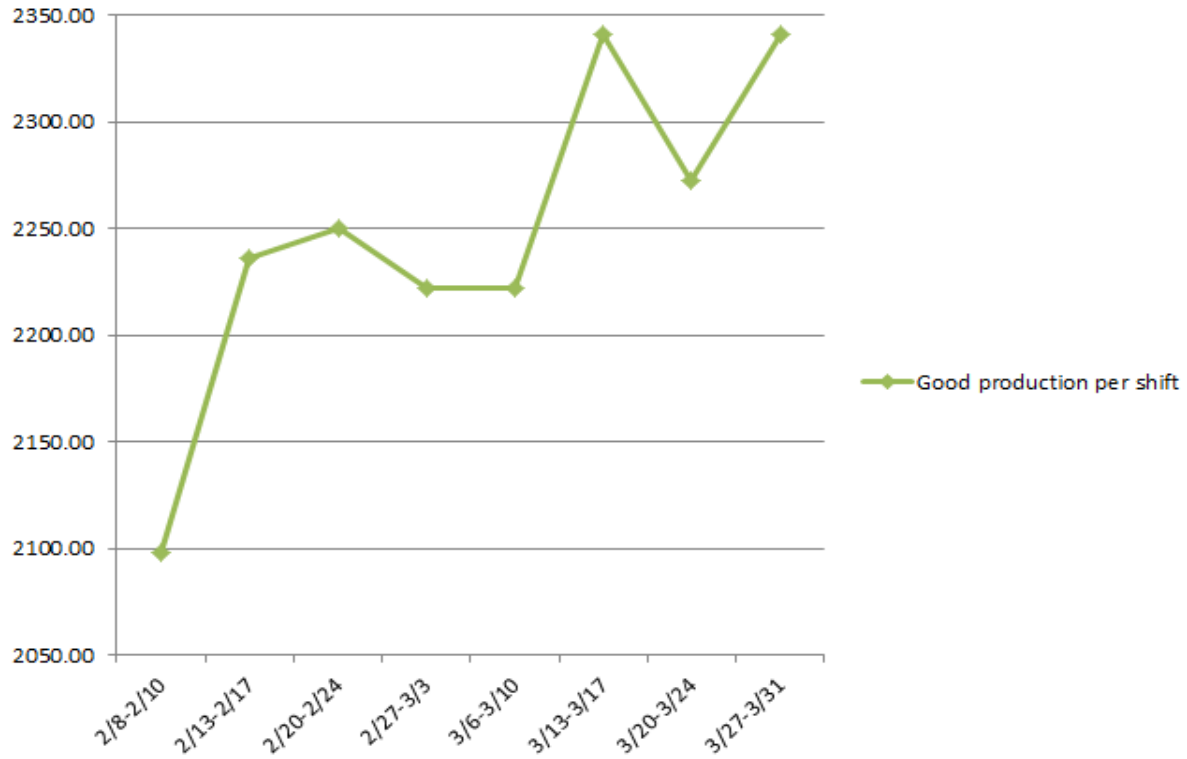


Figure 6: Average of Production of Good Parts per Shift for Press 1

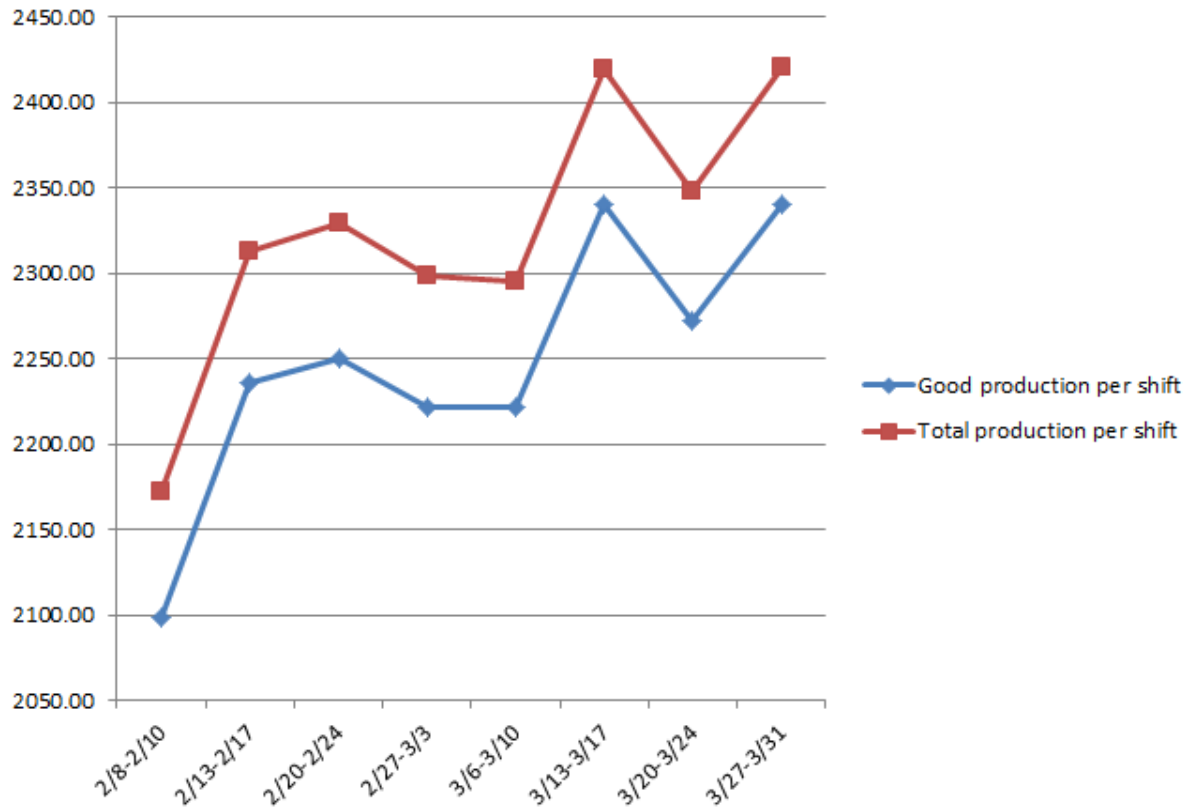


Figure 7: Average of Total Production and Production of Good Parts for Press 1

By looking at the number of scrapped parts (bad parts), the improvement in the quality of the production is considered as rejected.

Figure 8 show that there is no important change in the percentage of scrapped parts in production from phase1 to phase 3. It means that quantity of production for phase 1 has been increased.

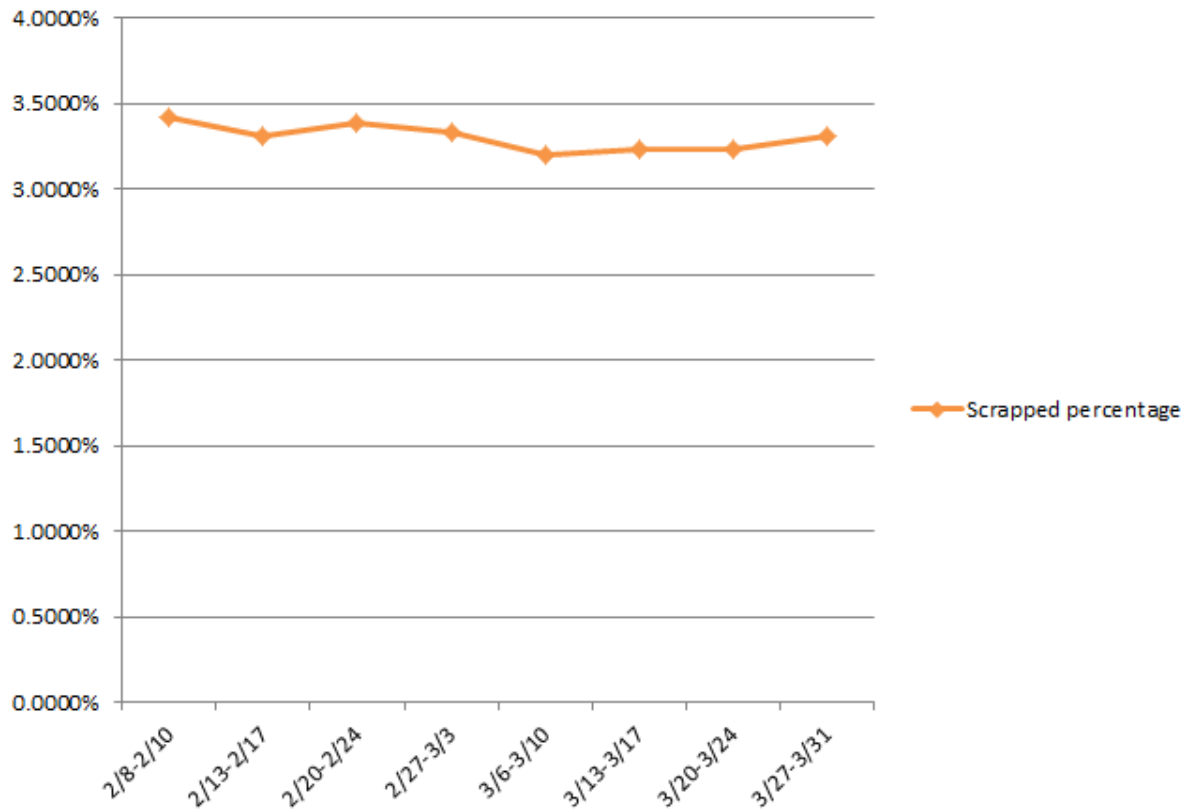


Figure 8: Average Percentage of Scrapped parts for Press 1

Analyzing the Collected Data for Press 2:

Table 3 includes the collected data for press 2.

Collected data of press 2 shows some result, such as increasing in average running time per shift.

Table 3: Press 2 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	21.65	39.37	40.17	37.50	41.38	41.90	43.50	43.55
Running time per shift	4.33	4.37	4.46	4.17	4.60	4.66	4.83	4.84
Holding time	20.85	35.72	35.92	37.42	33.53	36.27	35.33	35.37
Holding time per shift	4.17	3.97	3.99	4.16	3.73	4.03	3.93	3.93
Good production	29032.00	52805.00	53909.00	50229.00	54912.00	56132.00	58509.00	58578.00
Good production per shift	5806.40	5867.22	5989.89	5581.00	6101.33	6236.89	6501.00	6508.67
Scrapped parts	814.00	1524.00	1560.00	1446.00	1690.00	1630.00	1681.00	1657.00
Scrapped percentage	2.7273%	2.8051%	2.8124%	2.7983%	2.9858%	2.8219%	2.7928%	2.7509%
Total production	29846.00	54329.00	55469.00	51675.00	56602.00	57762.00	60190.00	60235.00
Total production per shift	5969.2	6036.556	6163.222	5741.667	6289.111	6418	6687.778	6692.778

In the first phase, the average running times per shift are between 4.17 hours and 4.46 hours. And also, the average running times per shift are between 4.66 hours and 4.83 hours in phase 3.

Figure 9 shows the slight improvement for average running time per shift for press 2.

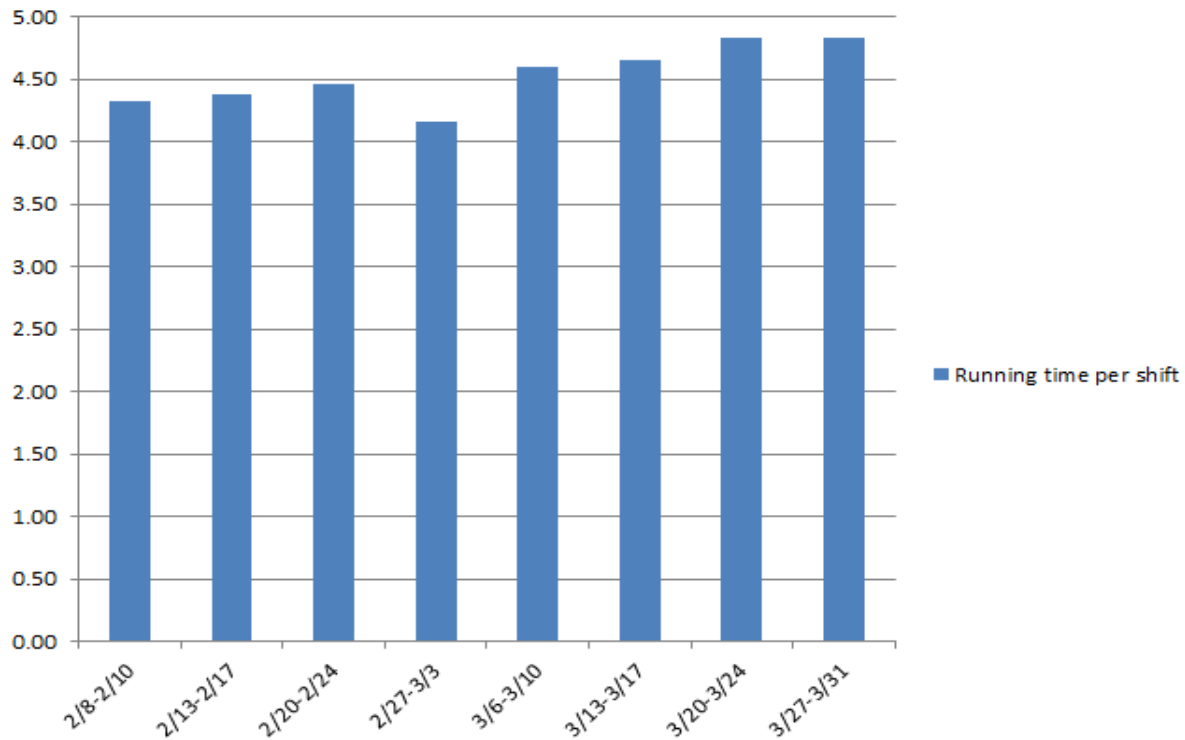


Figure 9: Average Running Time per Shift for Press 2

By looking at figure 10, it is obvious that there are some changes from phase 1 to phase 3 on average holding time per shift.

Figure 10 shows a slight decrease from phase 1 to phase 3, but by studying the details, it demonstrates the constant result. The holding time per shift in phase 1 is at least 3.97 hours and at most 4.17 hours. These numbers for phase 3 are 3.93 hours and 4.03 hours. This means that there is no absolute decrease in holding time.

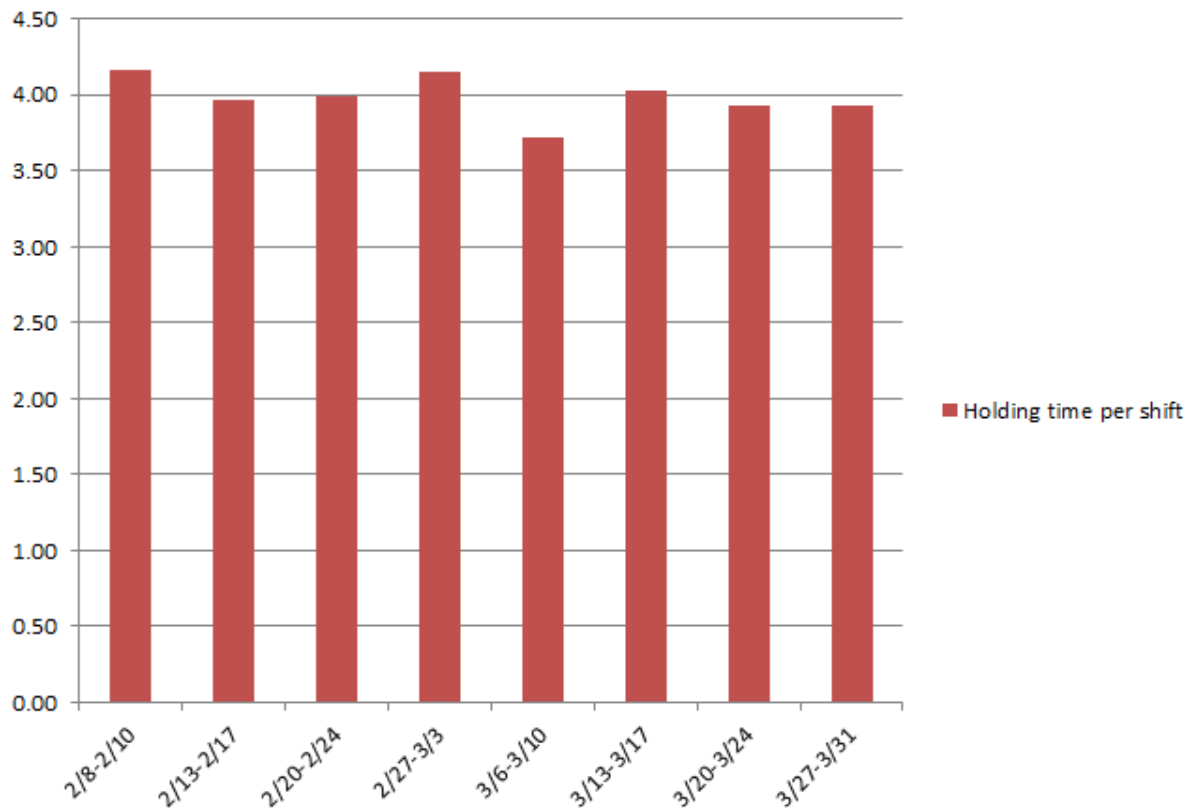


Figure 10: Average Holding Time per Shift for Press 2

Having both diagrams together in figure 11, helps to have a better view to compare both results. It also shows that the running time doesn't depend on holding time.

The data regarding to the average of production of good parts shows that there is better production in phase 3 than phase 1.

Absolute increase in production of good parts in phase 3 can be seen in figure 12. Table 3 also supports this claim. The numbers in this table show that there is at least 200 more pieces of good parts in phase 3 than phase 1, in terms of average per shift.

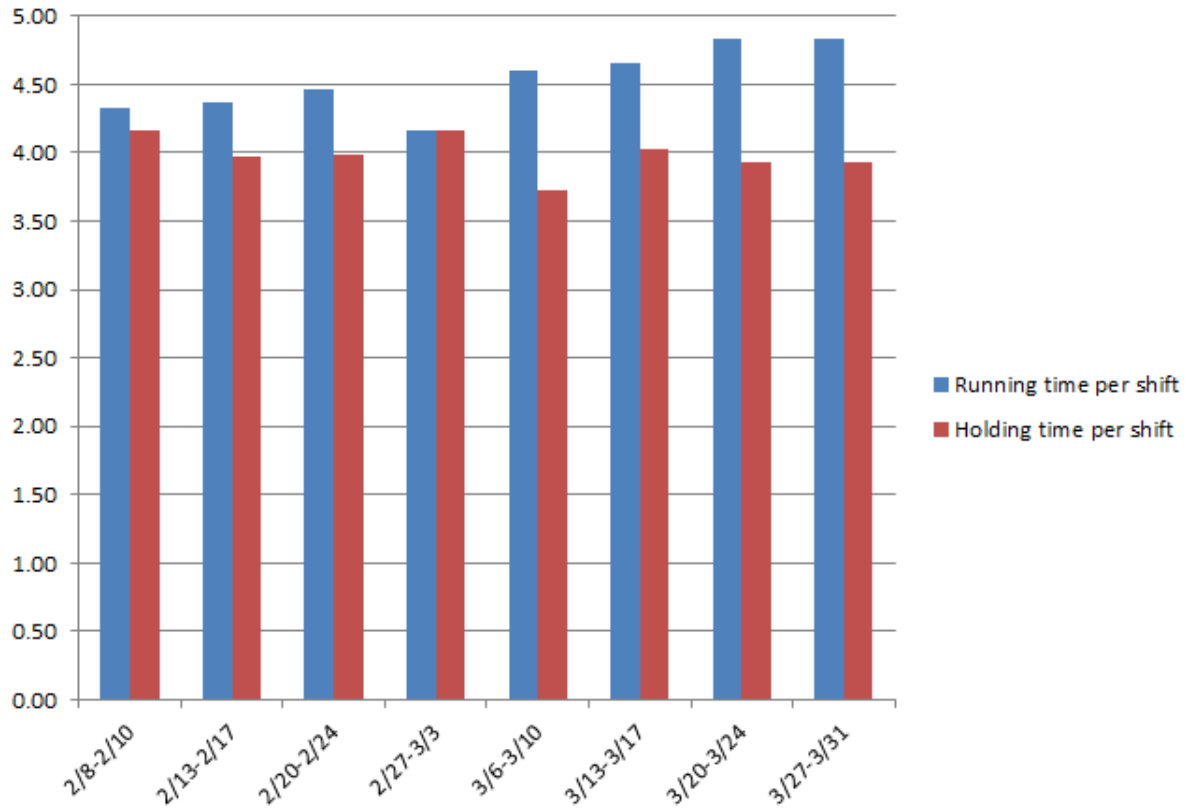


Figure 11: Average Running Time and Holding Tim per Shift for Press 2

As it is shown in figure 13, the improvement is not the cause of reducing the bad parts in the production. Figure 13 shows the same rate for both good parts and total production per shift. Figure 14 also confirms this claim, since the percentage of scrapped parts is almost constant in both phases.

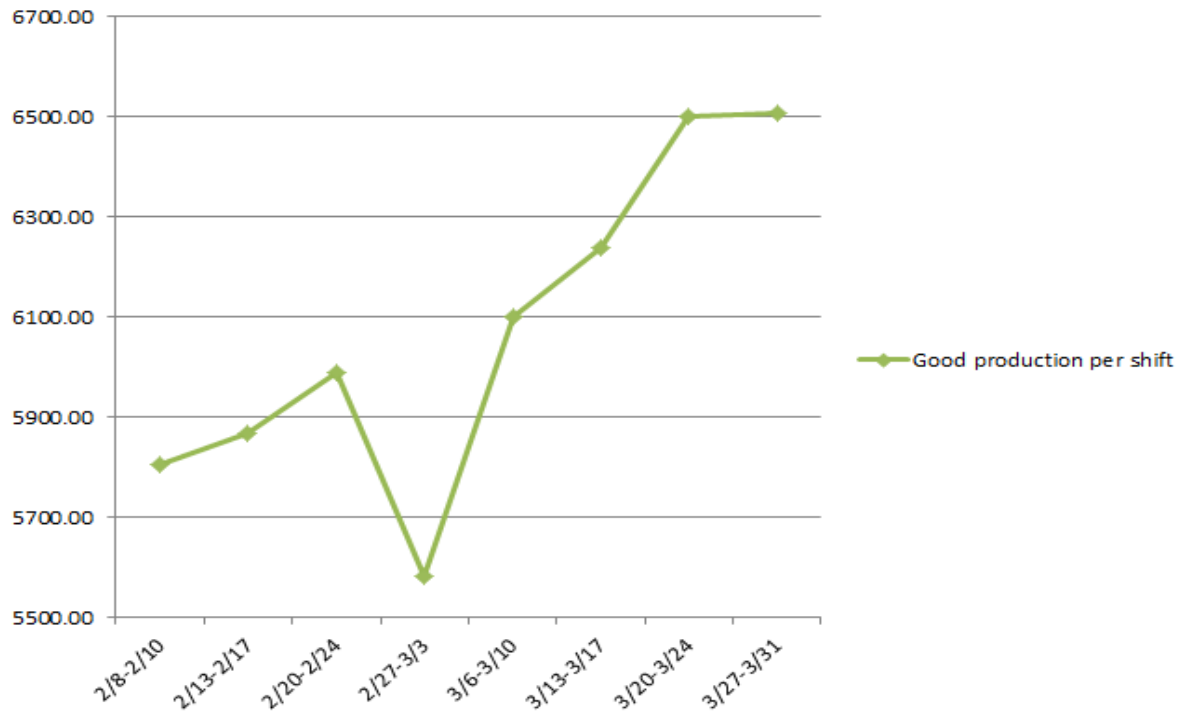


Figure 12: Average of Production of Good Parts per Shift for Press 2



Figure 13: Average of Total Production and Production of Good Parts for Press 2

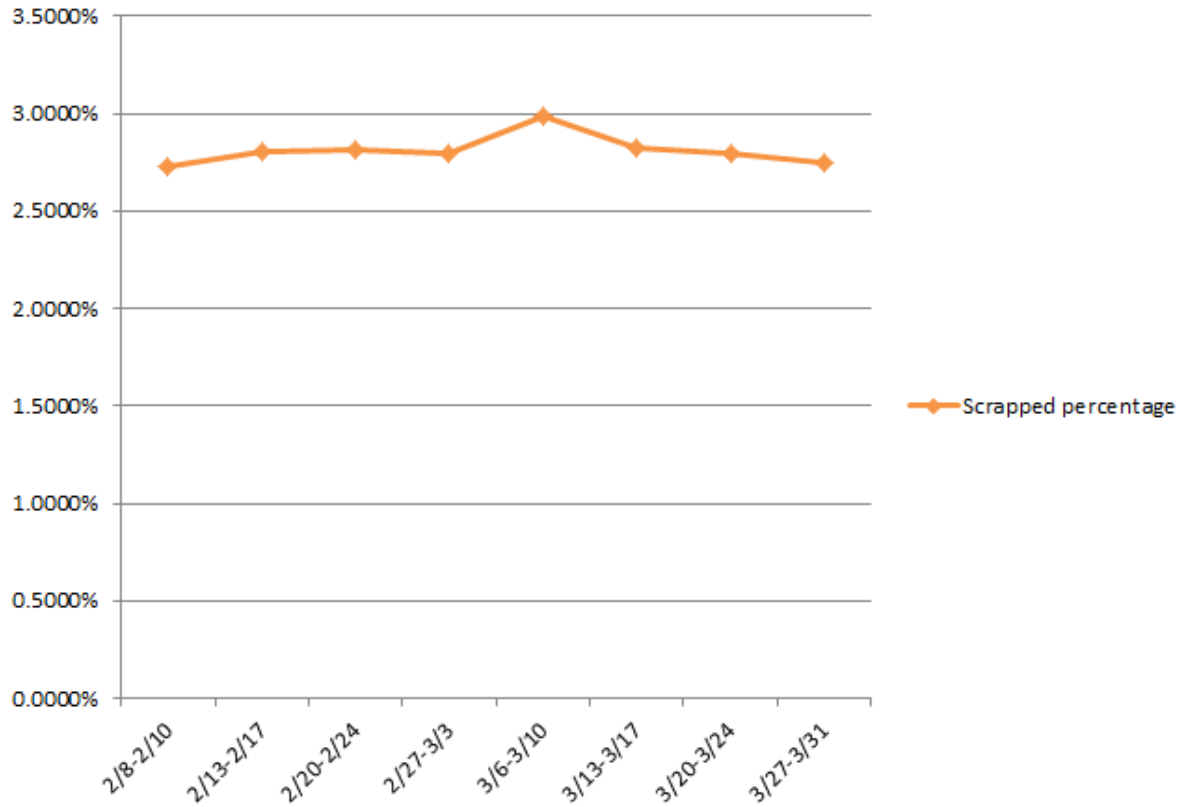


Figure 14: Average Percentage of Scrapped parts for Press 2

Analyzing the Collected Data for Press 3:

Production situation of phases 1 and 3 can be explained in detailed by table 4 for Press 3.

Table 4: Press 3 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	23.15	41.47	42.82	41.25	42.57	44.10	44.38	43.47
Running time per shift	4.63	4.61	4.76	4.58	4.73	4.90	4.93	4.83
Holding time	19.10	33.53	34.43	35.33	34.68	34.73	34.53	35.45
Holding time per shift	3.82	3.73	3.83	3.93	3.85	3.86	3.84	3.94
Good production	30318.00	54468.00	56615.00	54516.00	56281.00	58335.00	58714.00	57487.00
Good production per shift	6063.60	6052.00	6290.56	6057.33	6253.44	6481.67	6523.78	6387.44
Scrapped parts	902.00	1572.00	1665.00	1603.00	1654.00	1729.00	1704.00	1691.00
Scrapped percentage	2.8892%	2.8051%	2.8569%	2.8564%	2.8549%	2.8786%	2.8204%	2.8575%
Total production	31220.00	56040.00	58280.00	56119.00	57935.00	60064.00	60418.00	59178.00
Total production per shift	6244	6226.667	6475.556	6235.444	6437.222	6673.778	6713.111	6575.333

Similarly, there is increase in running time in phase 3 and figure 15 confirms it. The numbers are very close to each other for press 3, but still the differences are palpable. The

highest average of running time per shift is 4.76 hours for phase 1 and the lowest average of the running time per shift for phase 3 is 4.83 hours.

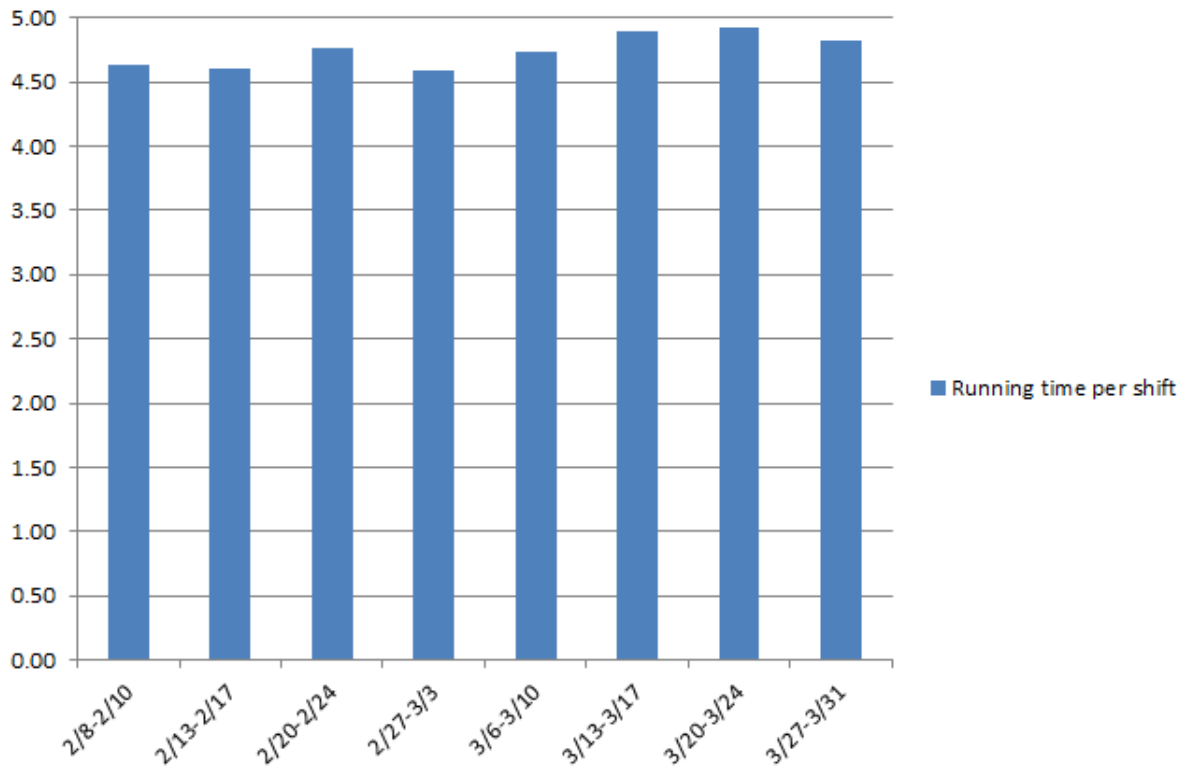


Figure 15: Average Running Time per Shift for Press 3

Average holding time per shift in phase 1 is between 3.73 hours and 3.93 hours. It is between 3.84 hours and 3.94 hours for phase 3. It seems that there is also slight increase in holding time. As it is shown in figure 16, the last week of phase 3 has the highest average holding time per shift during the data collection. And also, figure 17 shows that the holding time of the press 3 doesn't depend on the length of running time.

There is also more production of good parts in the phase 3 than the phase 1. At 3rd week (March 20th – March 24th) of phase 1, there is the highest number of average production of good parts per shift, which equals to 6290.56 parts. This is less than the lowest number for average production of good parts per shift in phase 3, which equals to 6387.44 parts in the last week of data collection (figure 18). The difference is not too significant (less than 100 good parts). Since

there was not too much difference in running time between phase 1 and phase 3, this data can be acceptable.

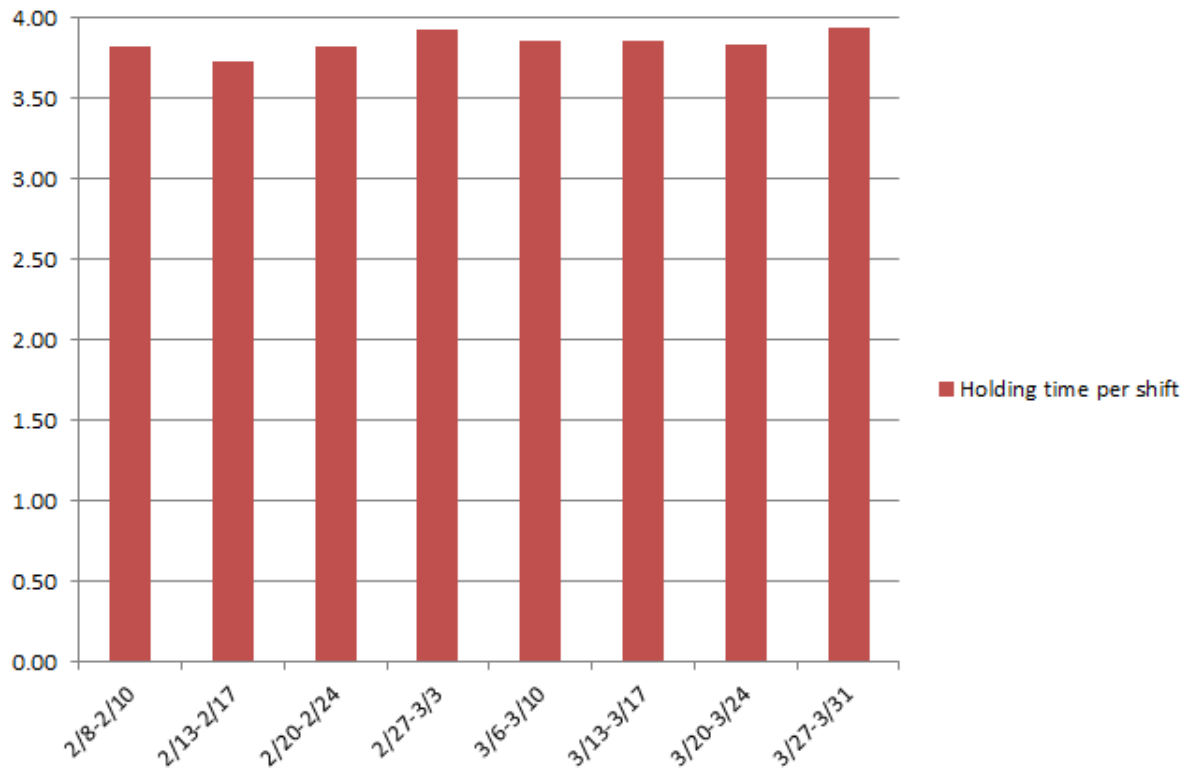


Figure 16: Average Holding Time per Shift for Press 3

Figure 19 shows the changes of average total production per shift and average production of good parts per shift. Similar curves confirm the result that is concluded from figure 20.

Figure 20 demonstrates that changes of percentage of scrapped parts are too low that it can be ignored. This means that project didn't affect the quality of the production for press 3 and it just improved the quantity of the production for this press.

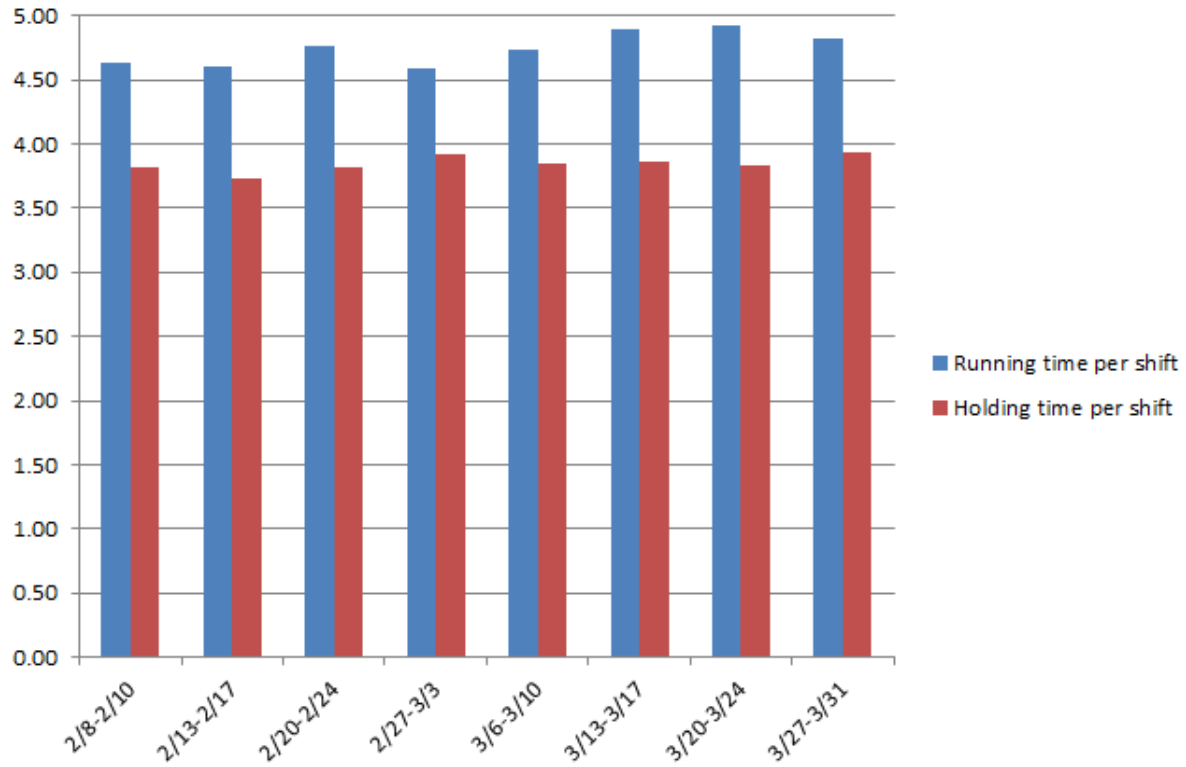


Figure 17: Average Running Time and Holding Tim per Shift for Press 3

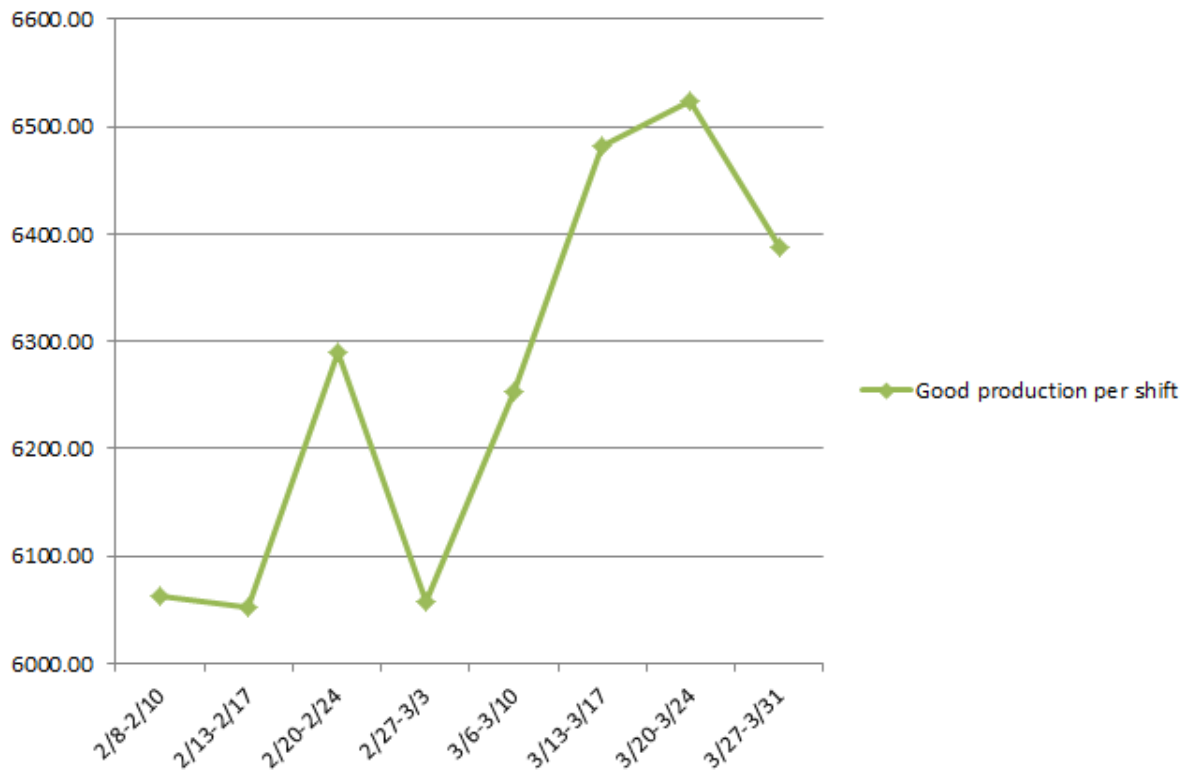


Figure 18: Average of Production of Good Parts per Shift for Press 3

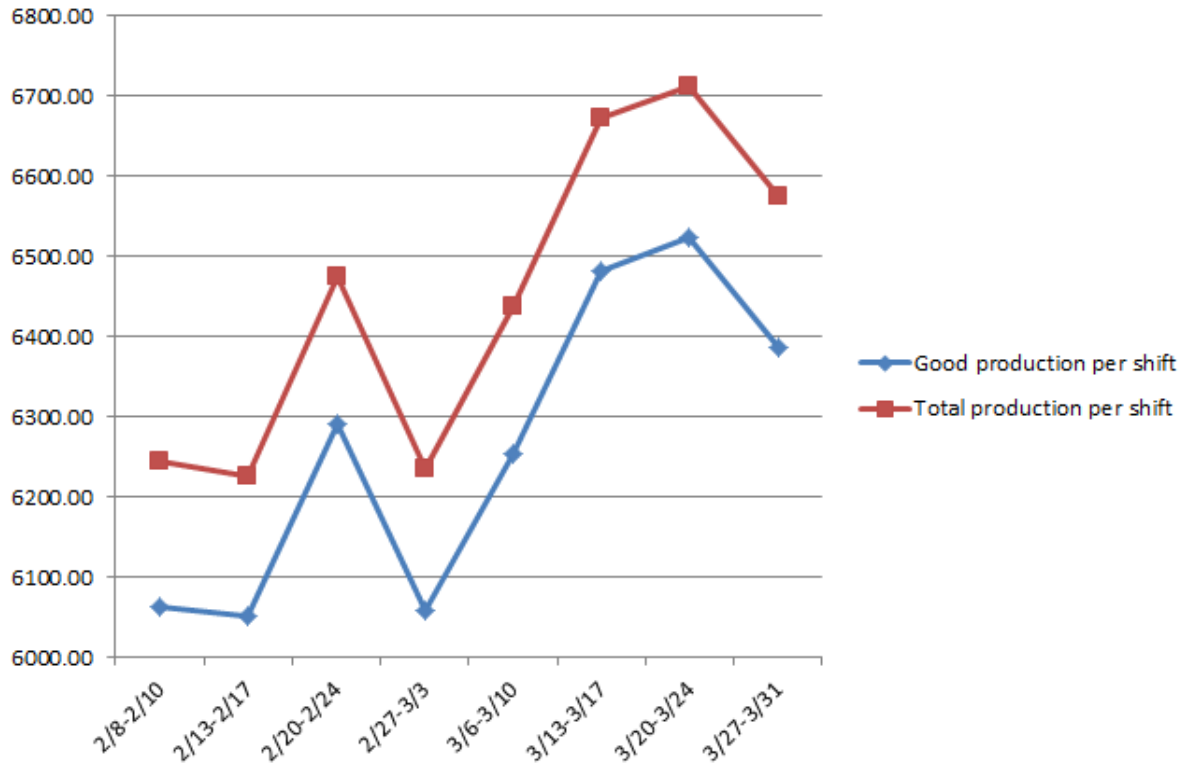


Figure 19: Average of Total Production and Production of Good Parts for Press 3

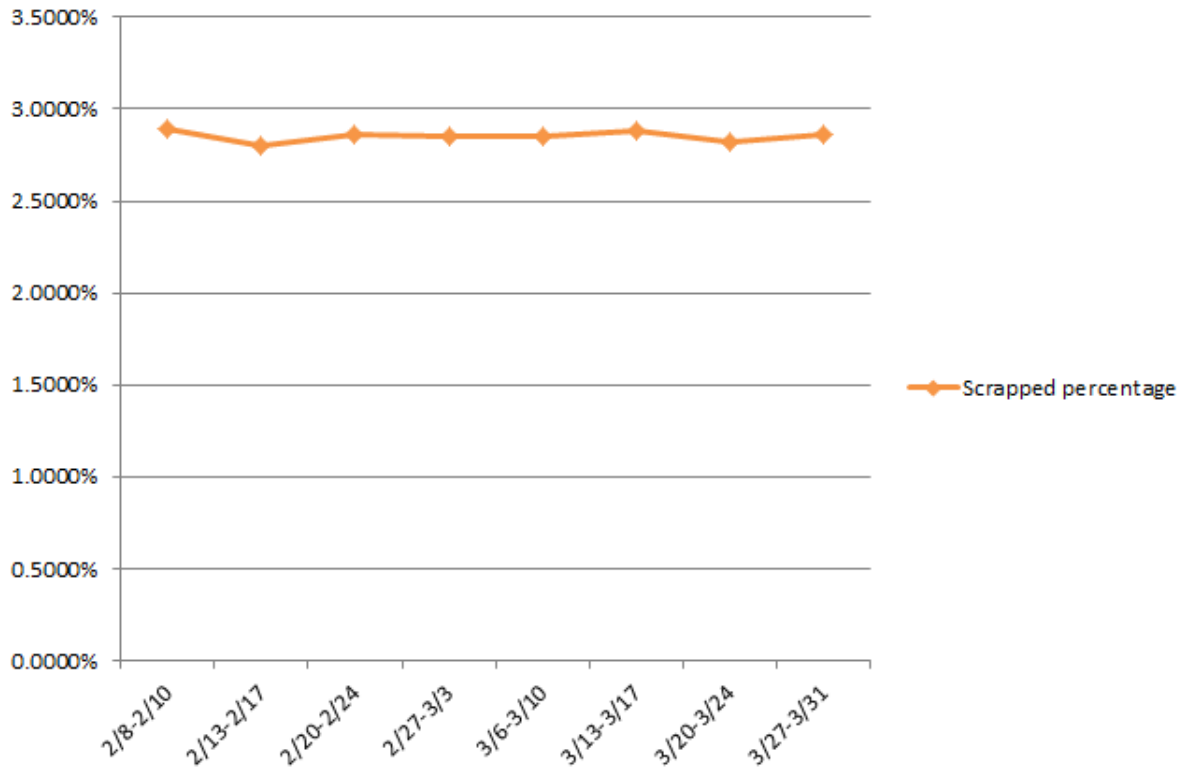


Figure 20: Average Percentage of Scrapped parts for Press 3

Analyzing the Collected Data for Press 4:

As it is shown in table 5, average running times in phase 3 are higher than phase1 for Press 4. 4.54, 4.22, 4.46, and 4.46 hours are average running times in phase 1. They are 4.92, 4.96, and 4.98 hours for phase 3. Figure 21 clearly shows the increase in running time in the last three weeks in the phase 3.

Table 5: Press 4 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	22.72	38.00	40.15	40.13	41.42	44.28	44.68	44.85
Running time per shift	4.54	4.22	4.46	4.46	4.60	4.92	4.96	4.98
Holding time	19.28	35.83	35.02	34.45	34.50	34.13	34.07	33.90
Holding time per shift	3.86	3.98	3.89	3.83	3.83	3.79	3.79	3.77
Good production	29394.00	49012.00	52368.00	52347.00	54057.00	57875.00	58408.00	58629.00
Good production per shift	5878.80	5445.78	5818.67	5816.33	6006.33	6430.56	6489.78	6514.33
Scrapped parts	720.00	1185.00	1277.00	1236.00	1318.00	1423.00	1376.00	1295.00
Scrapped percentage	2.3909%	2.3607%	2.3805%	2.3067%	2.3801%	2.3997%	2.3016%	2.1611%
Total production	30114.00	50197.00	53645.00	53583.00	55375.00	59298.00	59784.00	59924.00
Total production per shift	6022.8	5577.444	5960.556	5953.667	6152.778	6588.667	6642.667	6658.222

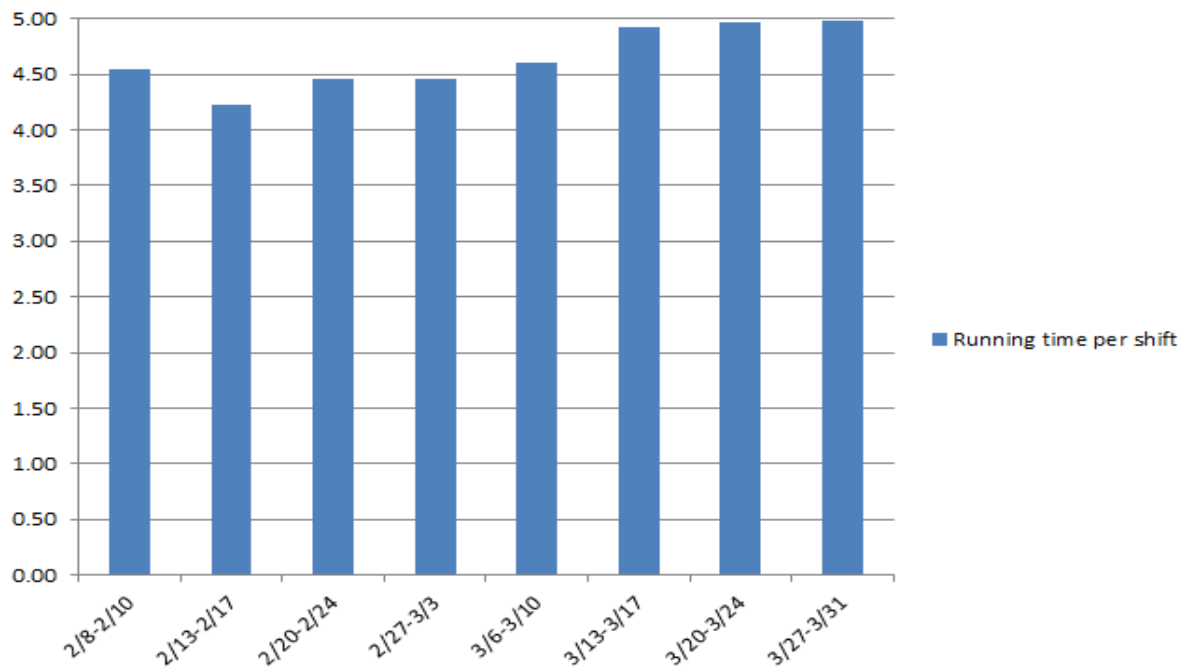


Figure 21: Average Running Time per Shift for Press 4

On the other hand, figure 22 shows that there is no significant difference between phase 1 and phase 3 regarding holding time.

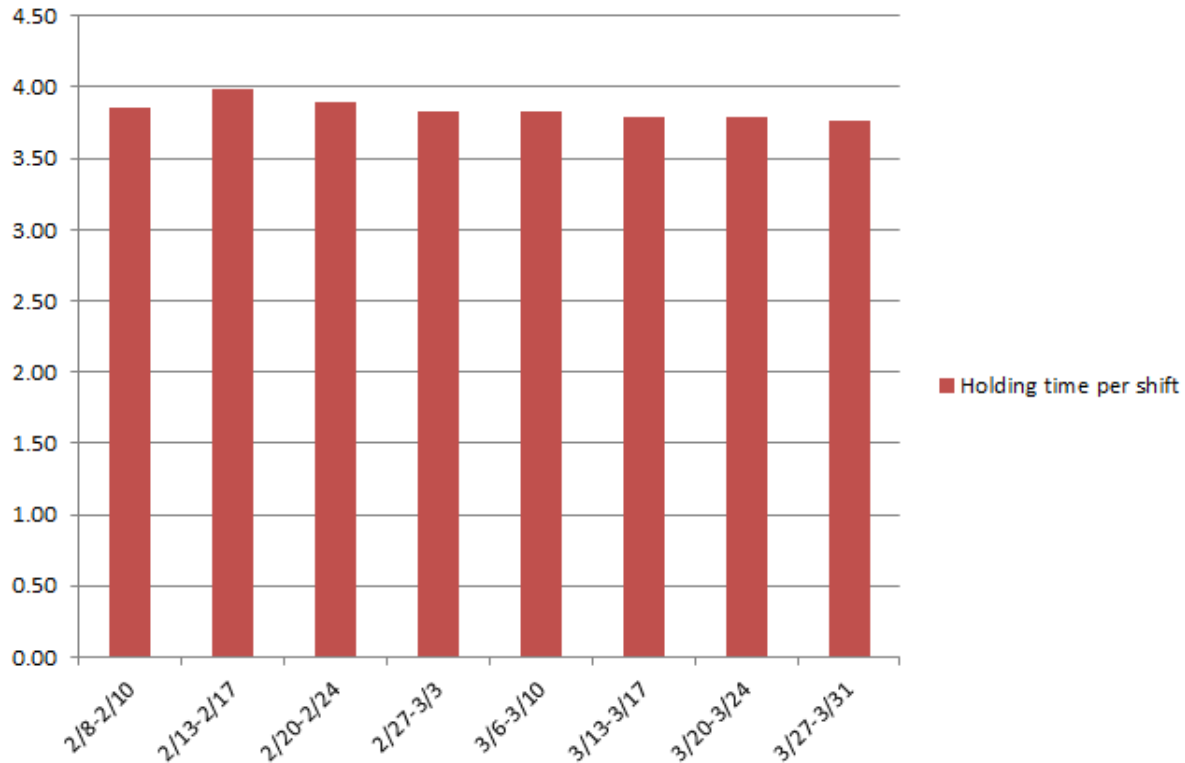


Figure 22: Average Holding Time per Shift for Press 4

By combining figure 21 and figure 22, it can be seen that there is no relation between holding time and running time. This combination is shown in figure 23.

The high increase in running time for press 4 causes the higher number of good production in the phase 3. Figure 24 shows that more than at least 500 good parts produced more in every shift in average in phase 3 than phase 1.

The increase in production is not only in good part, but total production too. Figure 25 shows that there is increase in total production from phase 1 to phase 3 with almost the same rate as increase in good production. By reviewing the data regarding scrapped parts for press 4, it is obvious that the number of scrapped parts almost depend on the number of total production. Figure 26 shows that the percentage of scrapped parts is almost constant for all phases.

There is just one exception that seems different from other weeks, but it cannot be explained by this information.

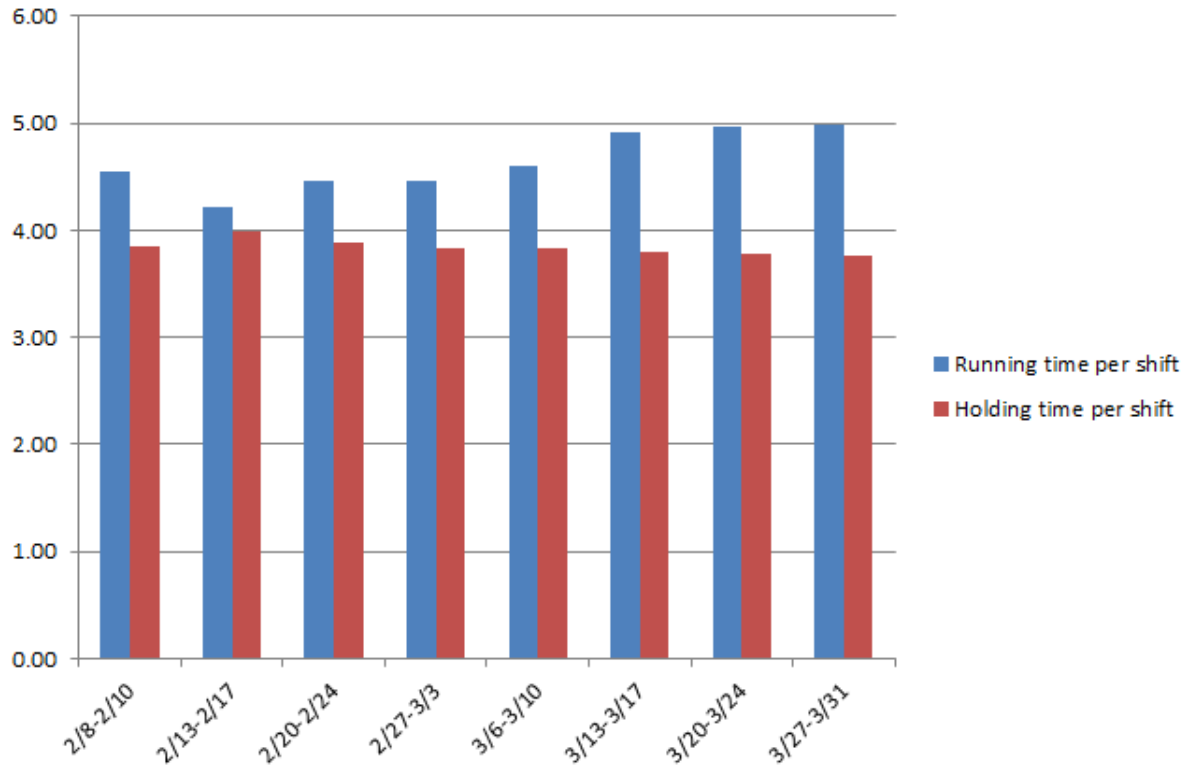


Figure 23: Average Running Time and Holding Tim per Shift for Press 4

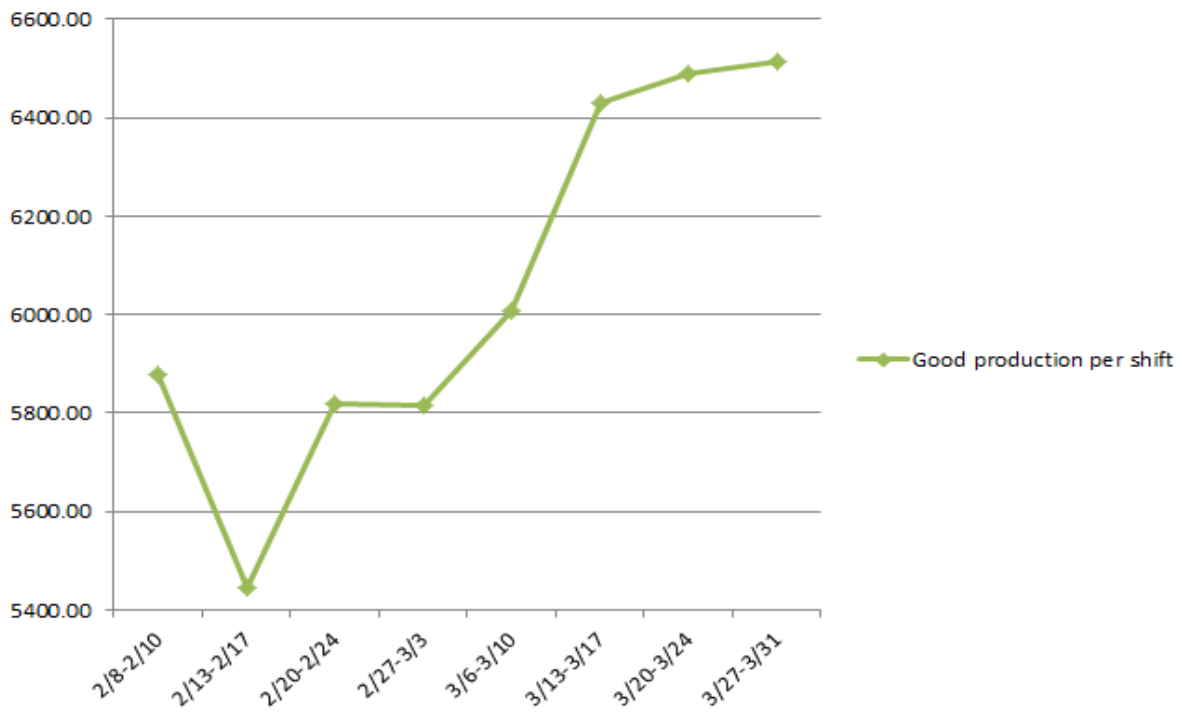


Figure 24: Average of Production of Good Parts per Shift for Press 4

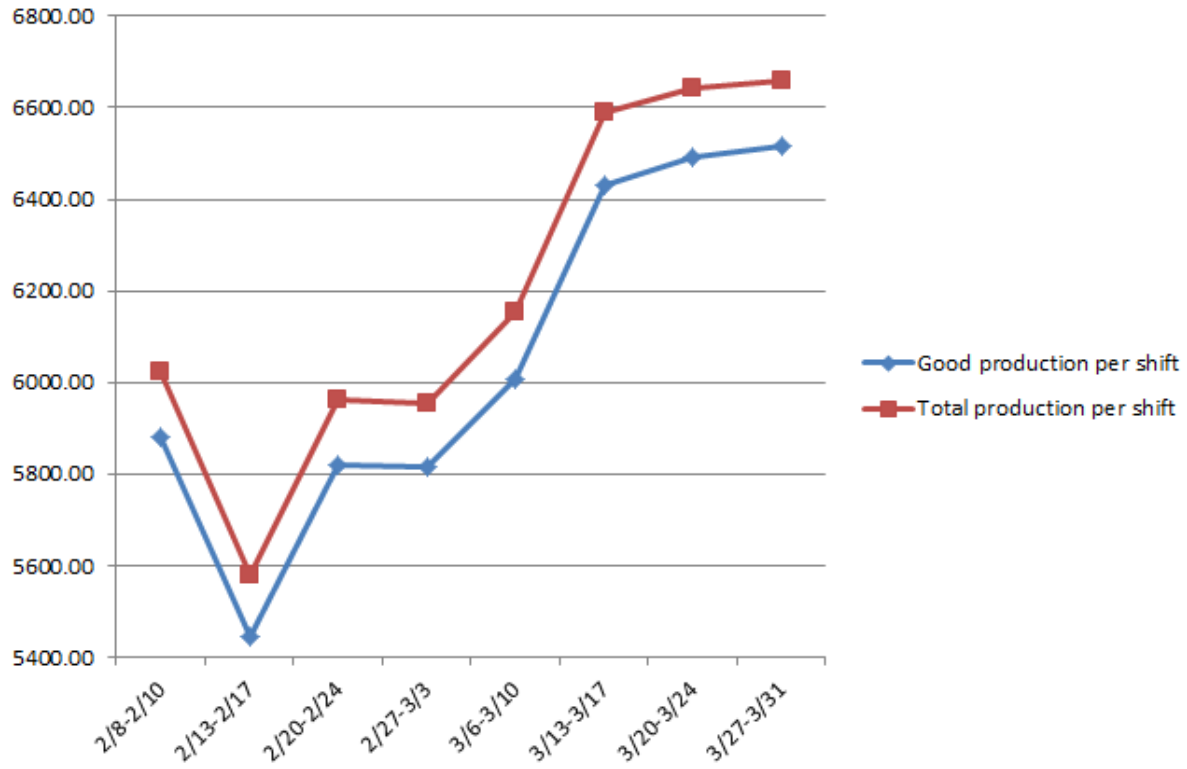


Figure 25: Average of Total Production and Production of Good Parts for Press 4

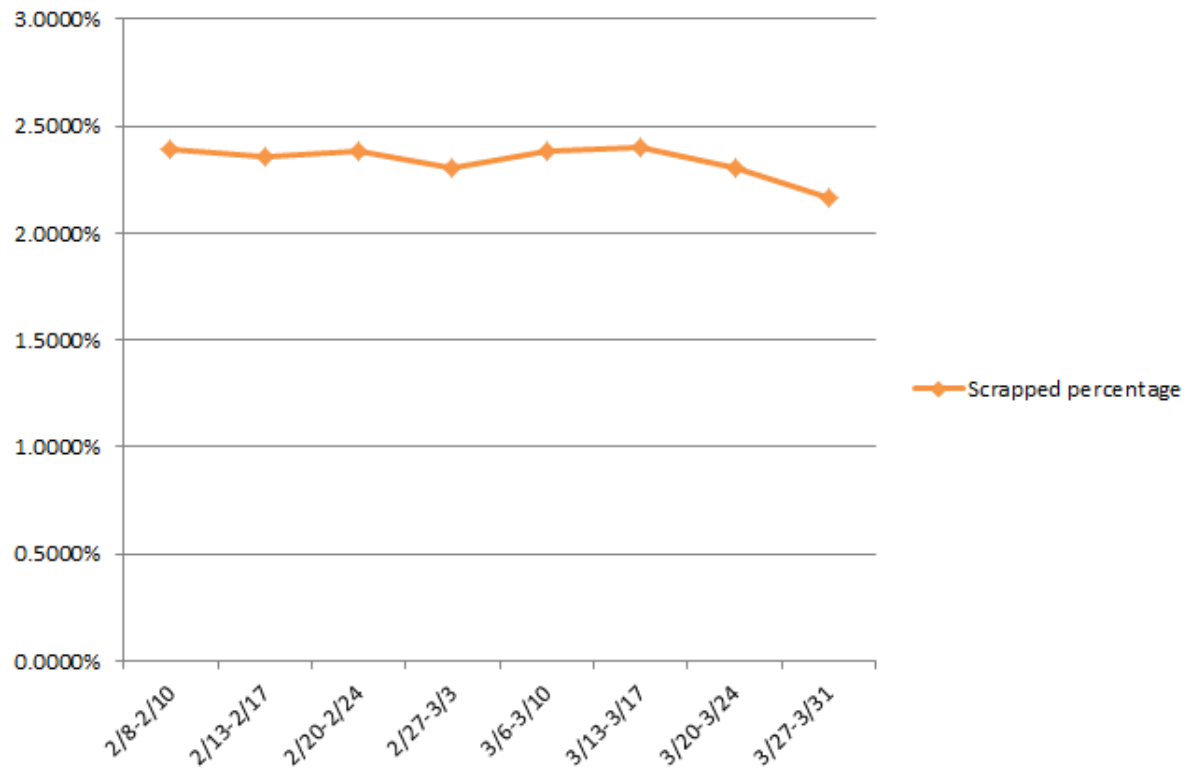


Figure 26: Average Percentage of Scrapped parts for Press 4

Analyzing the Collected Data for Press 5:

Table 6 shows the information about press 5. Reviewing this information helps to find out the result of the project for this press machine. The collected data regarding running time of this press shows that the impact of the project is positive on this press. There is an absolute increase in average running time per shift from phase 1 to phase 3.

Table 6: Press 5 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	22.50	35.97	38.43	37.03	40.35	43.00	43.90	45.33
Running time per shift	4.50	4.00	4.27	4.11	4.48	4.78	4.88	5.04
Holding time	19.33	35.45	35.07	35.13	34.32	34.92	34.60	33.17
Holding time per shift	3.87	3.94	3.90	3.90	3.81	3.88	3.84	3.69
Good production	30590.00	48703.00	52569.00	50576.00	55194.00	58887.00	60184.00	62182.00
Good production per shift	6118.00	5411.44	5841.00	5619.56	6132.67	6543.00	6687.11	6909.11
Scrapped parts	636.00	995.00	1120.00	1067.00	1131.00	1244.00	1235.00	1313.00
Scrapped percentage	2.0368%	2.0021%	2.0861%	2.0661%	2.0080%	2.0688%	2.0108%	2.0679%
Total production	31226.00	49698.00	53689.00	51643.00	56325.00	60131.00	61419.00	63495.00
Total production per shift	6245.2	5522	5965.444	5738.111	6258.333	6681.222	6824.333	7055

Figure 27 shows the average running time per shift for every week of the phases. The average running time per shift in phase 1 is between 4.00 hours and 4.50 hours. These numbers are increased to 4.78 hours and 5.04 hours in phase 3.

Compare to the changes in the running time for press 5, there is almost no change in holding time. The lowest average holding time per shift in phase 1 is 3.87 hours and this number for phase 3 is 3.69 hours. The highest number for average holding time per shift for phase 1 and phase 3 are 3.94 hours and 3.88 hours respectively.

Figure 28 fairly shows what have been explained above.

Also, figure 29 clearly shows that running time and holding time are independent.

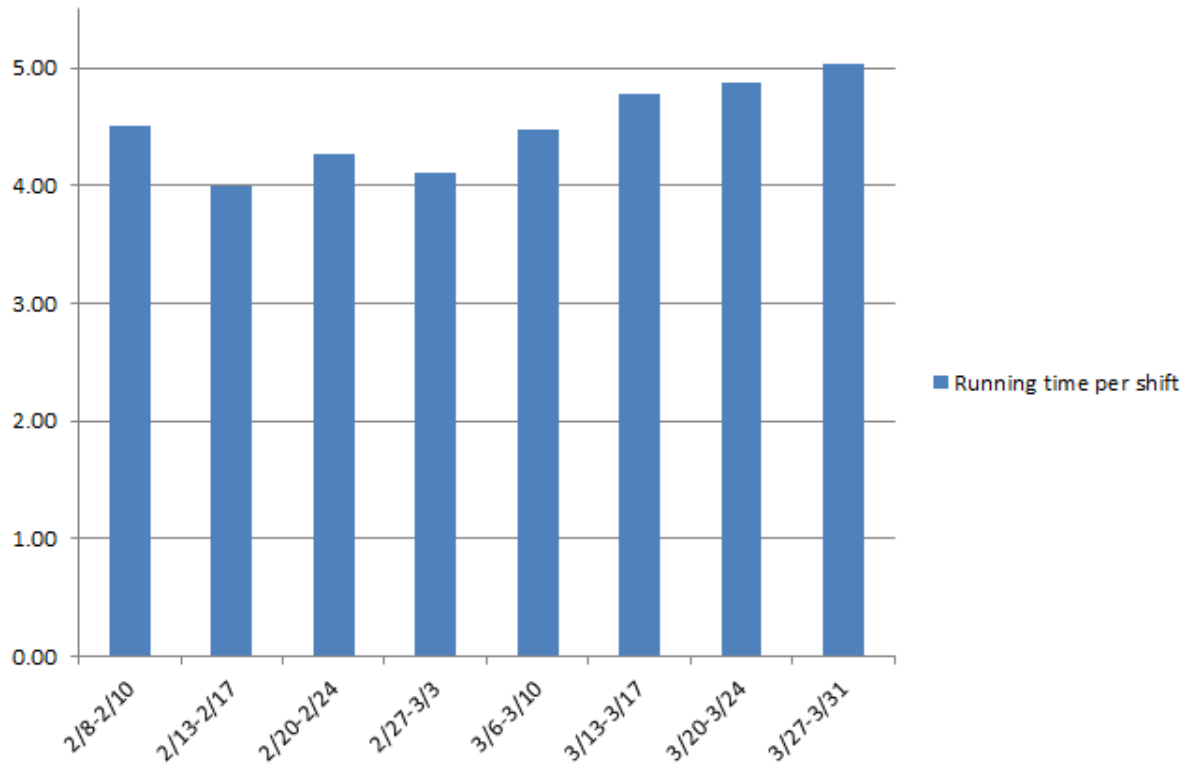


Figure 27: Average Running Time per Shift for Press 5

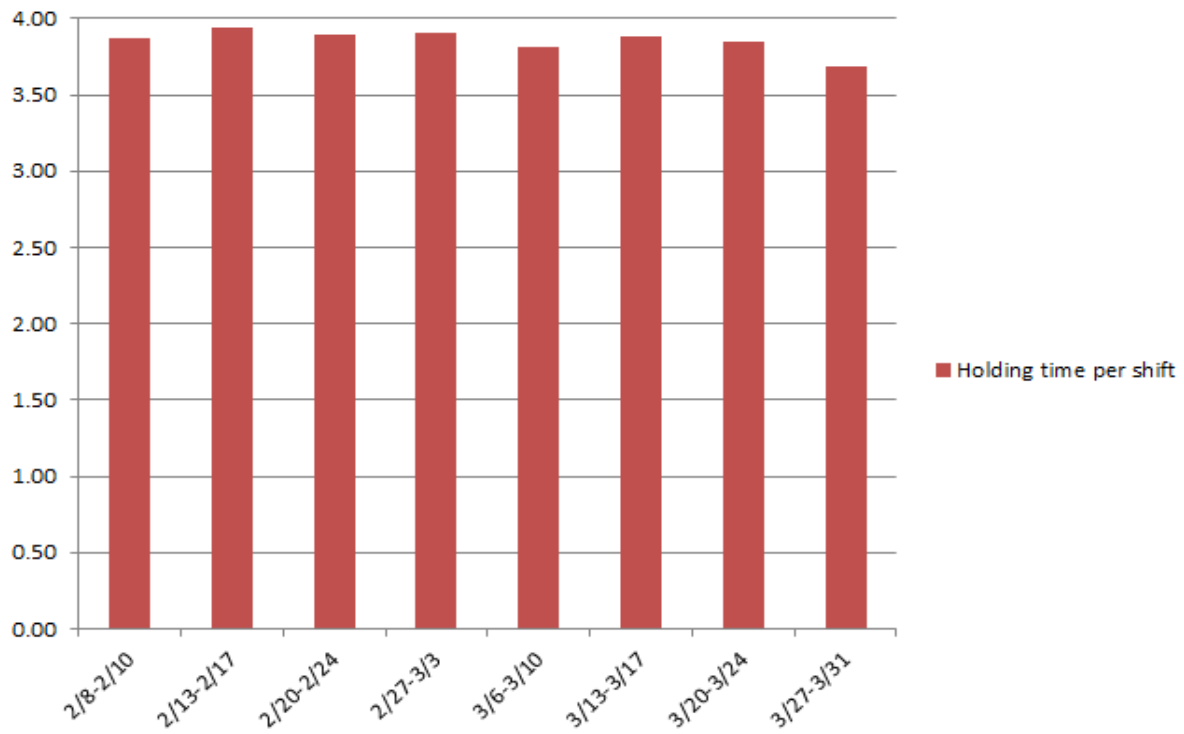


Figure 28: Average Holding Time per Shift for Press 5

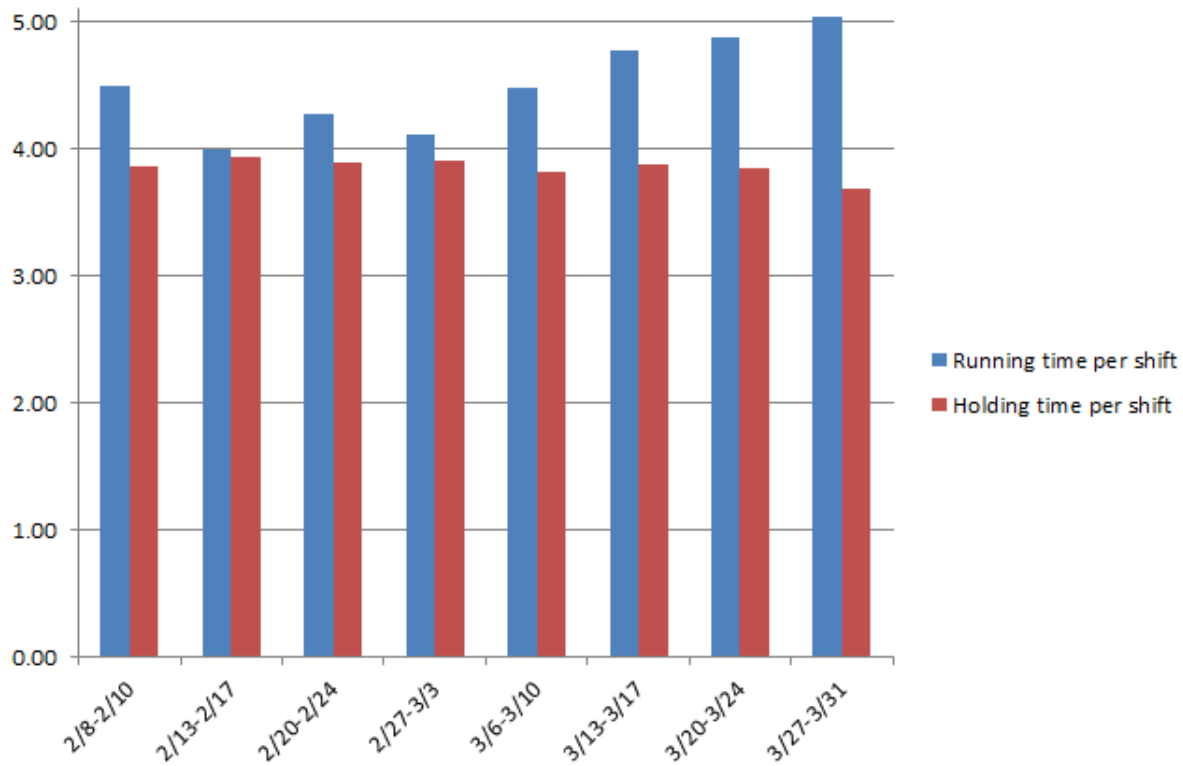


Figure 29: Average Running Time and Holding Time per Shift for Press 5

Information about scrapped parts shows that there is increase in producing bad parts from phase 1 to phase 3. After reviewing in details, the theory of regression in production will be rejected. Figure 30 shows the average percentage of the scrapped parts per shift in every week. This diagram shows that the ratio of scrapped parts to total production remained almost constant during the entire project. Then, as it is shown in the figure 31, there should be an increase in production of good parts to have a diagram like figure 31. The average production of good part per shift is between 5411.44 parts and 6118.00 parts in phase 1. These numbers are 6543.00 parts and 6909.11 parts in phase 3.

Figure 32 also confirms explanation above regarding increase in production with constant ratio of the scrapped parts.

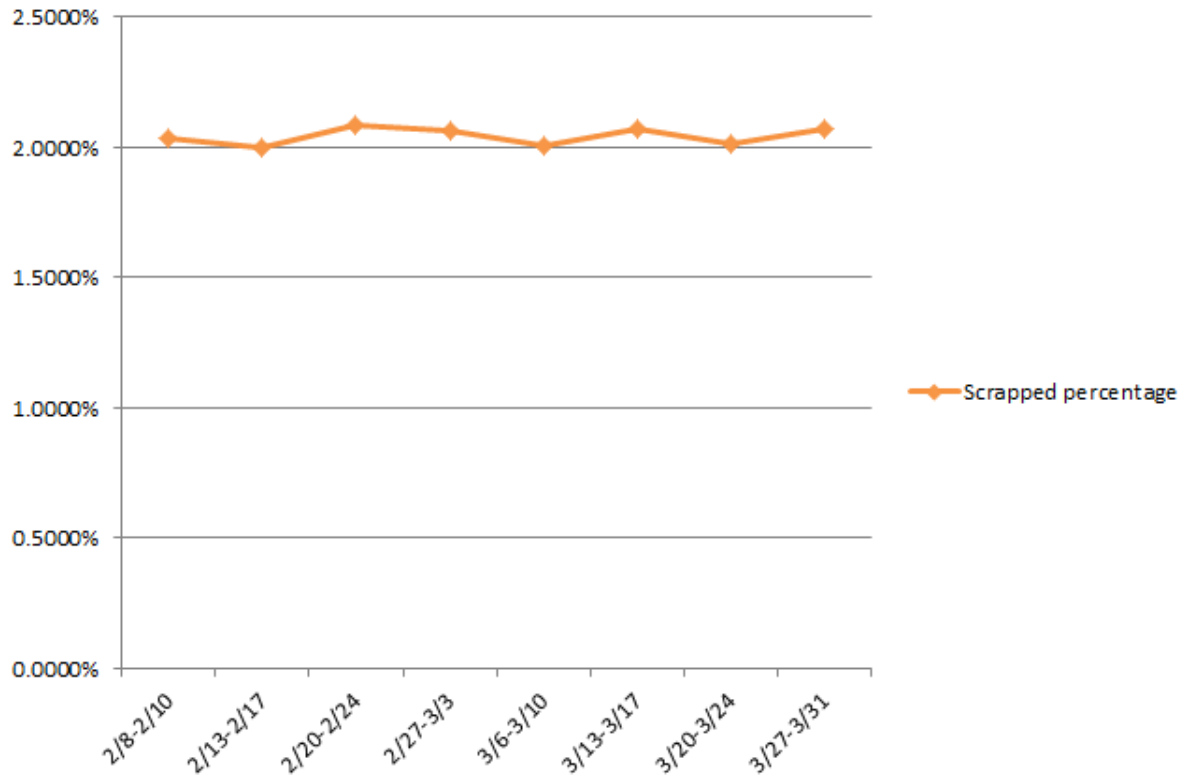


Figure 30: Average Percentage of Scrapped parts for Press 5

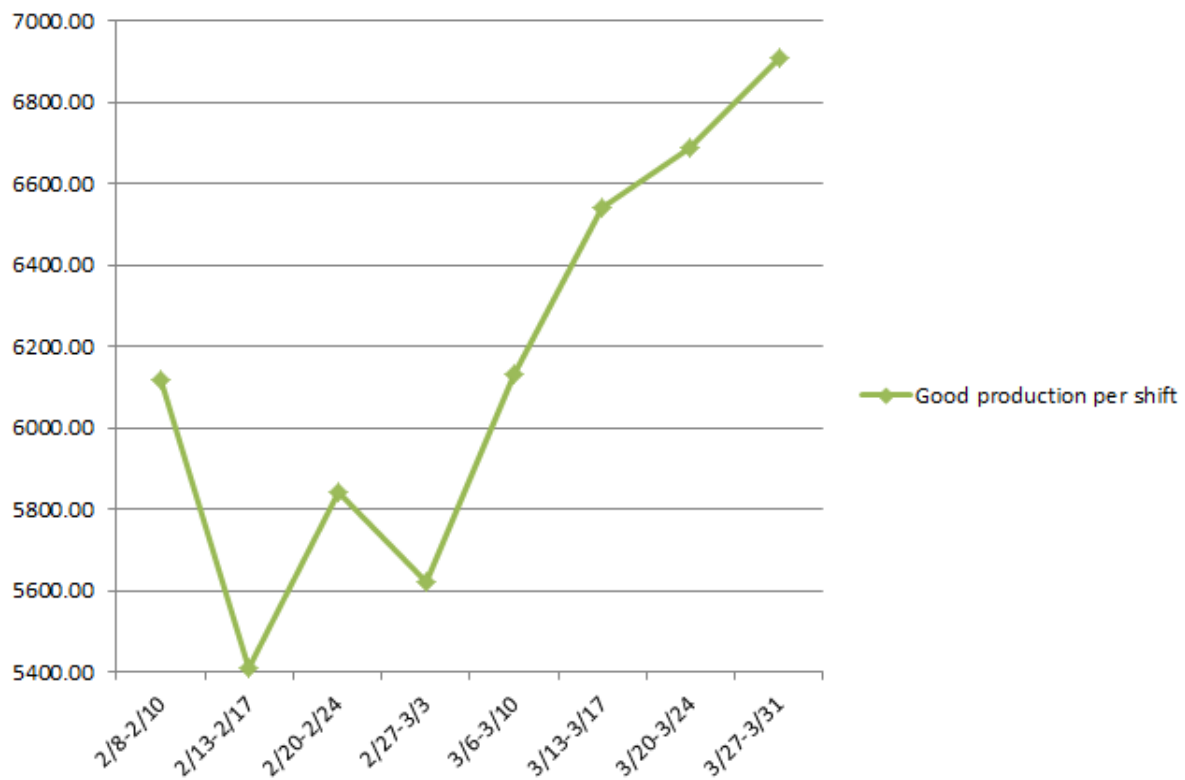


Figure 31: Average of Production of Good Parts per Shift for Press 5

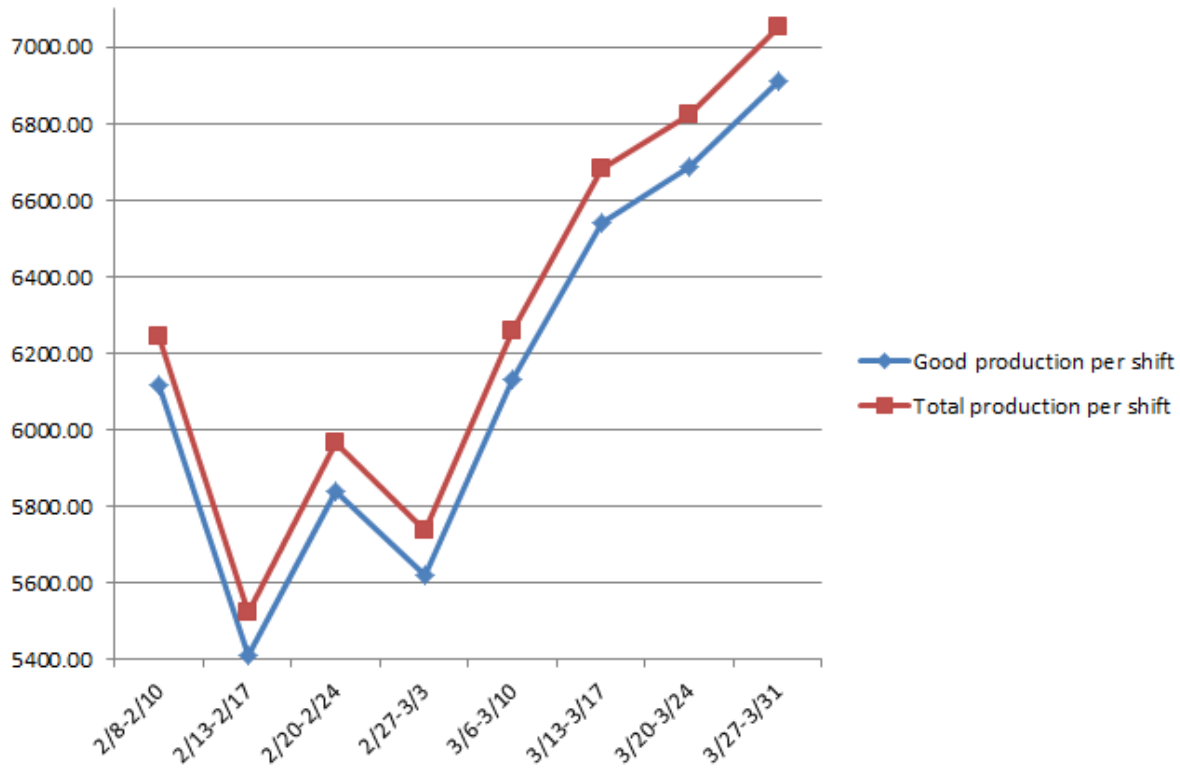


Figure 32: Average of Total Production and Production of Good Parts for Press 5

Analyzing the Collected Data for Press 6:

Information about press 6 is located in the table 7. By looking at the data in table 7, it can be concluded that there is more running time in phase 3 than phase 1. The average running times per shift in phase 1 are 4.27, 4.00, 4.02, and 4.14 hours from 1st week to 4th week. The numbers 4.70, 4.83, and 4.81 hours are the average running times per shift in phase 3 for last three weeks.

Figure 33 shows this increase from phase 1 to phase 3. It is known as an improvement in production for press 6. If there is less holding time at the end of the project, then it will be another positive change in the process for press 6. Figure 34 shows the changes in the average holding time per shift for press 6 from week 1 to week 8. Figure 34 show that, there are some differences between average holding times per shift for phase 1 and phase 3. The average holding times per shift in phase 1 are between 4 hours and 4.25 hours, and they are between 3.89 hours and 3.98 hours in phase 3. Figure 35 demonstrates both diagrams of running time and

holding time for press 6 combined. It can be concluded that the changes in the holding time for press 6 from phase 1 to phase 3 are inconsiderable in compare to the changes in the running time.

Table 7: Press 6 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	21.33	35.97	36.15	37.27	39.15	42.32	43.50	43.30
Running time per shift	4.27	4.00	4.02	4.14	4.35	4.70	4.83	4.81
Holding time	20.00	36.95	38.27	36.07	34.93	35.85	35.00	35.20
Holding time per shift	4.00	4.11	4.25	4.01	3.88	3.98	3.89	3.91
Good production	12617.00	21242.00	21353.00	22025.00	23162.00	25072.00	25785.00	25666.00
Good production per shift	2523.40	2360.22	2372.56	2447.22	2573.56	2785.78	2865.00	2851.78
Scrapped parts	142.00	236.00	249.00	256.00	265.00	289.00	302.00	289.00
Scrapped percentage	1.1129%	1.0988%	1.1527%	1.1490%	1.1312%	1.1395%	1.1577%	1.1135%
Total production	12759.00	21478.00	21602.00	22281.00	23427.00	25361.00	26087.00	25955.00
Total production per shift	2551.8	2386.444	2400.222	2475.667	2603	2817.889	2898.556	2883.889

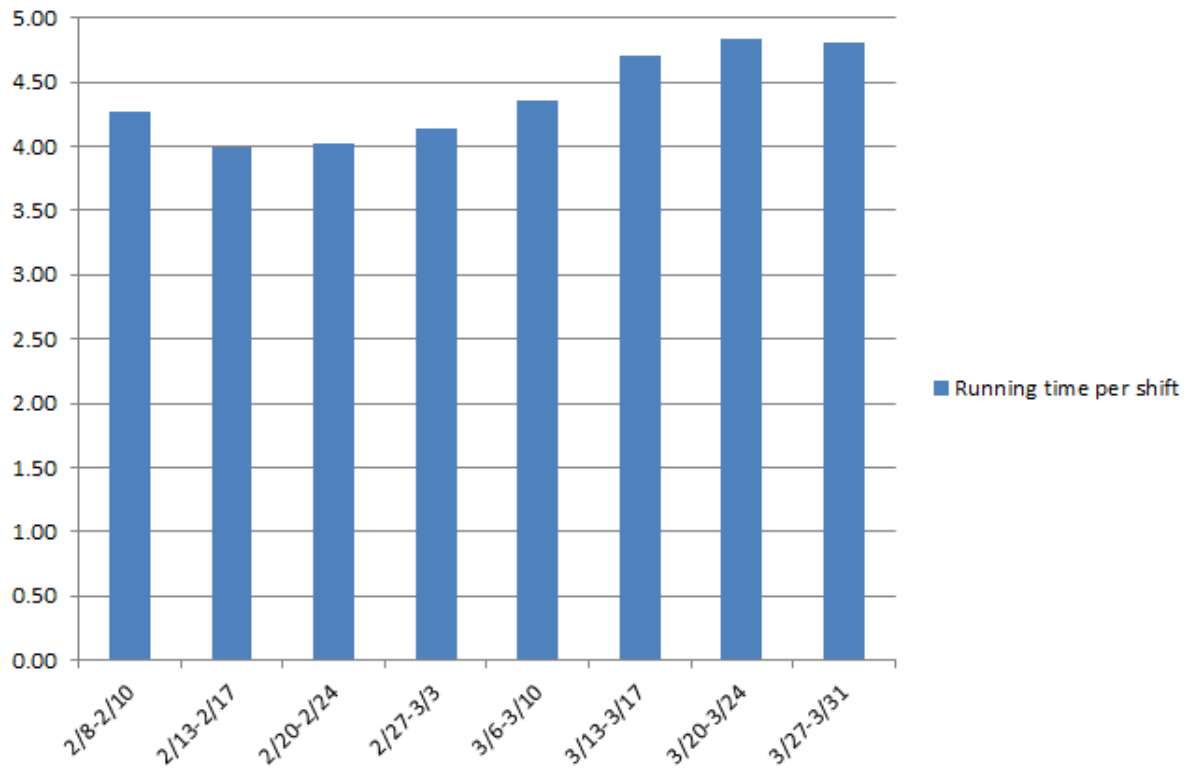


Figure 33: Average Running Time per Shift for Press 6

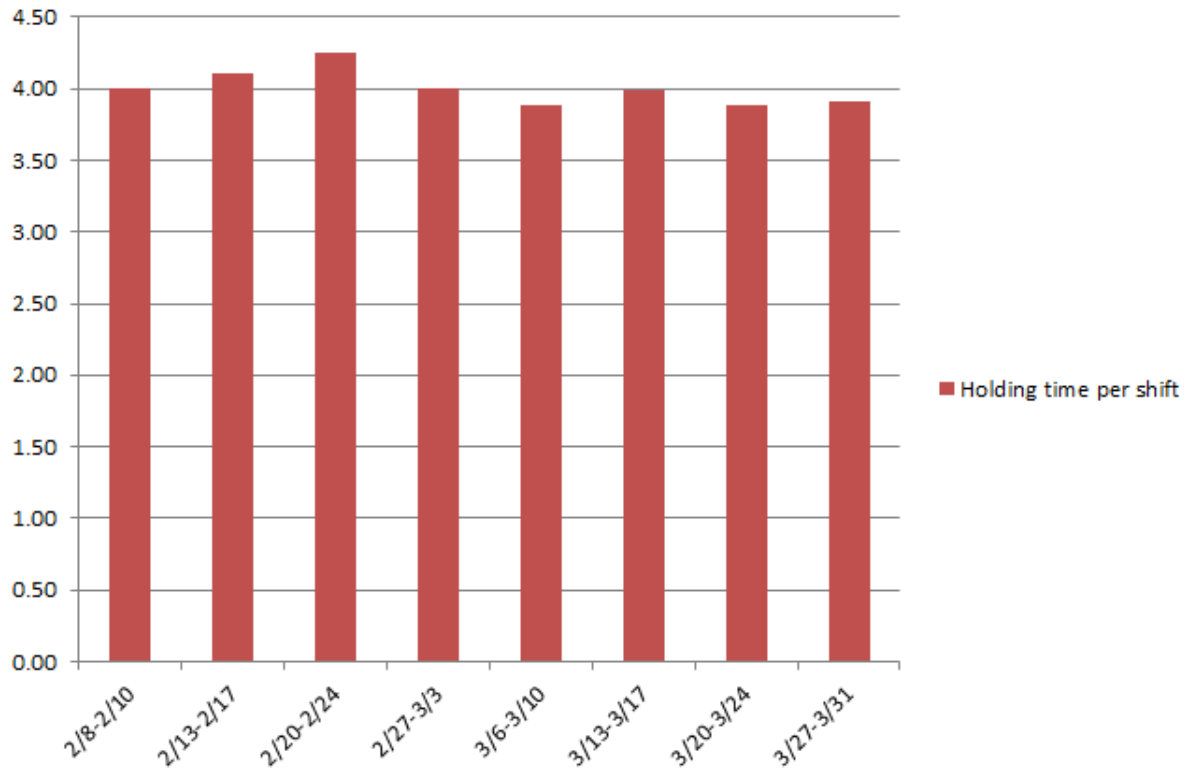


Figure 34: Average Holding Time per Shift for Press 6

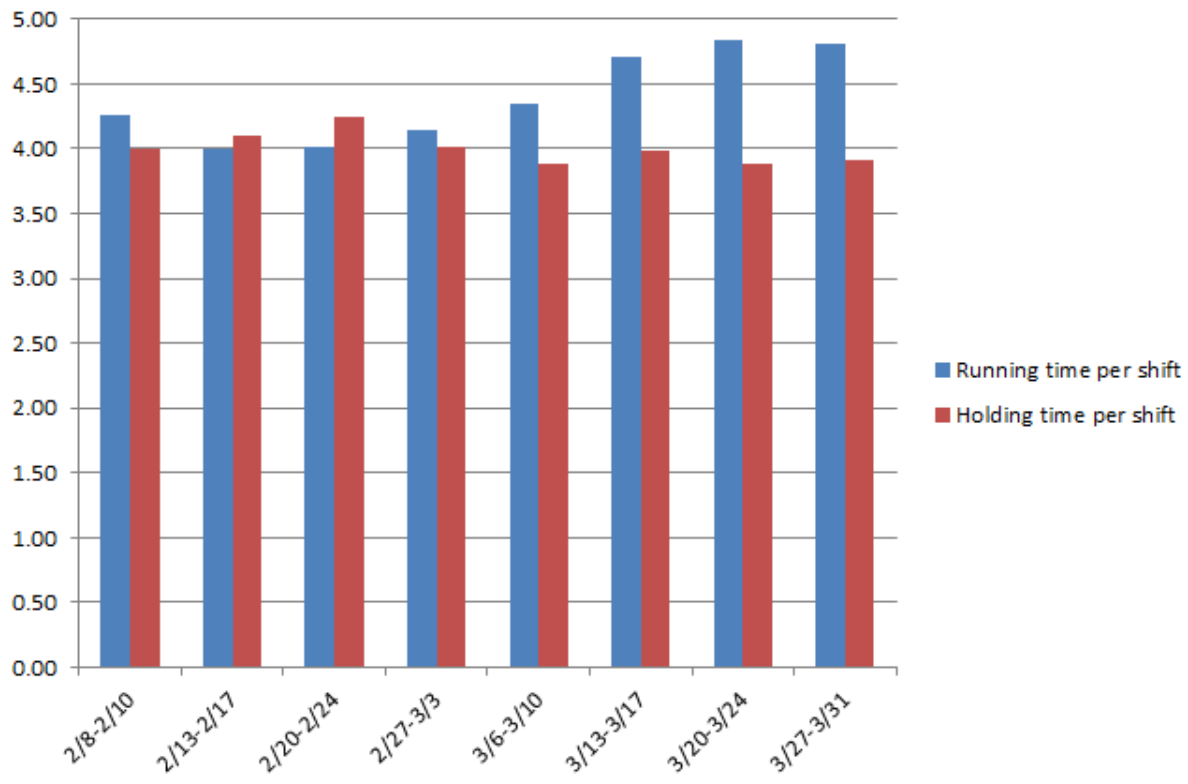


Figure 35: Average Running Time and Holding Time per Shift for Press 6

Although the changes in holding time are hard to be known as improvement, the row “good production” in table 7 shows other information, which means better production in phase 3 than phase 1.

Press 6 produced 2523.40 good parts in average per shift in phase 1 at most. However, the efficiency of this press is at least 2785.78 good parts in average per shift in phase 3, which is clearly shown in figure 36.

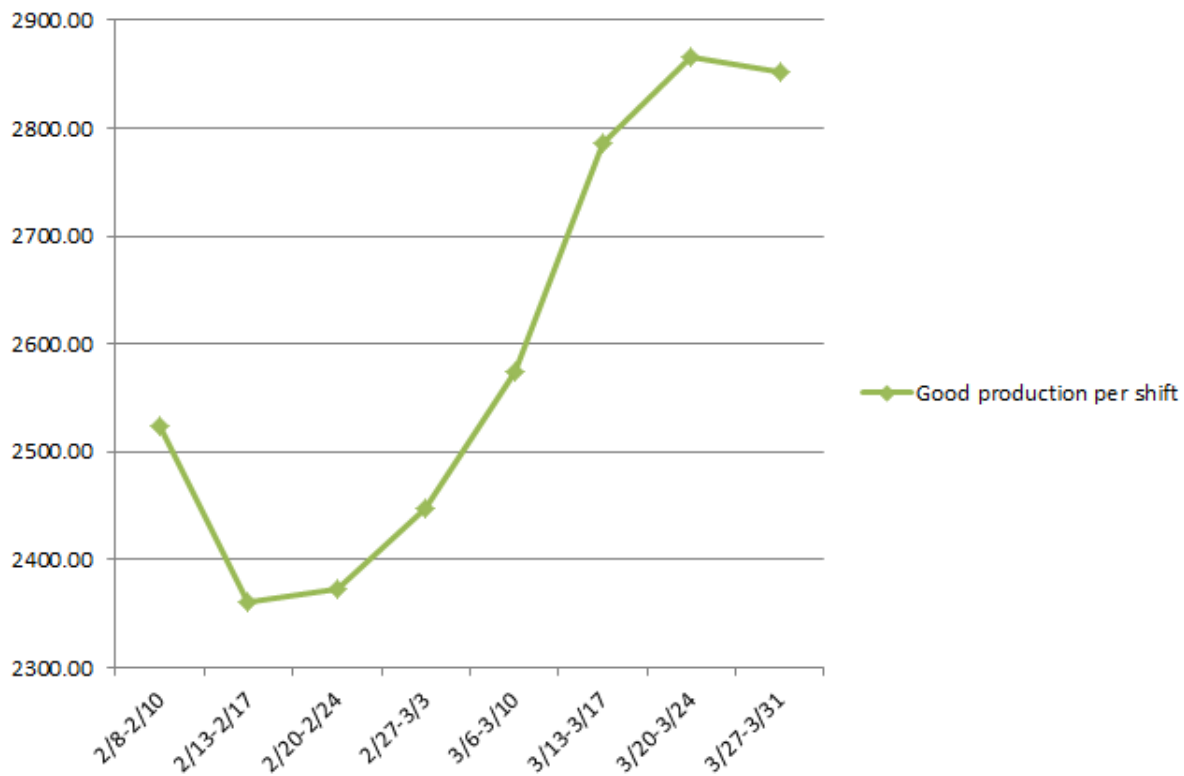


Figure 36: Average of Production of Good Parts per Shift for Press 6

Increase in number of parts is also seen in scrapped parts. Figure 37 shows that the percentage of scrapped parts is near to constant in this period. This means, although there is an improvement in good parts, it is mostly because of higher production than having less bad parts. Figure 38 shows that total production and production of good parts change same as each other during the data collection.

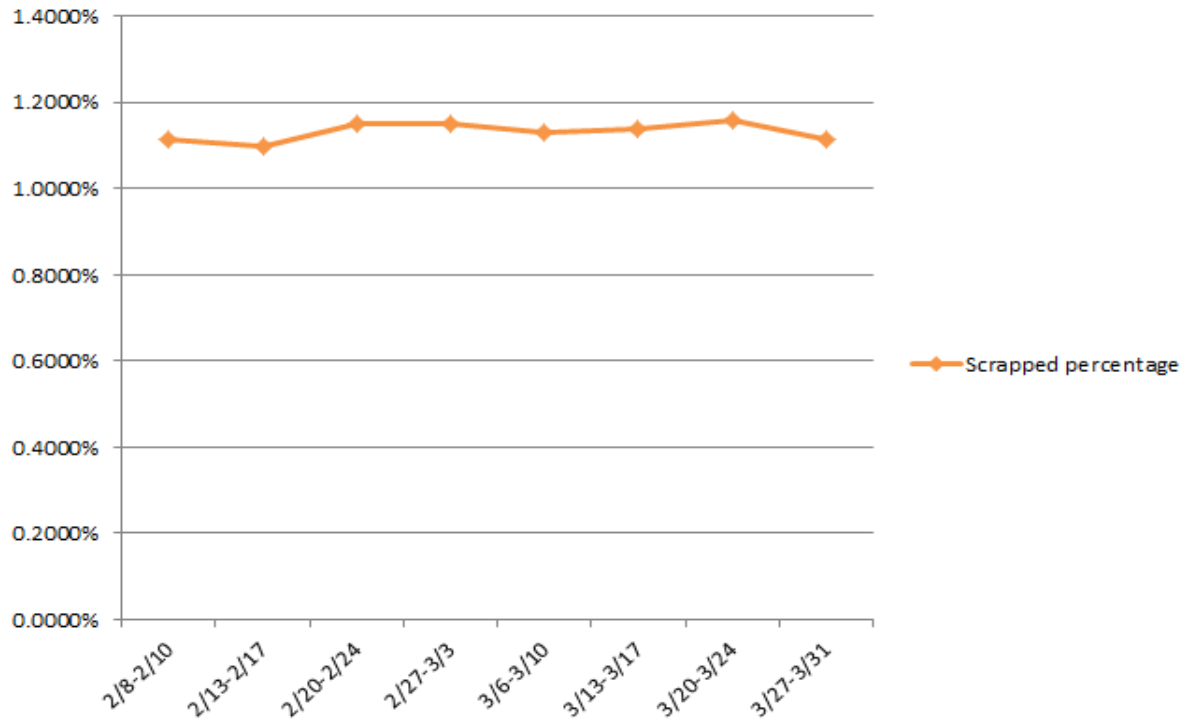


Figure 37: Average Percentage of Scrapped parts for Press 6

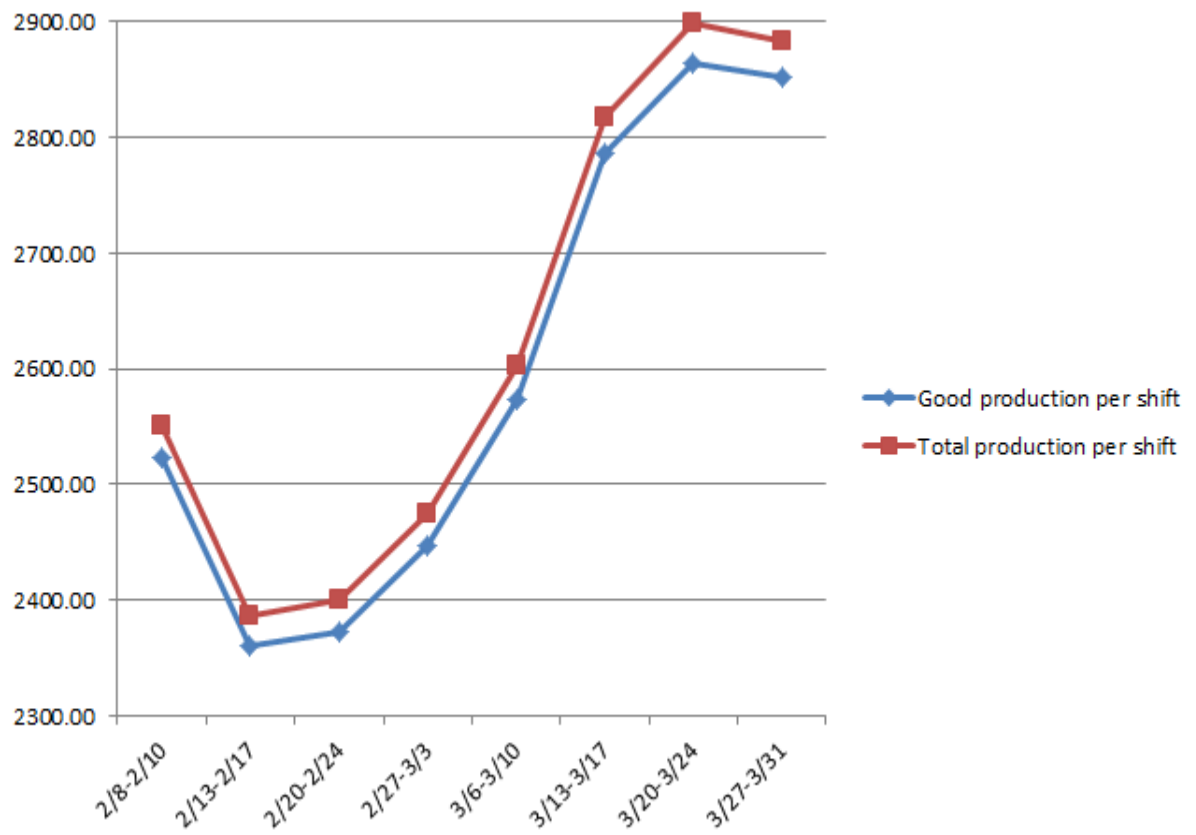


Figure 38: Average of Total Production and Production of Good Parts for Press 6

Analyzing the Collected Data for Press 7:

During the data collection, like other press machines, the information about press 7 has been collected. Table 8 has information about press 7. Like all other previous press machines, by looking into this information, it is obvious that there is more running time in phase 3 than phase 1 for press 3.

Table 8: Press 7 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	22.85	41.07	42.40	42.88	43.20	44.33	45.53	45.43
Running time per shift	4.57	4.56	4.71	4.76	4.80	4.93	5.06	5.05
Holding time	19.90	34.68	34.35	34.87	34.30	34.50	33.38	33.48
Holding time per shift	3.98	3.85	3.82	3.87	3.81	3.83	3.71	3.72
Good production	39007.00	70232.00	72729.00	73575.00	74129.00	76113.00	78212.00	78037.00
Good production per shift	7801.40	7803.56	8081.00	8175.00	8236.56	8457.00	8690.22	8670.78
Scrapped parts	490.00	938.00	1000.00	1016.00	1022.00	1077.00	1064.00	1060.00
Scrapped percentage	1.2406%	1.3180%	1.3563%	1.3621%	1.3599%	1.3953%	1.3421%	1.3401%
Total Production	39497.00	71170.00	73729.00	74591.00	75151.00	77190.00	79276.00	79097.00
Total Production per shift	7899.40	7907.78	8192.11	8287.89	8350.11	8576.67	8808.44	8788.56

Average running time per shift is shown in figure 39 for every week. The running time for press 7 is between 4.56 hours and 4.76 hours for phase 1 and 4.93 hours and 5.06 hours for phase 3. Figure 40 shows the information regarding the average holding time per shift in every week for press 7. It is hard to say that there is a tangible change in the holding time, but when two diagrams of “running time” and “holding time” are combined in figure 41, it seems that there is a reverse relationship between the length of running time and holding time, because as there is more running time there would be less holding time.

The impact of the project on number of produced parts can be explained by analyzing figure 42. The curve in figure 42 shows an absolute increase in production of good parts from phase 1 to phase 3. The best average of the production of good parts in phase 1 is 8175.00 parts per shift, and this number of production is 282 parts less than the lowest average production of good parts per shift in phase 3. It is clear that it should be an increase in total production too.

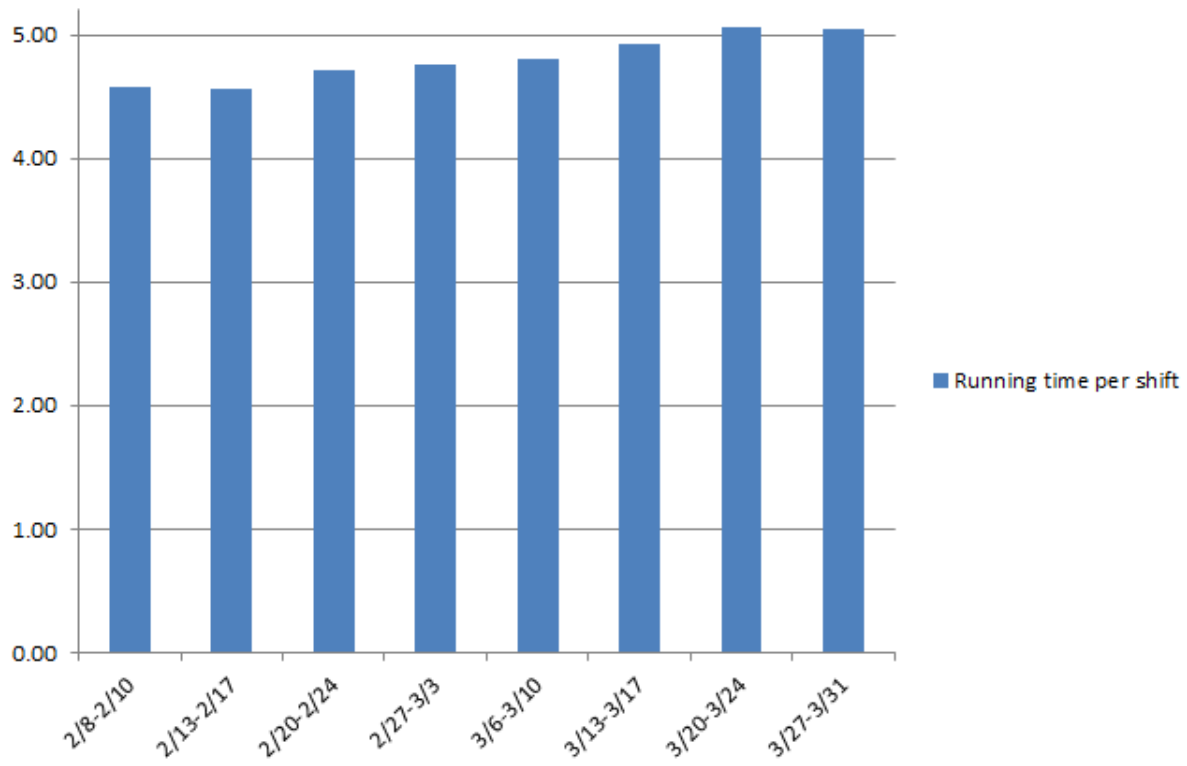


Figure 39: Average Running Time per Shift for Press 7

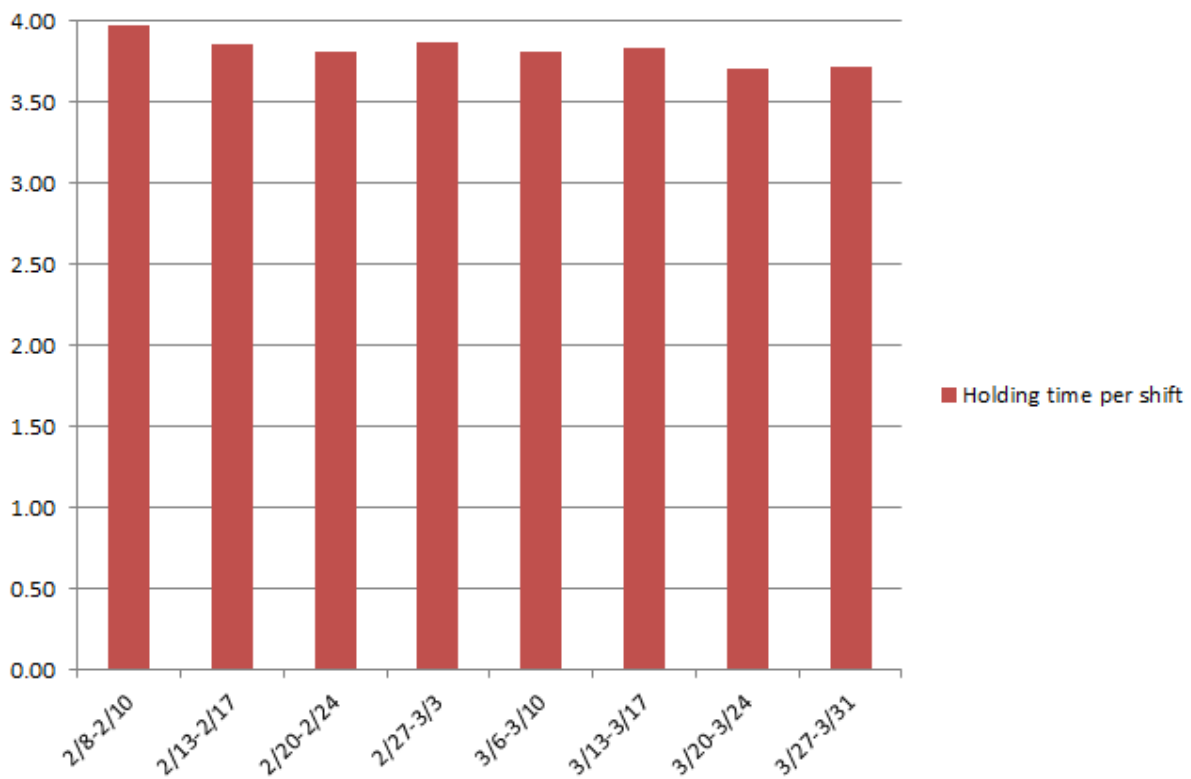


Figure 40: Average Holding Time per Shift for Press 7

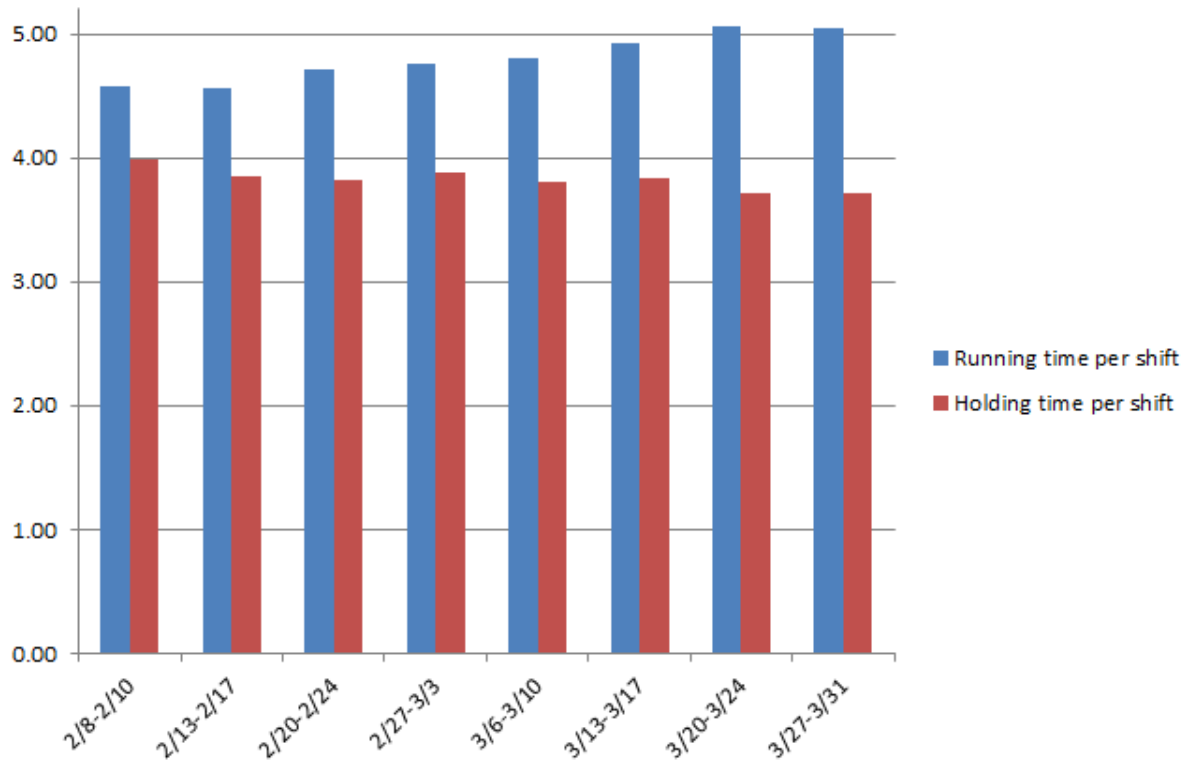


Figure 41: Average Running Time and Holding Time per Shift for Press 7

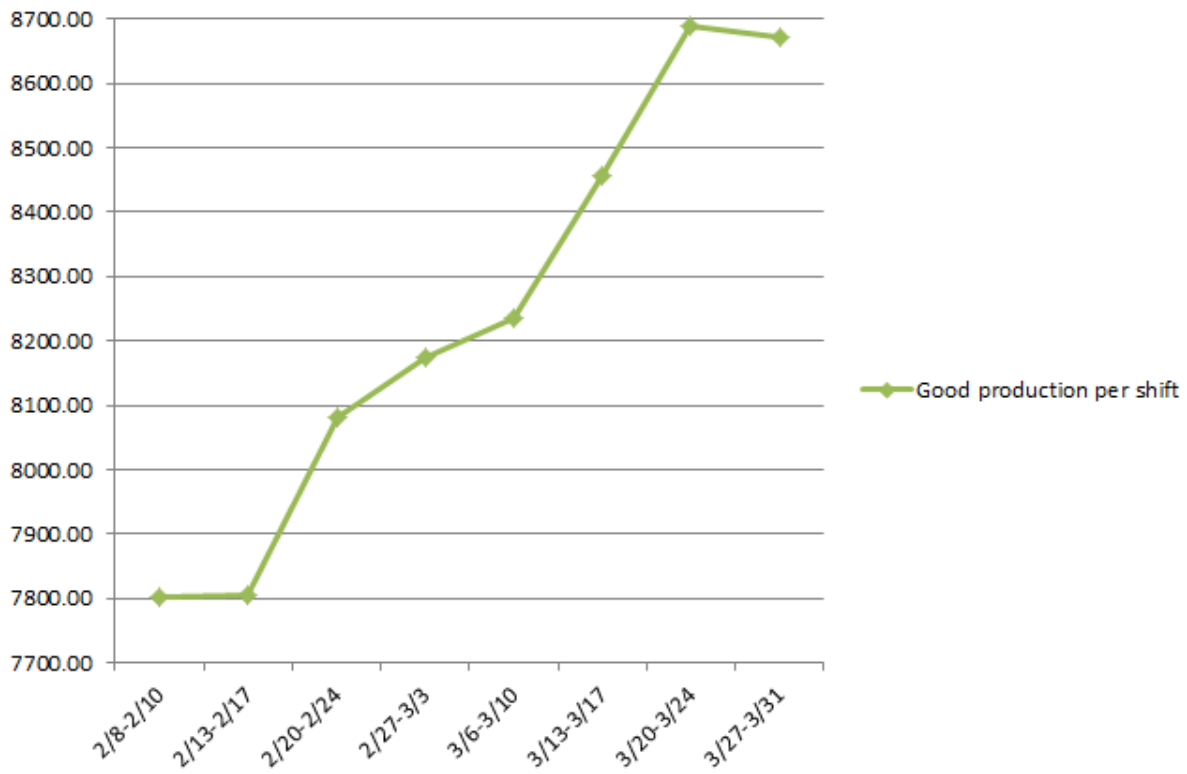


Figure 42: Average of Production of Good Parts per Shift for Press 7

Figure 43 shows changes of average of total production per shift for every week besides average of production of good parts per shift. The gap between two graphs is the average number of scrapped parts per shift, which as it is shown the gap is constant throughout the project.

If there is an improvement in quality of production, then there should be reduction in ratio of number of scrapped parts to total production. Figure 44 shows that the percentage of scrapped parts was not reduced. Therefore, the quality of production has not been changed for press 7.

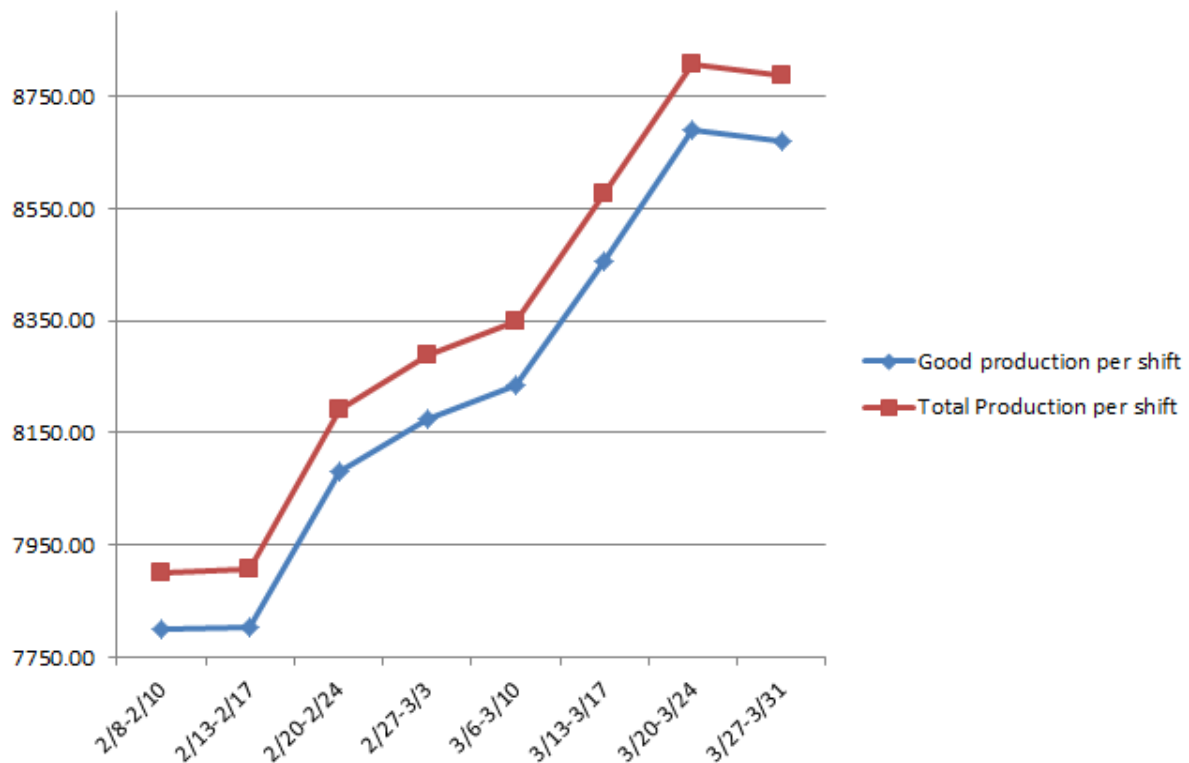


Figure 43: Average of Total Production and Production of Good Parts for Press 7

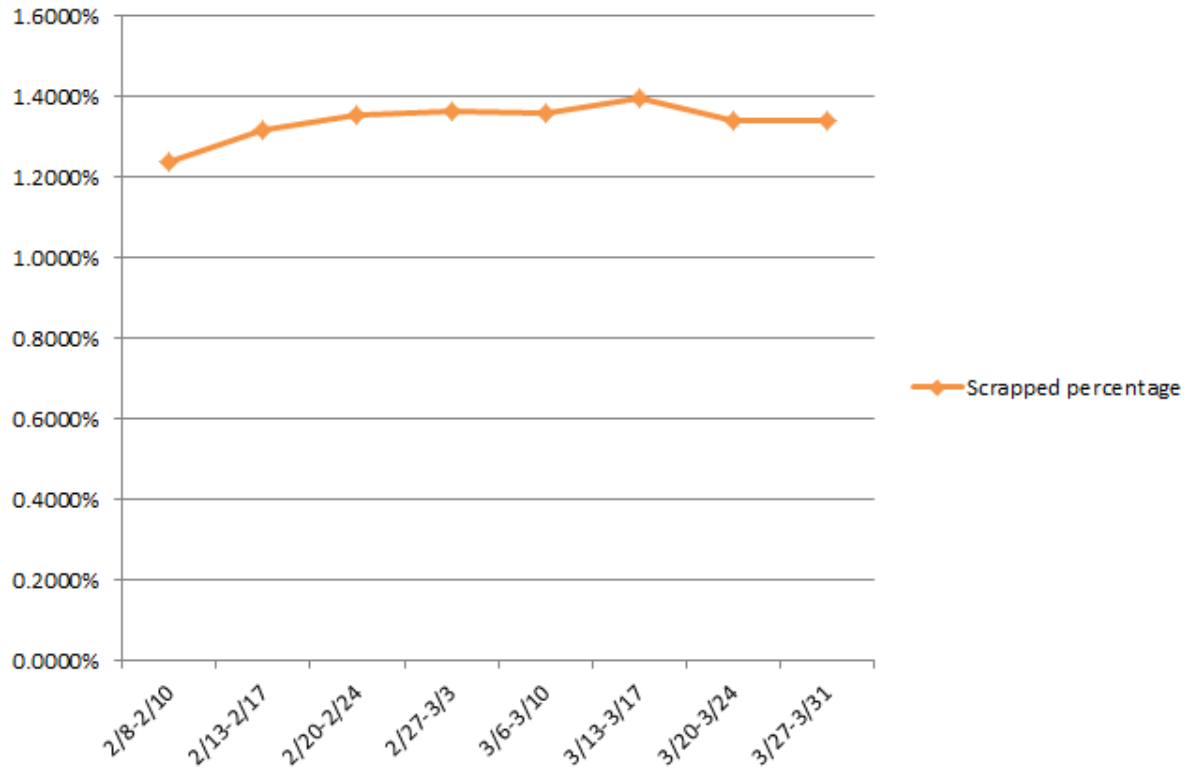


Figure 44: Average Percentage of Scrapped parts for Press 7

Analyzing the Collected Data for Press 8:

Table 9 includes information regarding running time, holding time, production of good parts, number of scrapped parts, and total production for press 8 per week for phase 1, 2, and 3.

Table 9: Press 8 Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	22.65	37.18	41.05	41.23	42.23	44.35	45.52	45.58
Running time per shift	4.53	4.13	4.56	4.58	4.69	4.93	5.06	5.06
Holding time	19.77	37.73	34.12	34.60	33.93	34.15	33.40	33.33
Holding time per shift	3.95	4.19	3.79	3.84	3.77	3.79	3.71	3.70
Good production	39546.00	64899.00	71947.00	72276.00	74061.00	77839.00	80921.00	80041.00
Good production per shift	7909.20	7211.00	7994.11	8030.67	8229.00	8648.78	8991.22	8893.44
Scrapped parts	640.00	1080.00	1225.00	1241.00	1262.00	1331.00	1358.00	1371.00
Scrapped percentage	1.5926%	1.6369%	1.6741%	1.6880%	1.6755%	1.6812%	1.6505%	1.6840%
Total Production	40186.00	65979.00	73172.00	73517.00	75323.00	79170.00	82279.00	81412.00
Total Production per shift	8037.20	7331.00	8130.22	8168.56	8369.22	8796.67	9142.11	9045.78

This table also demonstrates the average of this information per shift for every week.

Figures 45, 46, 47, 48, 49, and 50 give a better view to explain the data included in table 8.

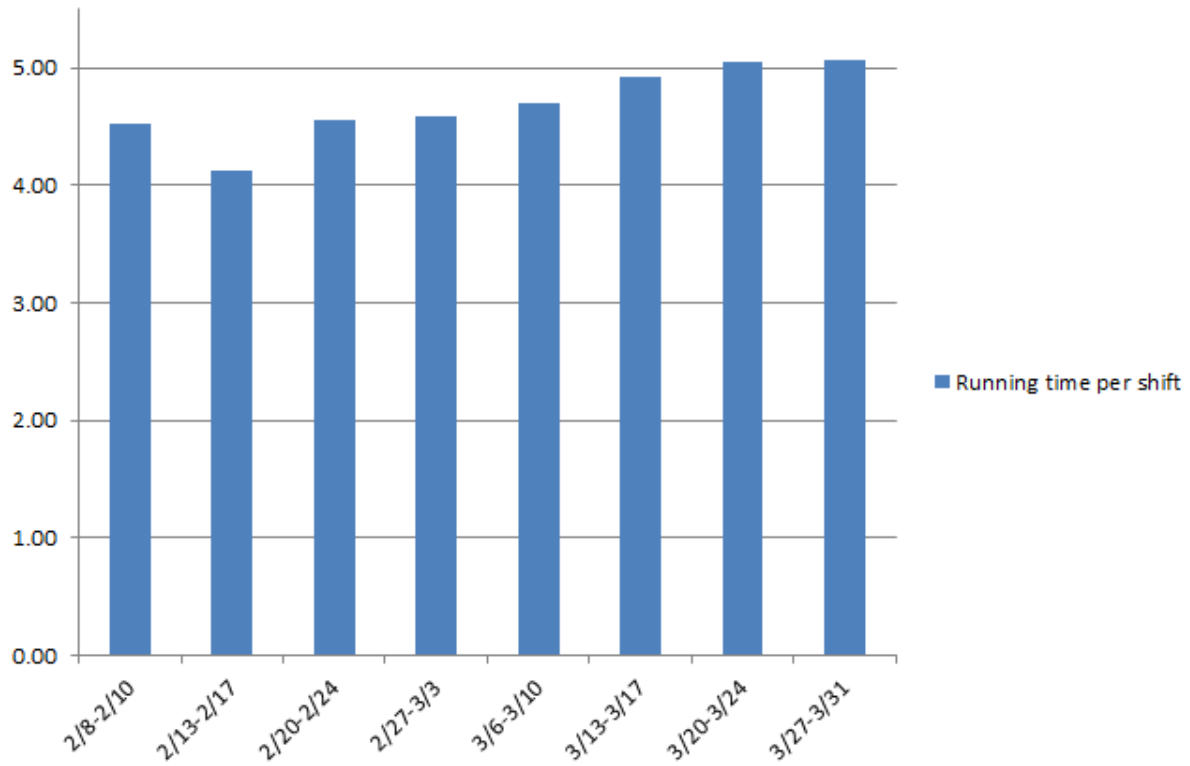


Figure 45: Average Running Time per Shift for Press 8

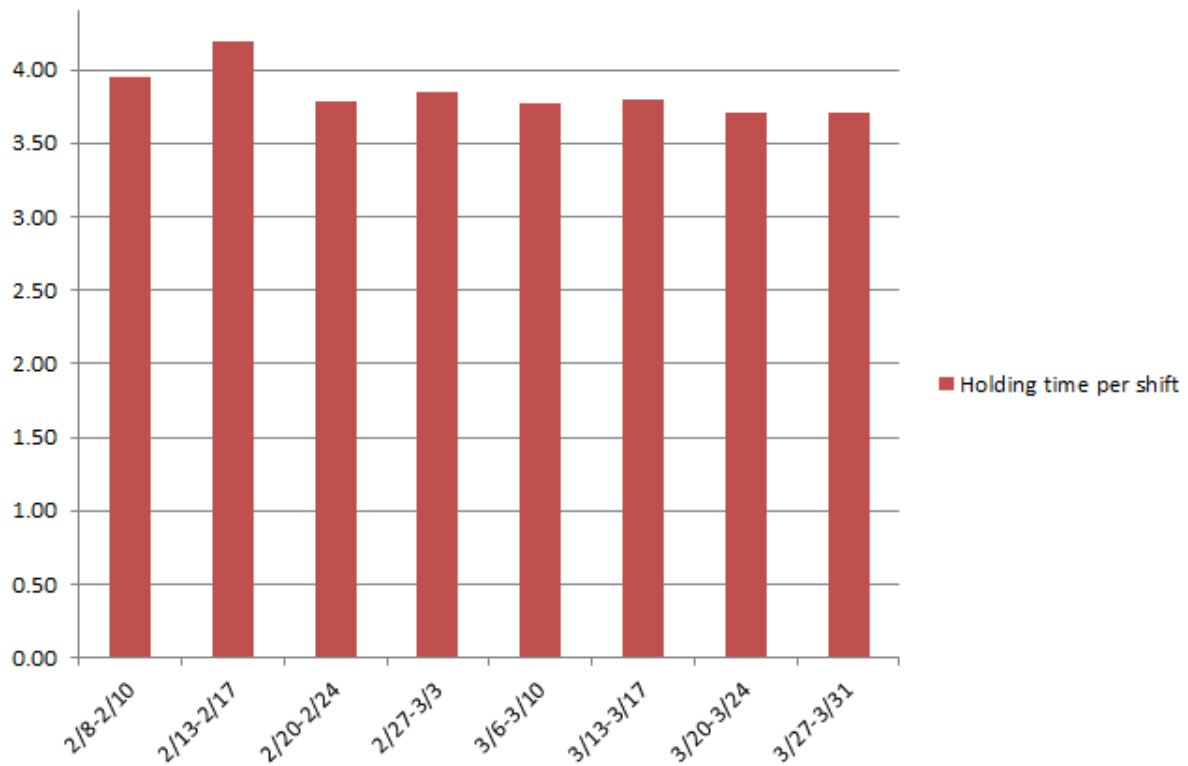


Figure 46: Average Holding Time per Shift for Press 8

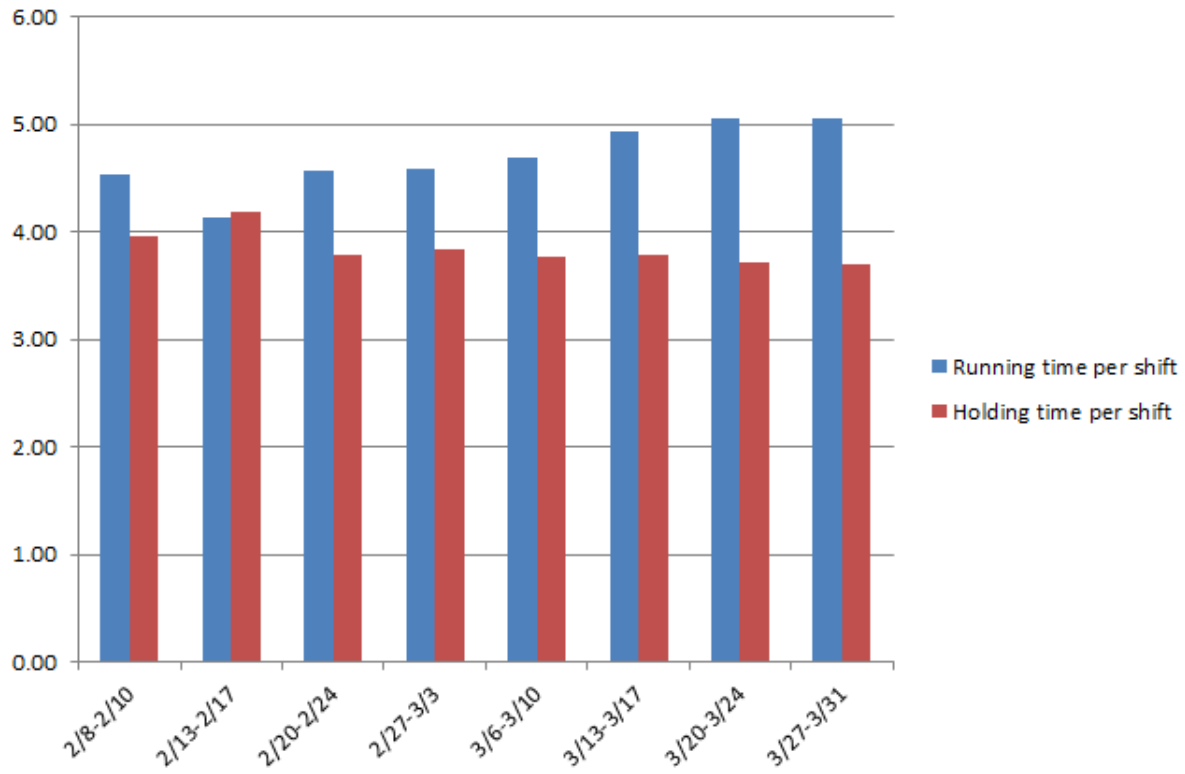


Figure 47: Average Running Time and Holding Tim per Shift for Press 8

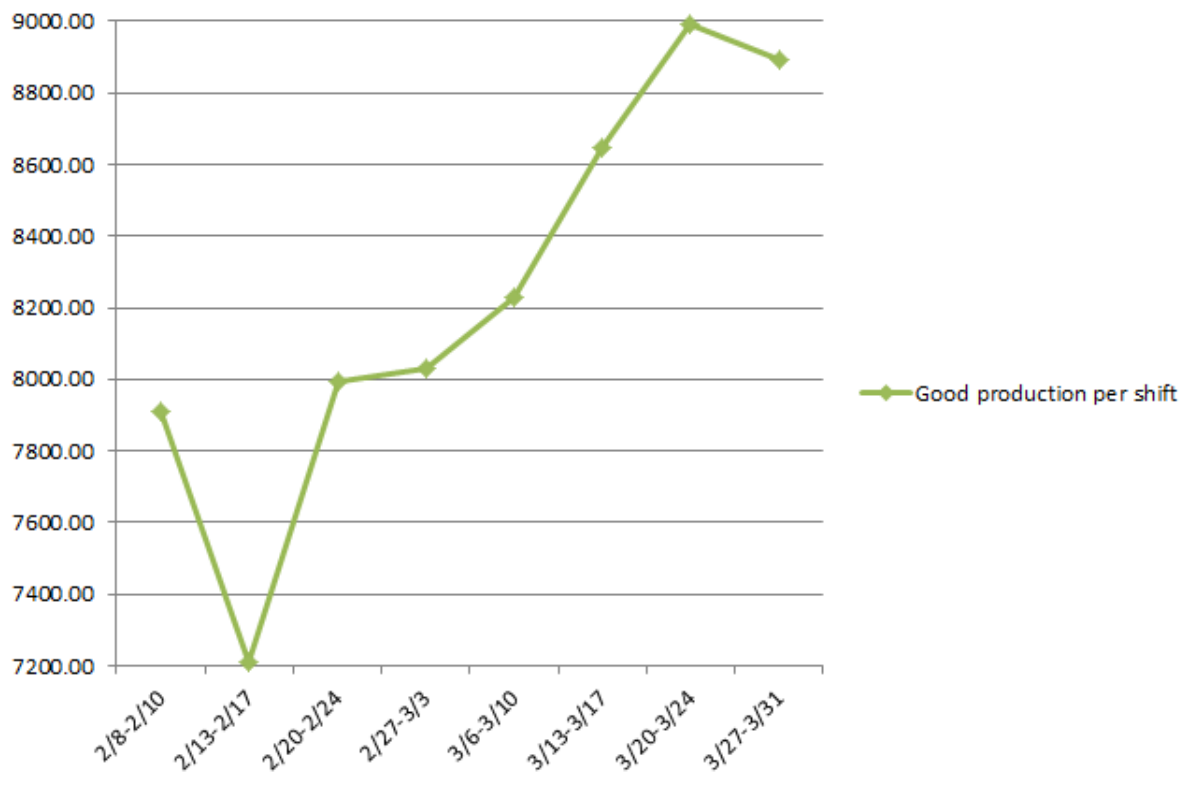


Figure 48: Average of Production of Good Parts per Shift for Press 8

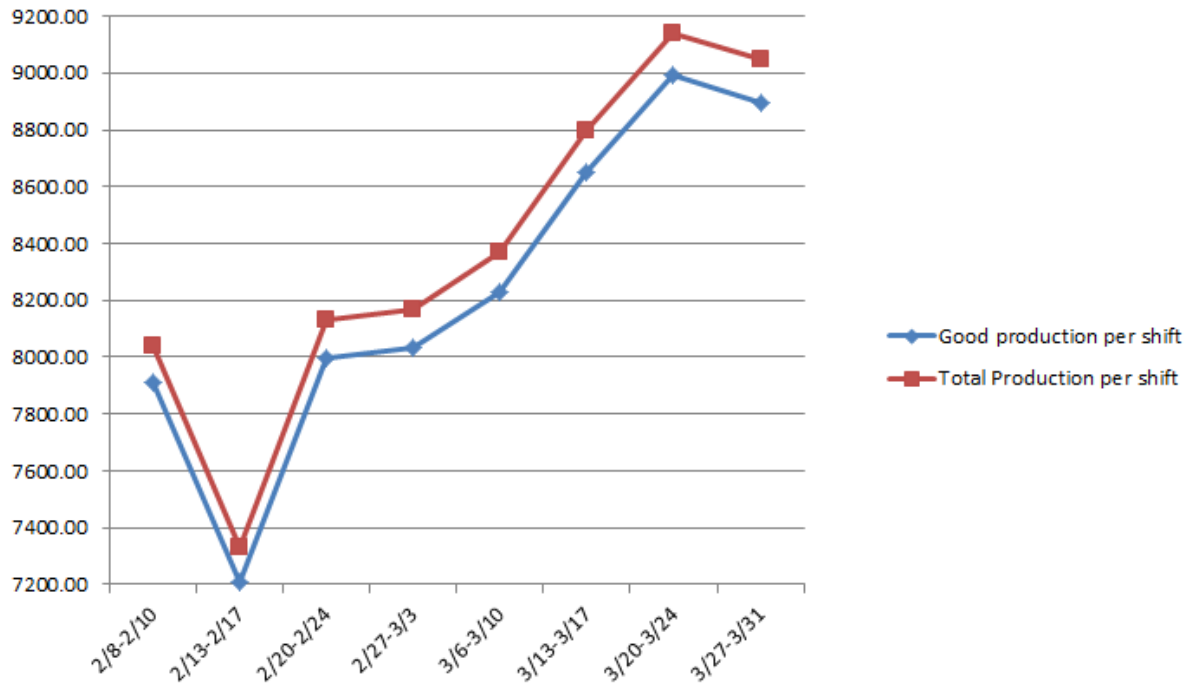


Figure 49: Average of Total Production and Production of Good Parts for Press 8

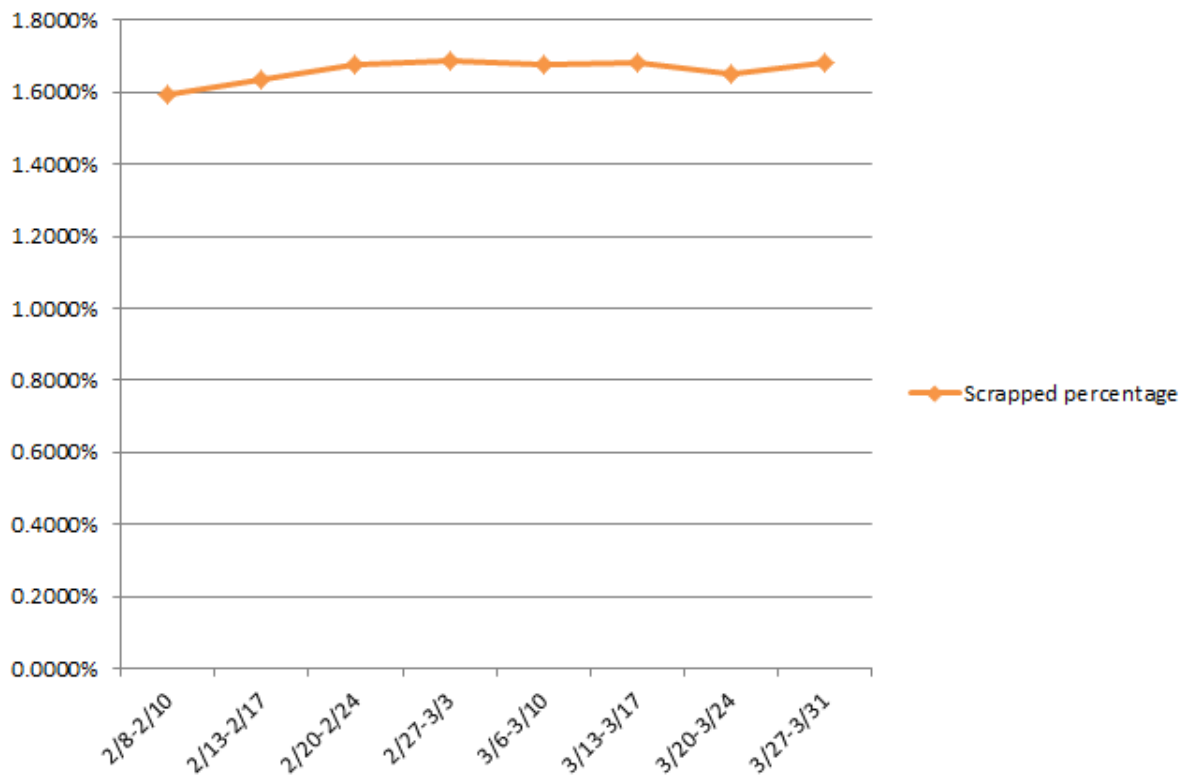


Figure 50: Average Percentage of Scrapped parts for Press 8

Reviewing figure 45 shows that the number of hours that press 8 was running in phase 3 are more than these numbers in phase 1. The average running times per shift are between 4.13 hours and 4.58 hours in phase 1 and it is between 4.93 hours and 5.06 hours for phase 3. It also seems that there is a positive effect on length of holding time after applying the changes in the stamping area.

Figure 46 show that there is less average holding time per shift for every week in phase 3 for press 8 than phase 1.

In the best week in phase 1 there is an average of 3.70 hours of holding time for press 8 per shift, but 3.79 hours is the longest time of average of holding per shift in phase 3. According to figure 47, the idea of existing relationship between running time and holding time is rejected.

This diagram also shows that the changes on running time for press 8 are more perceptible than the changes on holding time. On the other hand, figure 49 shows that there is a strong relationship between the number of total production and the number of production of good parts.

Figure 48 shows the changes of average production of good parts per shift from first week of phase 1 to the last week of phase 3. The average production of good parts per shift for press 8 in phase 1 is between 7211.00 parts and 8030.67 parts, and it is between 8646.78 parts and 8991.22 parts in phase 3. Like all other press machines, the quality of production did not change and there is almost constant ratio for scrapped parts in all three phases. Figure 50 shows that the percentage of scrapped parts remained about 1.6 % in average for all the weeks of three phases.

Analyzing the Collected Data for Stamping area:

Gathering the information about all press machines gives an overview about the production of stamping area. Table 10 has the combination of information of all 8 press machines together. This data can show the effect of changes on stamping area in production process.

Table 10: Stamping Area Information

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
Running time	175.02	303.65	316.02	311.72	324.72	340.50	346.20	347.73
Running time per shift	35.00	33.74	35.11	34.64	36.08	37.83	38.47	38.64
Holding time	163.23	292.52	289.73	291.12	283.03	287.25	284.05	282.60
Holding time per shift	32.65	32.50	32.19	32.35	31.45	31.92	31.56	31.40
Good production	220996.00	381487.00	401744.00	395541.00	411793.00	431320.00	441186.00	441688.00
Good production per shift	44199.20	42387.44	44638.22	43949.00	45754.78	47924.44	49020.67	49076.44
Scrapped parts	4715.00	8218.00	8807.00	8554.00	9004.00	9427.00	9403.00	9398.00
Scrapped percentage	2.088954%	2.108775%	2.145166%	2.116829%	2.139749%	2.138869%	2.086824%	2.083416%
Total production	225711.00	389705.00	410551.00	404095.00	420797.00	440747.00	450589.00	451086.00
Total production per shift	45142.20	43300.55556	45616.7778	44899.444	46755.222	48971.8889	50065.4444	50120.667

Figure 51 helps to analyze the information regarding running time for press machines in stamping area. As it is seen in figure 51, the average press-hour running time pre shift in stamping area increased from phase 1 to phase 3. Average press-hours running time per shift is between 33.74 hours and 35.11 hours per shift in phase 1, and it is between 37.83 hours and 38.64 hours per shift on phase 3.

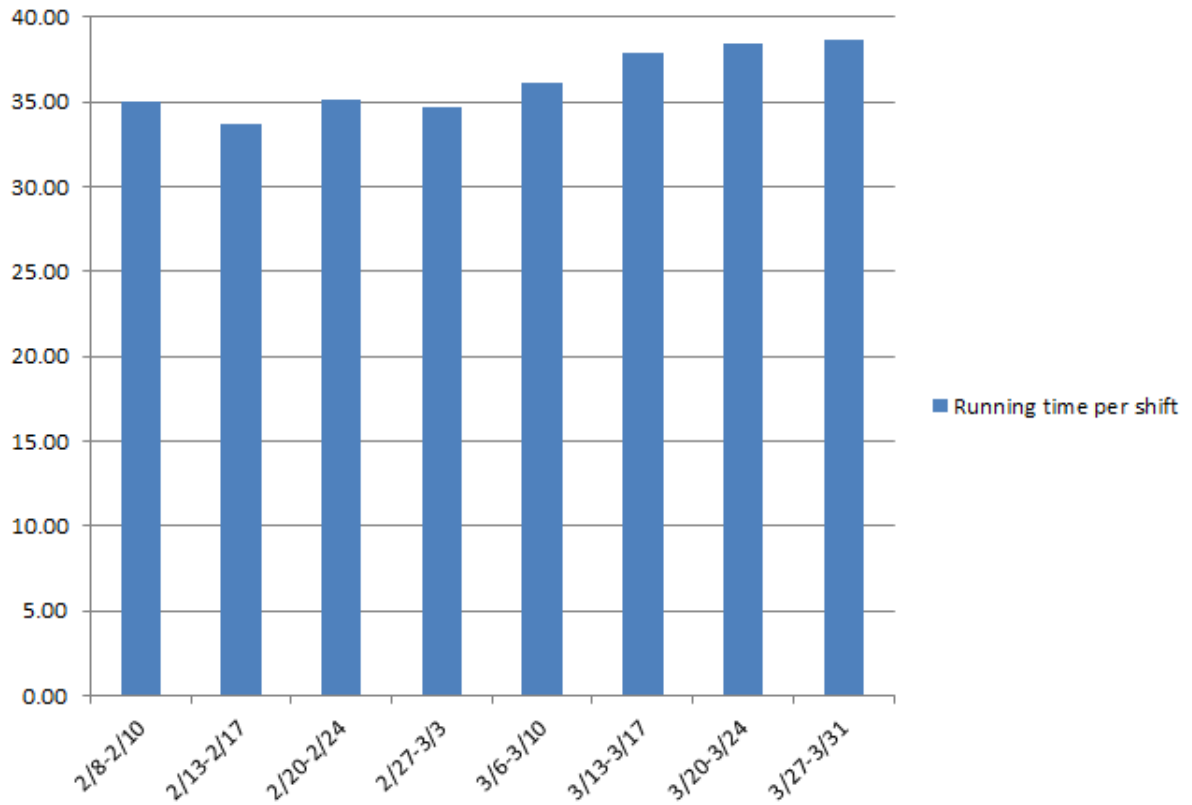


Figure 51: Average Running Time per Shift for Stamping Area

The situation of holding time of press machines is different. Figure 52 show that there is not too much difference between press-hour holding times in phase 1 and phase 3. Figure 53 has information about average of press-hour holding time and running time for stamping area. It shows that the number of hours that press machines are running does not depend on the time that the press machines are on hold.

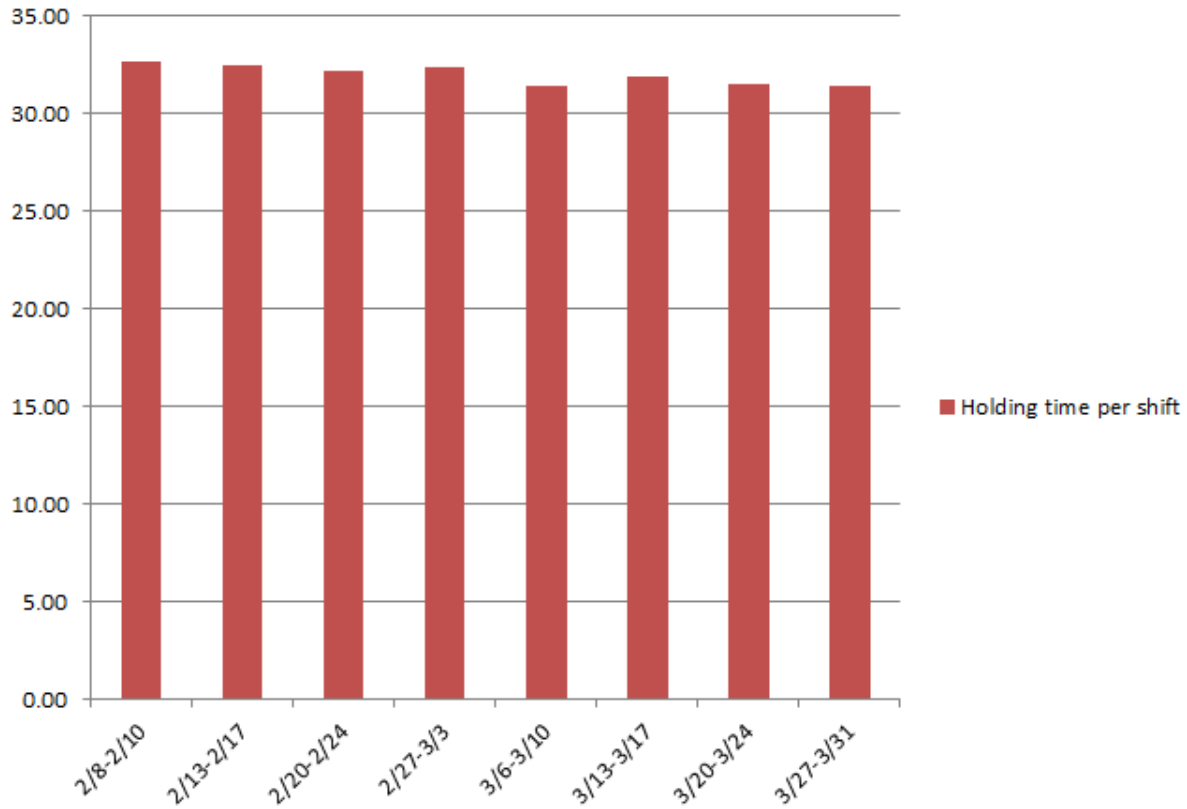


Figure 52: Average Holding Time per Shift for Stamping Area

Another positive change in production of stamping area is about the number of production of good parts in this section. Figure 54 shows that the production of good parts in stamping area increased from phase 1 to phase 3. There is average production of good parts between 42387.44 parts and 44638.22 parts per shift in phase 1 and it is between 47924.44 parts and 49076.44 parts per shift in phase 3.

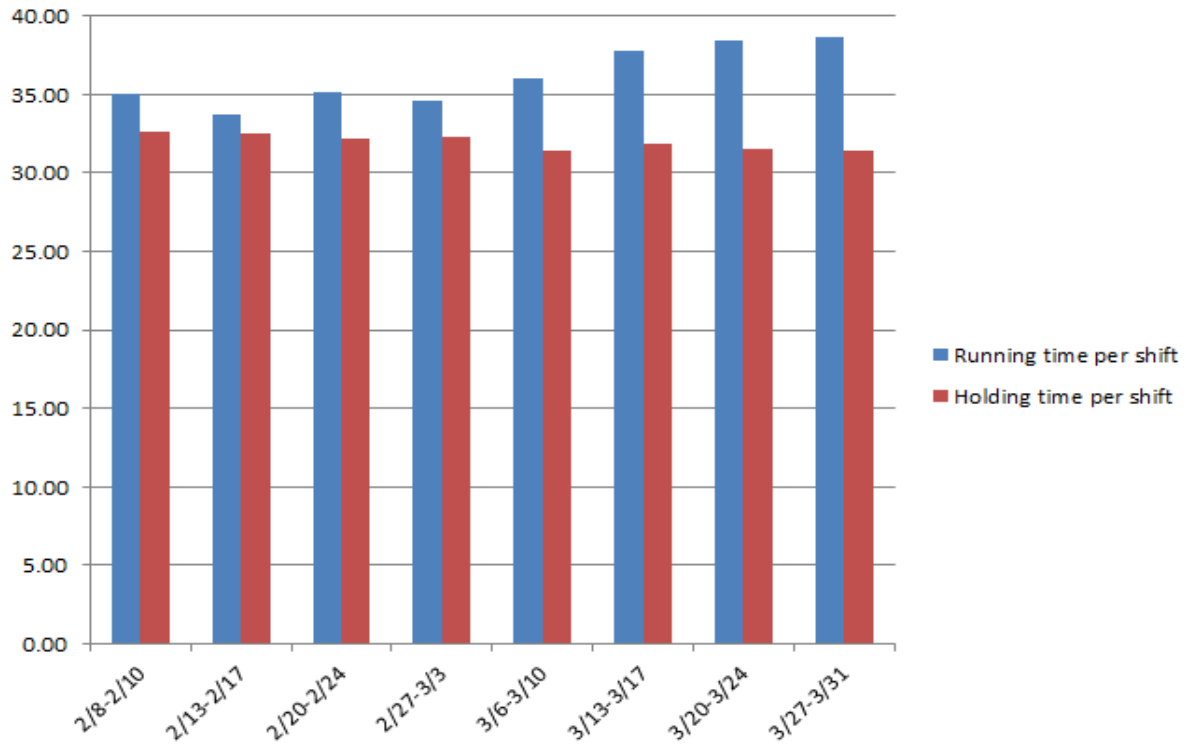


Figure 53: Average Running Time and Holding Tim per Shift for Stamping Area



Figure 54: Average of Production of Good Parts per Shift for Stamping Area

Figure 55 shows that the number of production of good parts is not independent of number of total production in stamping area. Both diagrams in figure 55 increased with the same curve from phase 1 to phase 3. Figure 56 helps to have better understanding of the explanation above.

Figure 56 shows that the percentage of scrapped parts in stamping area remained around 2.1% in all the weeks of three phases. That means if the changes on stamping area helps to have more production, but it could not help to improve the quality of production.

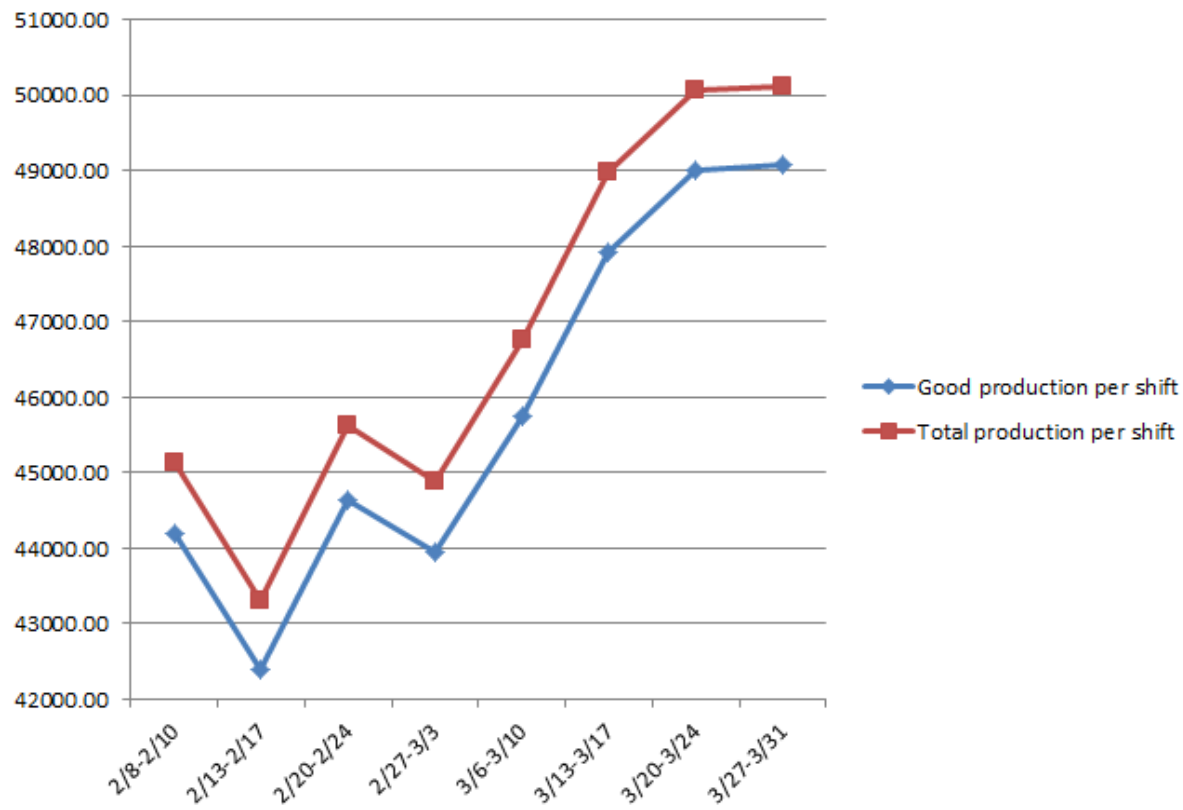


Figure 55: Average of Total Production and Production of Good Parts for Stamping Area

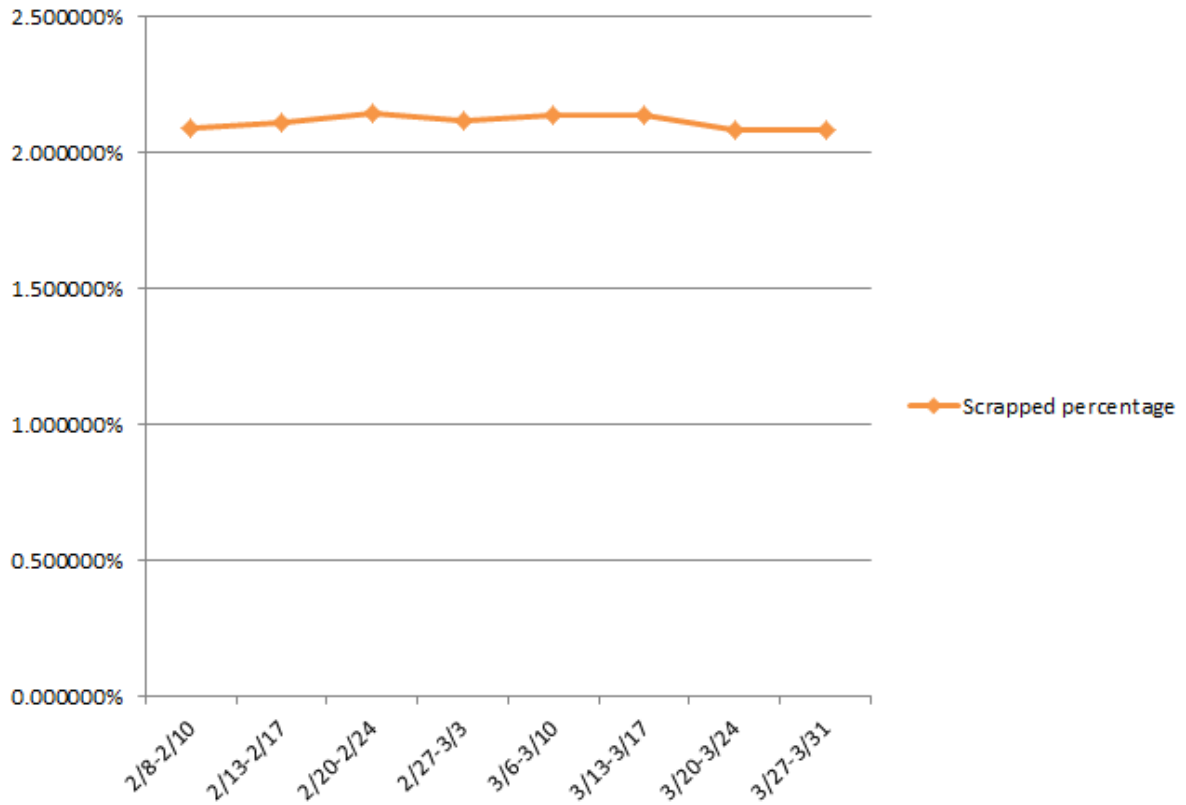


Figure 56: Average Percentage of Scrapped parts for Stamping Area

Die Moving:

There are six fork-lift drivers in the stamping area of the company that they move dies from storage to press machines and vice versa. Three fork-lift-drivers work on the first shift and the other three fork-lift drivers work on the second shift. At the beginning of every work day, first-shift-fork-lift drivers move dies from the stamping area to eight press machines and at the end of the day, dies are taken back to the storage. Also, it is known to drivers to move which specific press machine dies.

At the first shift, driver “OF” moves dies for press machines number one, two, and six. Driver “HM” moves dies for press machines number three, four, and five, and driver “CS” moves dies for press machines number seven and eight.

At the second shift, driver “AS” moves dies for press machines number one, two, and six. Driver “BT” moves dies for press machines number three, four, and five, and driver “RT” moves dies for press machines number seven and eight.

At the first of the phase one, fork-lift drivers were asked to record some information about moving the dies. This information include die number, the place that the die is moved from, the place that the die is moved to, date of movement, start time of movement, and end time of movement.

Recorded data has been collected by researcher and they have been saved digitally after translating the die number to die codes through Microsoft Excel software. Tables in appendix are the information about moving the dies by fork-lift drivers.

After collecting all data, duration of every movement has been calculated. Tables “Die moving time calculation” in appendix show the time periods that a driver moved a die from storage to a press machine or vice versa. Table 11 shows the total time that a driver spent every week to move dies from storage to press machines and form press machine to storage. It also shows average time for every movement in every week for all the drivers.

To analyze the impact of the project on the duration of the time of die movements, average of the movement times for phase one and phase three will be compared for each driver separately.

Figure 57 shows that the driver “OF” spent between 15.33 minutes and 26 minutes in average to move a die from storage to a press machine in phase 1, but after implementing the changes in stamping area, it took less than four minutes in average to move a die from storage to a press by “OF” in phase 3.

Table 11: Spent Time by Fork-Lift Drivers to Move Dies

	2/8-2/10	2/13-2/17	2/20-2/24	2/27-3/3	3/6-3/10	3/13-3/17	3/20-3/24	3/27-3/31
OF Storage to Press	138.00	390.00	262.00	331.00	291.00	58.00	33.00	31.00
OF AVE S to P	15.33	26.00	17.47	22.07	19.40	3.53	2.20	2.07
OF Press to Storage	9.00	13.00	11.00	10.00	28.00	9.00	7.00	9.00
OF AVE P to S	3.00	4.33	3.67	3.33	9.33	2.25	2.33	3.00
HM Storage to Press	98.00	306.00	331.00	406.00	265.00	69.00	35.00	38.00
HM AVE S to P	10.89	20.40	18.89	27.07	17.67	4.60	2.33	2.53
HM Press to Storage	10.00	13.00	9.00	9.00	22.00	7.00	7.00	7.00
HM AVE P to S	3.33	4.33	3.00	3.00	7.33	2.33	2.33	2.33
CS Storage to Press	63.00	222.00	262.00	197.00	177.00	38.00	22.00	20.00
CS AVE S to P	10.50	22.20	26.20	19.70	17.70	3.80	2.20	2.00
CS Press to Storage	7.00	7.00	7.00	9.00	13.00	4.00	4.00	6.00
CS AVE P to S	3.50	3.50	3.50	4.50	6.50	2.00	2.00	3.00
AS Storage to Press					15.00			
AS AVE S to P					3.75			
AS Press to Storage	20.00	39.00	42.00	40.00	61.00	28.00	14.00	14.00
AS AVE P to S	3.33	3.25	3.50	3.33	3.81	2.33	1.17	1.17
BT Storage to Press	63.00	223.00						
BT AVE S to P	10.50	18.58						
BT Press to Storage	32.00	84.00	46.00	39.00	48.00	33.00	19.00	18.00
BT AVE P to S	2.67	3.50	3.83	3.25	4.00	2.75	1.58	1.50
RT Storage to Press	23.00	52.00						
RT AVE S to P	11.50	26.00						
RT Press to Storage	18.00	36.00	29.00	26.00	39.00	20.00	8.00	8.00
RT AVE P to S	3.00	3.60	3.63	3.25	4.87	2.50	1.00	1.00

Decreasing in die moving time from storage to press machine by “OF” could be due to earlier start time in production for press machines one, two, and six in the first shift. Therefore, running time and production are both higher. This result can be seen for drivers “HM” and “CS” too.

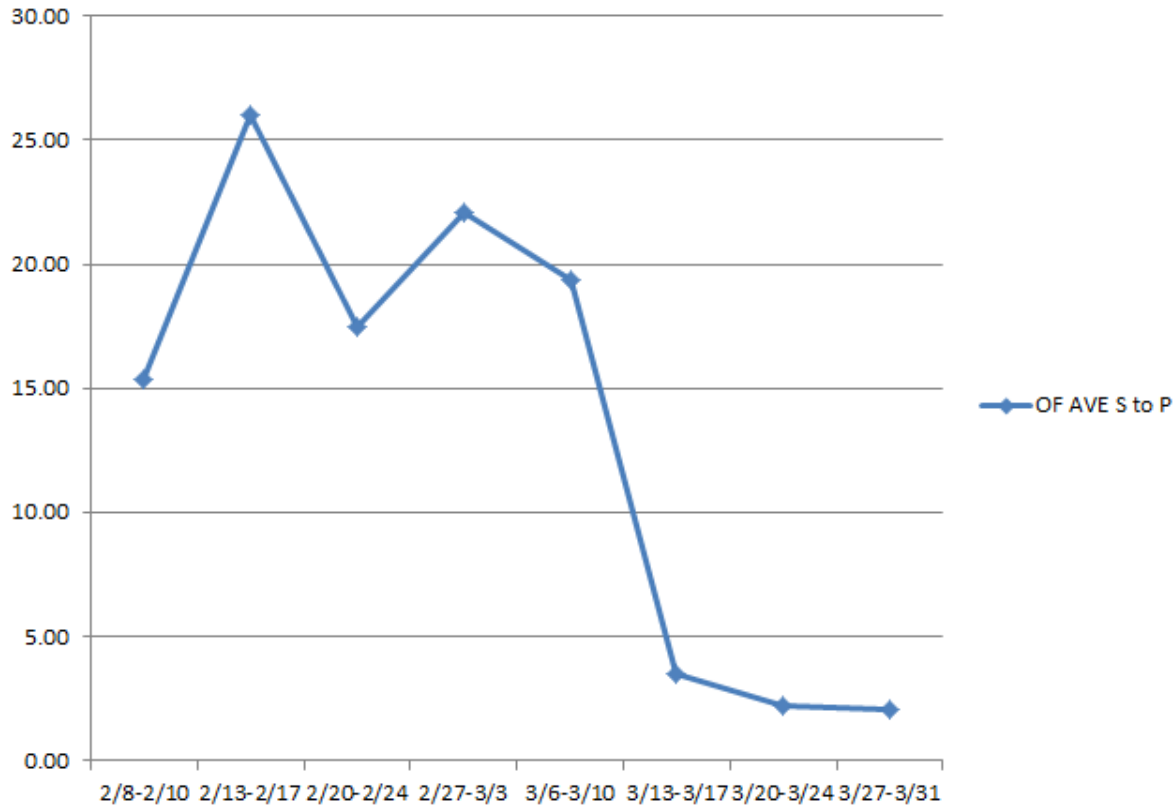


Figure 57: Average Spent Time per Die Movement by OF from the Storage to a Press

Figure 58 shows that the average used time to move a die from storage to press by “HM” has been decreased from phase 1 to phase 3.

“HM” spent 10.89 minutes in average in the first week, 20.40 minutes in the second week, 18.89 minutes in the third week, and 27.07 minutes in the fourth week of phase 1 to move a die from storage to a press. However, in phase 3, “HM” spent between 2.33 minutes and 4.60 minutes in average to move a die from storage to a press.

The effects of these differences are clearly seen on production of press machines number three, four, and five.

Figure 59 shows that how long it took for a die to be moved from storage to press machine by “CS” in average every week. Reduction of spent time from phase 1 to phase 3 is clear in figure 59.

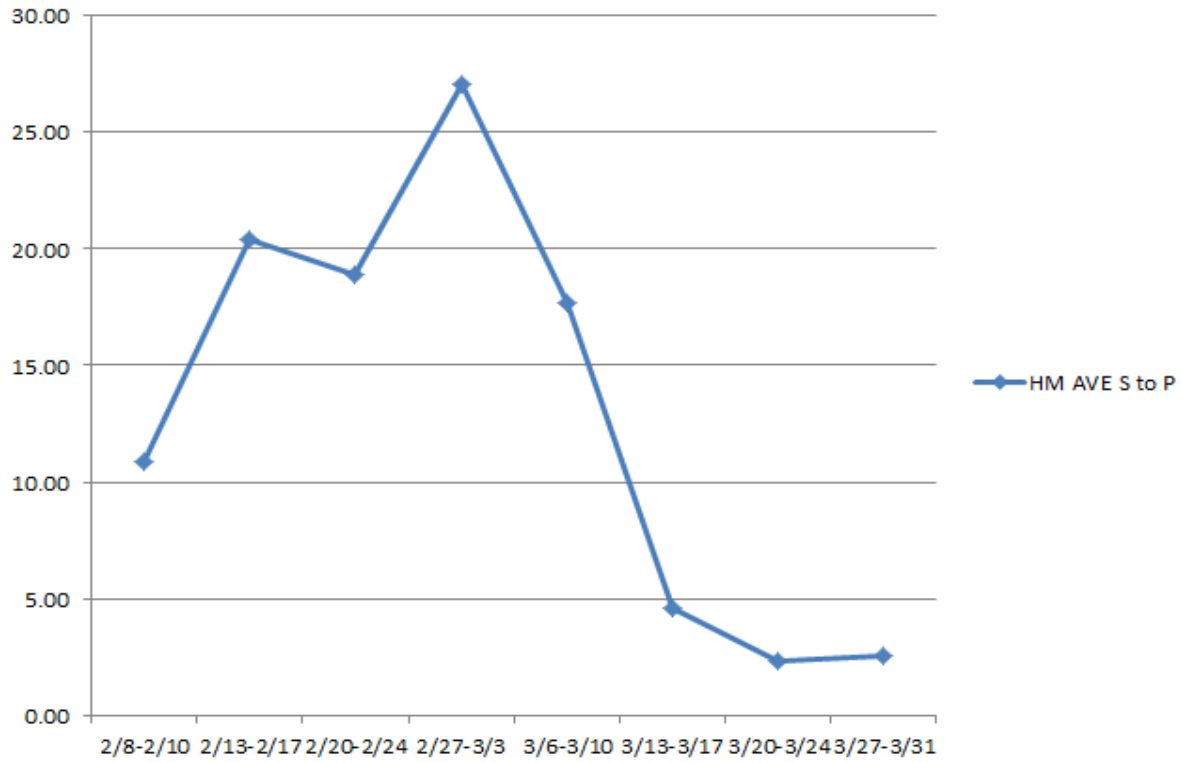


Figure 58: Average Spent Time per Die Movement by HM from the Storage to a Press

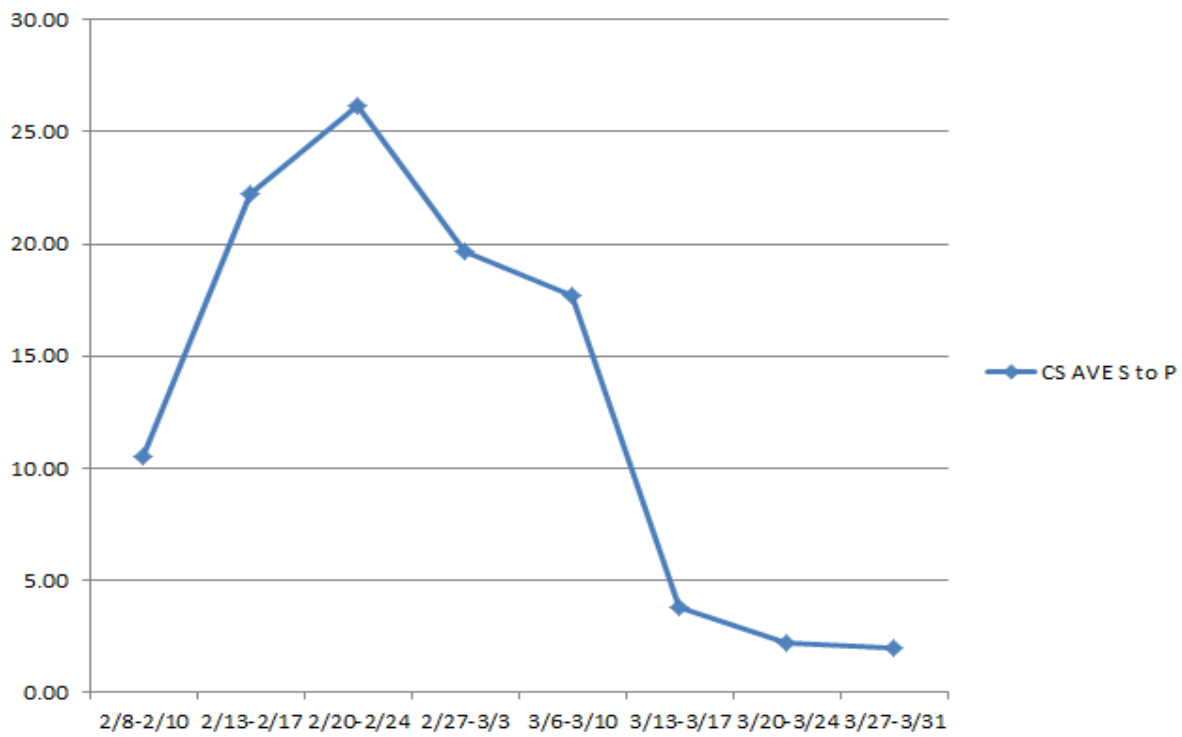


Figure 59: Average Spent Time per Die Movement by CS from the Storage to a Press

Figures 60, 61, 62, 63, 64, and 65 shows that there is also less spent time in average for every driver to move a die from a press to the storage in phase 3 rather than phase 1. However, since most of these movements are at the end of the day and press machines are already stopped, the changes in production of stamping area cannot be concluded as a result of these time savings.

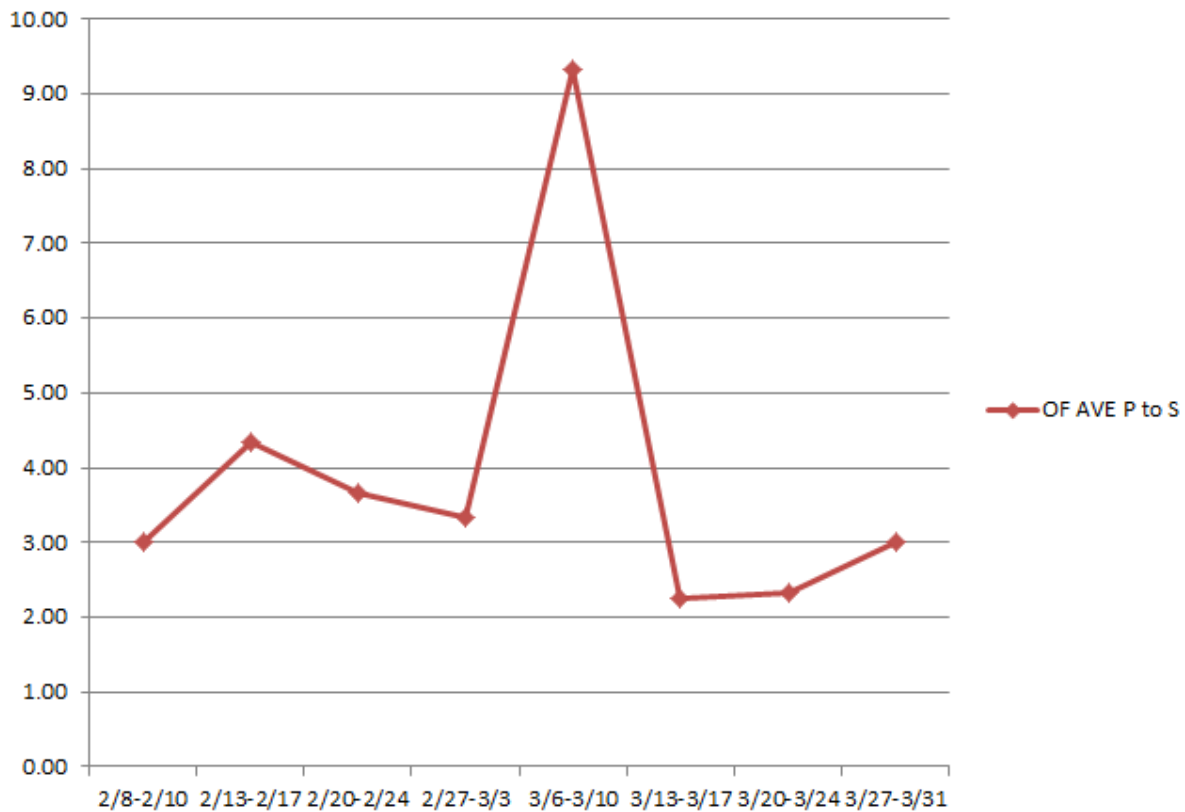


Figure 60: Average Spent Time per Die Movement by OF from a Press to the Storage

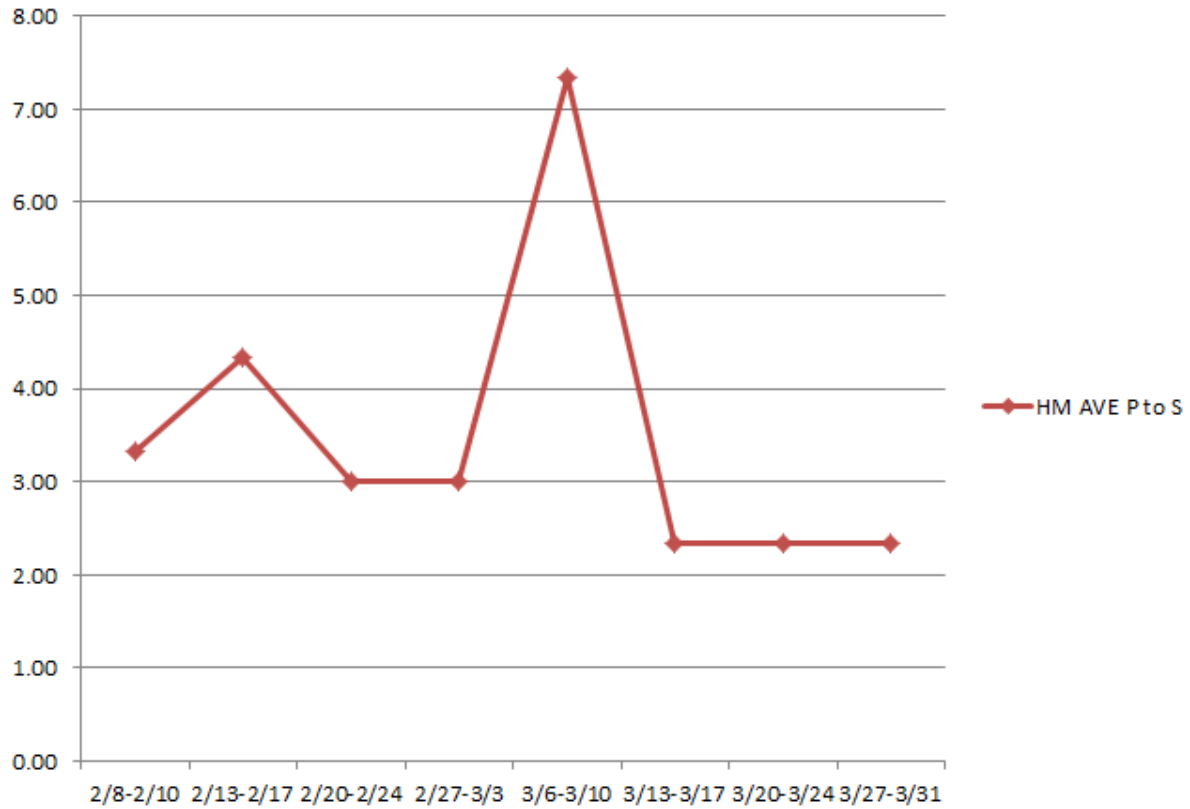


Figure 61: Average Spent Time per Die Movement by HM from a Press to the Storage

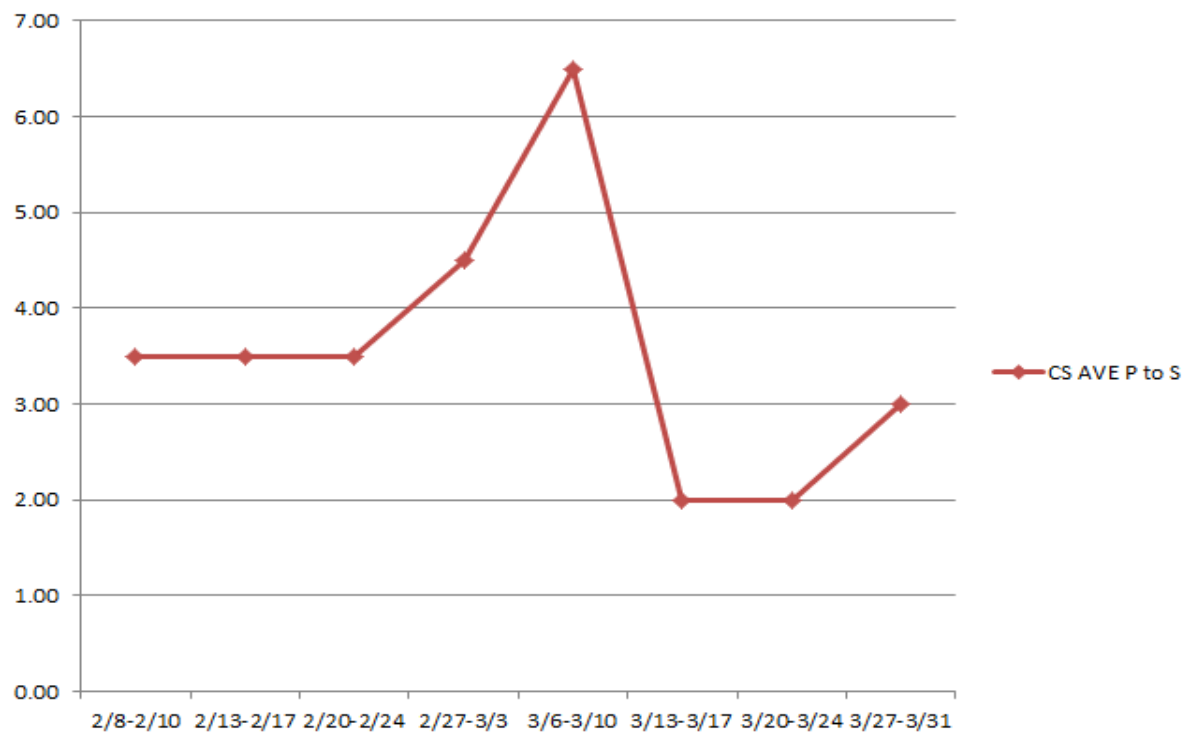


Figure 62: Average Spent Time per Die Movement by CS from a Press to the Storage

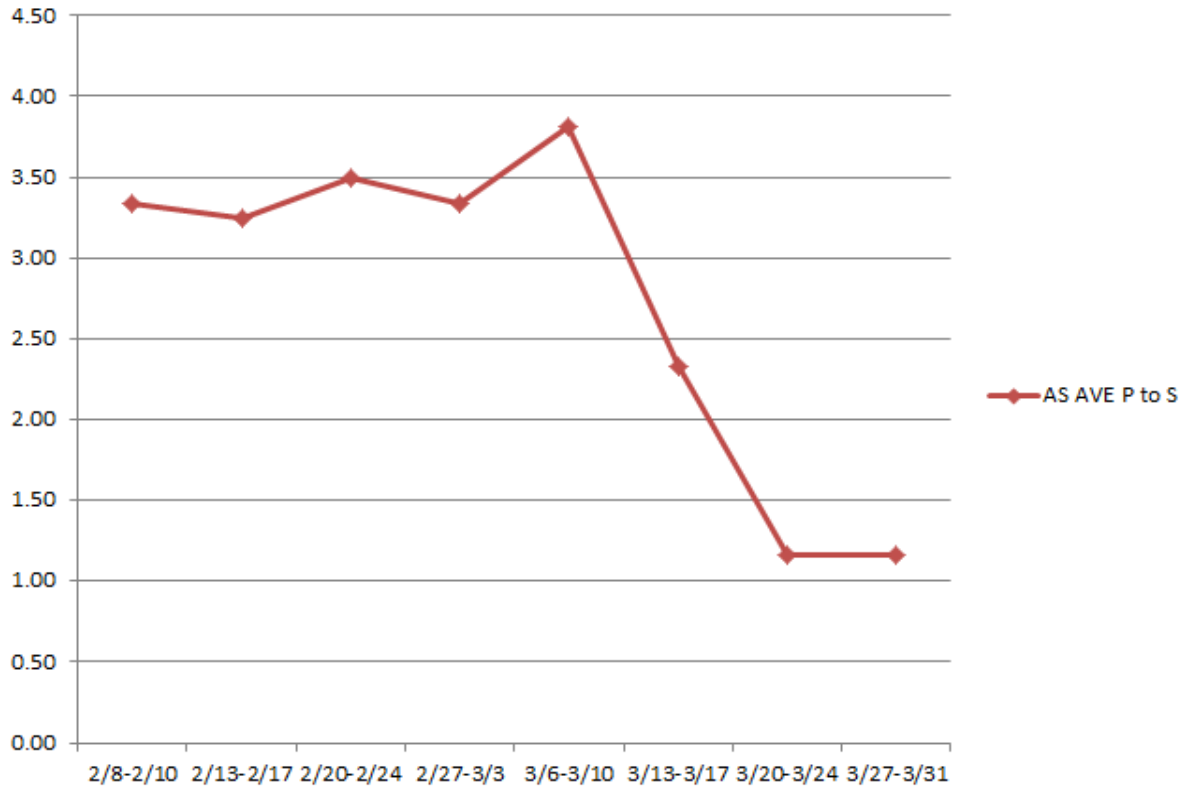


Figure 63: Average Spent Time per Die Movement by AS from a Press to the Storage

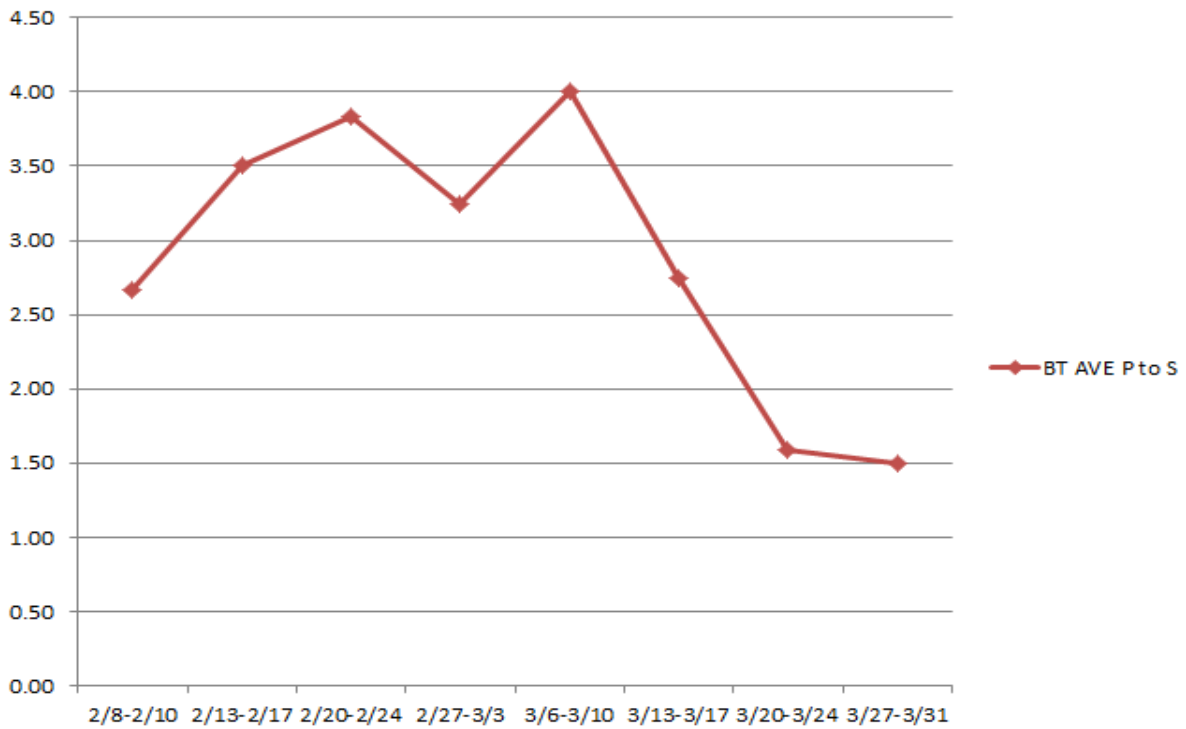


Figure 64: Average Spent Time per Die Movement by BT from a Press to the Storage

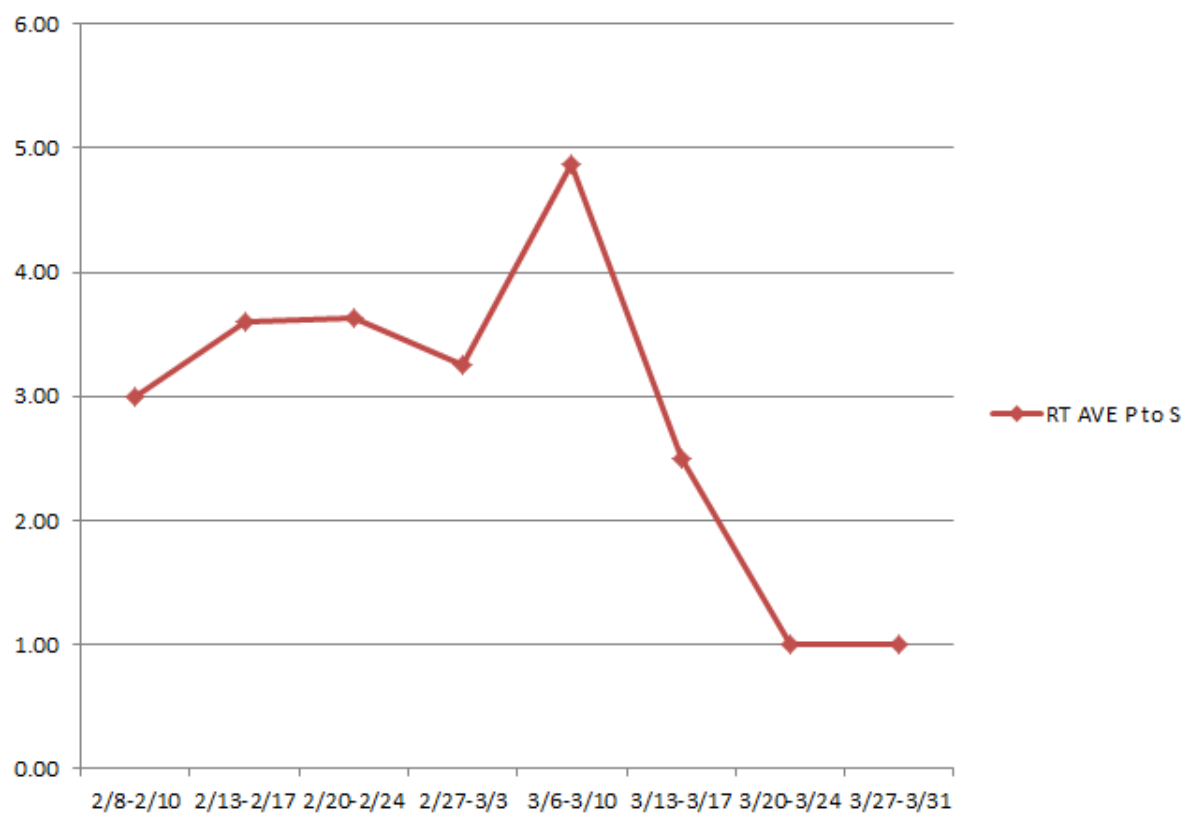


Figure 65: Average Spent Time per Die Movement by RT from a Press to the Storage

Appendix

Appendix A: Press Machines Information

Press Number: 1									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	103-16-1068	6:20	14:30	64	1890	SR	3:16	4:54	
2/8/2017	103-16-1068	14:35	23:55	84	2307	RS	4:03	5:17	
2/9/2017	103-16-1068	6:15	14:30	70	2098	SR	3:37	4:38	
2/9/2017	103-16-1068	14:35	23:55	81	2237	RS	3:51	5:29	
2/10/2017	103-16-1068	6:20	14:25	72	1960	SR	3:23	4:42	
2/13/2017	103-16-1069	6:25	14:30	71	1900	SR	3:17	4:48	
2/13/2017	103-16-1069	14:35	23:55	69	2426	RS	4:10	5:10	
2/14/2017	103-16-1069	6:30	14:30	77	2178	SR	3:45	4:15	
2/14/2017	103-16-1069	14:35	23:55	84	2455	RS	4:13	5:07	
2/15/2017	103-16-1069	6:30	14:30	76	2098	SR	3:37	4:23	
2/15/2017	103-16-1069	14:35	23:55	80	2297	RS	3:57	5:23	
2/16/2017	103-16-1069	6:25	14:30	80	2188	SR	3:46	4:19	
2/16/2017	103-16-1069	14:35	23:55	90	2545	RS	4:22	4:58	
2/17/2017	103-16-1068	6:40	14:25	61	2039	SR	3:31	4:14	
2/20/2017	103-16-1071	6:45	14:30	63	1712	SR	2:58	4:47	
2/20/2017	103-16-1071	14:35	23:55	91	2455	RS	4:13	5:07	
2/21/2017	103-16-1071	6:35	14:30	68	2098	SR	3:37	4:18	
2/21/2017	103-16-1071	14:35	23:55	94	2624	RS	4:30	4:50	
2/22/2017	103-16-1071	6:15	14:30	72	2148	SR	3:42	4:33	
2/22/2017	103-16-1071	14:35	23:55	74	2416	RS	4:09	5:11	
2/23/2017	103-16-1071	6:15	14:30	83	2257	SR	3:53	4:22	
2/23/2017	103-16-1068	14:35	23:55	90	2436	RS	4:11	5:09	
2/24/2017	103-16-1068	6:30	14:25	76	2108	SR	3:38	4:17	
2/27/2017	103-16-1072	6:30	14:30	66	1930	SR	3:20	4:40	
2/27/2017	103-16-1072	14:35	23:55	67	2317	RS	3:59	5:21	
2/28/2017	103-16-1072	6:20	14:30	75	2049	SR	3:32	4:38	
2/28/2017	103-16-1072	14:35	23:55	89	2505	RS	4:18	5:02	
3/1/2017	103-16-1072	6:25	14:30	78	2128	SR	3:40	4:25	
3/1/2017	103-16-1072	14:35	23:55	91	2515	RS	4:19	5:01	
3/2/2017	103-16-1072	6:20	14:30	76	2108	SR	3:38	4:32	
3/2/2017	103-16-1072	14:35	23:55	97	2654	RS	4:33	4:47	
3/3/2017	103-16-1068	6:30	14:25	50	1791	SR	3:06	4:49	

Press Number: 1									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/6/2017	119-16-1331	6:45	14:30	58	1652	SR	2:52	4:53	
3/6/2017	119-16-1331	14:35	23:55	83	2346	RS	4:02	5:18	
3/7/2017	119-16-1331	6:30	14:30	62	2019	SR	3:29	4:31	
3/7/2017	119-16-1331	14:35	23:55	71	2317	RS	3:59	5:21	
3/8/2017	119-16-1331	6:30	14:30	76	2158	SR	3:43	4:17	
3/8/2017	119-16-1331	14:35	23:55	84	2624	RS	4:30	4:50	
3/9/2017	119-16-1331	6:25	14:30	69	2178	SR	3:45	4:20	
3/9/2017	119-16-1331	14:35	23:55	86	2565	RS	4:24	4:56	
3/10/2017	119-16-1331	6:20	14:25	73	2138	SR	3:41	4:24	
3/13/2017	111-16-1180	6:10	14:30	67	2069	SR	3:34	4:46	
3/13/2017	111-16-1180	14:35	23:55	82	2257	RS	3:53	5:27	
3/14/2017	111-16-1180	6:10	14:30	80	2168	SR	3:44	4:36	
3/14/2017	111-16-1180	14:35	23:55	80	2535	RS	4:21	4:59	
3/15/2017	111-16-1180	6:10	14:30	69	2237	SR	3:51	4:29	
3/15/2017	111-16-1180	14:35	23:55	92	2604	RS	4:28	4:52	
3/16/2017	111-16-1180	6:10	14:30	87	2336	SR	4:01	4:19	
3/16/2017	111-16-1180	14:35	23:55	87	2614	RS	4:29	4:51	
3/17/2017	111-16-1180	6:10	14:25	60	2247	SR	3:52	4:23	
3/20/2017	110-12-1117	6:10	14:30	63	2049	SR	3:32	4:48	
3/20/2017	110-12-1117	14:35	23:55	74	2336	RS	4:01	5:19	
3/21/2017	110-12-1117	6:10	14:30	64	1999	SR	3:27	4:53	
3/21/2017	110-12-1117	14:35	23:55	82	2416	RS	4:09	5:11	
3/22/2017	110-12-1117	6:10	14:30	77	2198	SR	3:47	4:33	
3/22/2017	110-12-1117	14:35	23:55	70	2277	RS	3:55	5:25	
3/23/2017	110-12-1117	6:10	14:30	83	2317	SR	3:59	4:21	
3/23/2017	110-12-1117	14:35	23:55	90	2525	RS	4:20	5:00	
3/24/2017	110-12-1117	6:10	14:25	80	2336	SR	4:01	4:14	

Press Number: 1									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/27/2017	111-16-1175	6:10	14:30	74	2287	SR	3:56	4:24	
3/27/2017	111-16-1175	14:35	23:55	91	2545	RS	4:22	4:58	
3/28/2017	111-16-1175	6:10	14:30	70	2188	SR	3:46	4:34	
3/28/2017	111-16-1175	14:35	23:55	84	2376	RS	4:05	5:15	
3/29/2017	111-16-1175	6:10	14:30	83	2346	SR	4:02	4:18	
3/29/2017	111-16-1175	14:35	23:55	82	2604	RS	4:28	4:52	
3/30/2017	111-16-1175	6:10	14:30	86	2386	SR	4:06	4:14	
3/30/2017	111-16-1175	14:35	23:55	76	2069	RS	3:34	5:46	
3/31/2017	111-16-1175	6:10	14:25	76	2267	SR	3:54	4:21	

Press Number: 2									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	111-2-1166	6:35	14:30	144	5052	BF	3:47	4:08	
2/8/2017	111-2-1166	14:35	23:55	193	6685	ER	4:58	4:22	
2/9/2017	111-2-1166	6:25	14:30	152	5512	BF	4:07	3:58	
2/9/2017	111-2-1166	14:35	23:55	185	6478	ER	4:49	4:31	
2/10/2017	111-2-1166	6:35	14:25	140	5305	BF	3:58	3:52	
2/13/2017	111-2-1188	7:00	14:25	128	4362	BF	3:17	4:08	
2/13/2017	111-2-1188	14:30	23:55	200	6823	ER	5:04	4:21	
2/14/2017	111-2-1188	7:10	14:30	132	4569	BF	3:26	3:54	
2/14/2017	111-2-1188	14:35	23:55	207	7168	ER	5:19	4:01	
2/15/2017	111-2-1188	6:55	14:30	154	5328	BF	3:59	3:36	
2/15/2017	111-2-1188	14:35	23:55	209	7214	ER	5:21	3:59	
2/16/2017	111-2-1166	6:30	14:30	148	5167	BF	3:52	4:08	
2/16/2017	111-2-1166	14:35	23:55	200	7168	ER	5:19	4:01	
2/17/2017	111-2-1188	7:05	14:25	146	5006	BF	3:45	3:35	
2/20/2017	111-2-1189	7:10	14:30	130	4431	BF	3:20	4:00	
2/20/2017	111-2-1189	14:35	23:55	191	6708	ER	4:59	4:21	
2/21/2017	111-2-1189	6:45	14:30	166	5719	BF	4:16	3:29	
2/21/2017	111-2-1189	14:35	23:55	204	7352	ER	5:27	3:53	
2/22/2017	111-2-1189	6:25	14:30	152	5328	BF	3:59	4:06	
2/22/2017	111-2-1189	14:35	23:55	196	6662	ER	4:57	4:23	
2/23/2017	000-2345-9008	6:40	14:30	157	5328	BF	3:59	3:51	
2/23/2017	000-2345-9008	14:35	23:55	206	7030	ER	5:13	4:07	
2/24/2017	111-2-1189	6:40	14:25	158	5351	BF	4:00	3:45	
2/27/2017	119-2345-1347	7:05	14:30	118	4362	BF	3:17	4:08	
2/27/2017	119-2345-1347	14:35	23:55	184	6340	ER	4:43	4:37	
2/28/2017	119-2345-1348	7:00	14:30	135	4592	BF	3:27	4:03	
2/28/2017	119-2345-1348	14:35	23:55	195	6800	ER	5:03	4:17	
3/1/2017	119-2345-1345	7:05	14:30	136	4569	BF	3:26	3:59	
3/1/2017	119-2345-1345	14:35	23:55	192	6846	ER	5:05	4:15	
3/2/2017	119-2345-13451	6:45	14:30	153	5167	BF	3:52	3:53	
3/2/2017	119-2345-13451	14:35	23:55	208	7007	ER	5:12	4:08	
3/3/2017	120-2345-1442	6:55	14:25	125	4546	BF	3:25	4:05	

Press Number: 2									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/6/2017	119-2-1422	7:05	14:30	129	4523	BF	3:24	4:01	
3/6/2017	119-2-1422	14:35	17:55	55	1924	ER	1:31	1:49	
3/6/2017	110-12-1117	18:10	23:55	137	4661	ER	3:30	2:15	
3/7/2017	119-2-1422	6:45	14:30	160	5512	BF	4:07	3:38	
3/7/2017	119-2-1422	14:35	17:55	68	2177	ER	1:42	1:38	
3/7/2017	110-12-1117	18:10	23:55	136	4638	ER	3:29	2:16	
3/8/2017	119-2-1422	6:45	14:30	162	5673	BF	4:14	3:31	
3/8/2017	119-2-1422	14:35	17:55	164	2315	ER	1:48	1:32	
3/8/2017	110-12-1118	18:10	23:55	140	4937	ER	3:42	2:03	
3/9/2017	119-2-1422	6:40	14:30	167	5719	BF	4:16	3:34	
3/9/2017	119-2-1422	14:35	17:55	68	2223	ER	1:44	1:36	
3/9/2017	110-12-1118	18:10	23:55	139	4799	ER	3:36	2:09	
3/10/2017	119-2-1422	6:35	14:25	165	5811	BF	4:20	3:30	
3/13/2017	102-2345-1012	6:20	14:30	155	5466	BF	4:05	4:05	
3/13/2017	102-2345-1012	14:35	23:55	191	6708	ER	4:59	4:21	
3/14/2017	102-2345-1012	6:15	14:30	167	5788	BF	4:19	3:56	
3/14/2017	102-2345-1012	14:35	23:55	212	7168	ER	5:19	4:01	
3/15/2017	102-2345-10121	6:15	14:30	173	5857	BF	4:22	3:53	
3/15/2017	102-2345-10121	14:35	23:55	196	6800	ER	5:03	4:17	
3/16/2017	102-2345-10121	6:10	14:30	181	6225	BF	4:38	3:42	
3/16/2017	102-2345-10121	14:35	23:55	212	7168	ER	5:19	4:01	
3/17/2017	102-2345-1014	6:15	9:25	48	1832	BF	1:27	1:43	
3/17/2017	102-2345-1017	9:45	14:25	95	3120	BF	2:23	2:17	
3/20/2017	119-23-1350	6:15	14:30	158	5742	BF	4:17	3:58	
3/20/2017	119-23-1350	14:35	23:55	203	6869	ER	5:06	4:14	
3/21/2017	119-23-1350	6:10	14:30	181	6478	BF	4:49	3:31	
3/21/2017	119-23-1350	14:35	23:55	216	7306	ER	5:25	3:55	
3/22/2017	103-23-1077	6:10	14:30	167	5627	BF	4:12	4:08	
3/22/2017	103-23-1077	14:35	23:55	198	6685	ER	4:58	4:22	
3/23/2017	103-23-1077	6:10	14:30	181	6386	BF	4:45	3:35	
3/23/2017	103-23-1077	14:35	23:55	203	7053	ER	5:14	4:06	
3/24/2017	103-23-1077	6:10	14:25	174	6363	BF	4:44	3:31	

Press Number: 2									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/27/2017	120-23-1443	6:10	14:30	164	5995	BF	4:28	3:52	
3/27/2017	120-23-1443	14:35	23:55	184	6593	ER	4:54	4:26	
3/28/2017	120-23-1443	6:10	14:30	167	6248	BF	4:39	3:41	
3/28/2017	120-23-1443	14:35	23:55	214	7214	ER	5:21	3:59	
3/29/2017	120-23-1443	6:10	14:30	190	6501	BF	4:50	3:30	
3/29/2017	120-23-1443	14:35	23:55	203	7398	ER	5:29	3:51	
3/30/2017	102-2345-1040	6:10	14:30	162	5788	BF	4:19	4:01	
3/30/2017	102-2345-1040	14:35	23:55	199	6869	ER	5:06	4:14	
3/31/2017	102-2345-1040	6:10	14:25	174	5972	BF	4:27	3:48	

Press Number: 3									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	102-345-1051	6:20	14:30	168	5655	SQ	4:17	3:53	
2/8/2017	102-345-1051	14:35	20:55	128	4427	RU	3:22	2:58	
2/8/2017	111-345-1147	21:15	23:55	61	1970	RU	1:37	1:03	
2/9/2017	103-345-1075	6:35	14:30	162	5432	SQ	4:07	3:48	
2/9/2017	103-345-1075	14:35	20:45	132	4472	RU	3:24	2:46	
2/9/2017	111-345-1181	21:05	23:55	74	2439	RU	1:53	0:57	
2/10/2017	102-345-1052	6:15	14:25	177	5923	SQ	4:29	3:41	
2/13/2017	113-345-1301	6:35	14:30	150	5387	SQ	4:05	3:50	
2/13/2017	113-345-1301	14:35	20:40	127	4248	RU	3:14	2:51	
2/13/2017	120-345-1458	21:05	23:55	63	2261	RU	1:45	1:05	
2/14/2017	113-345-1305	6:40	14:30	160	5320	SQ	4:02	3:48	
2/14/2017	113-345-1305	14:35	20:00	106	4092	RU	3:07	2:18	
2/14/2017	120-345-2017	20:45	23:55	69	2350	RU	1:49	1:21	
2/15/2017	113-345-1302	6:30	14:30	170	5655	SQ	4:17	3:43	
2/15/2017	113-345-1302	14:35	20:40	136	4918	RU	3:44	2:21	
2/15/2017	120-345-1463	21:05	23:55	62	2104	RU	1:38	1:12	
2/16/2017	111-345-1152	6:40	14:30	153	5276	SQ	4:00	3:50	
2/16/2017	111-345-1152	14:35	20:40	144	4874	RU	3:42	2:23	
2/16/2017	102-3-1033	21:05	23:55	62	2171	RU	1:41	1:09	
2/17/2017	102-345-1052	6:20	14:25	170	5812	SQ	4:24	3:41	
2/20/2017	102-3-1033	6:45	14:30	155	5119	SQ	3:53	3:52	
2/20/2017	102-3-1033	14:35	23:55	211	7040	RU	5:19	4:01	
2/21/2017	102-3-1033	6:20	14:30	175	5990	SQ	4:32	3:38	
2/21/2017	102-3-1033	14:35	23:55	209	7129	RU	5:23	3:57	
2/22/2017	102-3-1034	6:35	14:30	156	5343	SQ	4:03	3:52	
2/22/2017	102-3-1034	14:35	23:55	204	7040	RU	5:19	4:01	
2/23/2017	102-3-1034	6:20	14:30	182	6147	SQ	4:39	3:31	
2/23/2017	102-3-1034	14:35	23:55	214	7308	RU	5:31	3:49	
2/24/2017	000-2345-9008	6:30	14:25	159	5499	SQ	4:10	3:45	

Press Number: 3									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/27/2017	119-23-1350	6:40	14:30	151	5231	SQ	3:58	3:52	
2/27/2017	119-23-1350	14:35	23:55	198	6772	RU	5:07	4:13	
2/28/2017	120-23-1443	6:45	14:30	153	5231	SQ	3:58	3:47	
2/28/2017	120-23-1443	14:35	23:55	200	6861	RU	5:11	4:09	
3/1/2017	104-3-1099	6:40	14:30	158	5365	SQ	4:04	3:46	
3/1/2017	104-3-1099	14:35	23:55	199	6817	RU	5:09	4:11	
3/2/2017	104-3-1099	6:20	14:30	184	6102	SQ	4:37	3:33	
3/2/2017	104-3-1099	14:35	23:55	212	7085	RU	5:21	3:59	
3/3/2017	102-2345-1040	6:45	14:25	148	5052	SQ	3:50	3:50	
3/6/2017	111-345-1182	6:55	14:30	145	4829	SQ	3:40	3:55	
3/6/2017	111-345-1182	14:35	23:55	200	6638	RU	5:01	4:19	
3/7/2017	111-345-1182	6:20	14:30	179	5946	SQ	4:30	3:40	
3/7/2017	111-345-1182	14:35	23:55	202	7018	RU	5:18	4:02	
3/8/2017	111-345-1182	6:15	14:30	182	6147	SQ	4:39	3:36	
3/8/2017	111-345-1182	14:35	23:55	212	7129	RU	5:23	3:57	
3/9/2017	111-345-1165	6:40	14:30	158	5365	SQ	4:04	3:46	
3/9/2017	111-345-1165	14:35	23:55	198	7085	RU	5:21	3:59	
3/10/2017	111-345-1165	6:20	14:25	178	6124	SQ	4:38	3:27	
3/13/2017	110-34-1106	6:15	14:30	178	5879	SQ	4:27	3:48	
3/13/2017	110-34-1106	14:35	23:55	206	6884	RU	5:12	4:08	
3/14/2017	110-34-1106	6:10	14:30	188	6258	SQ	4:44	3:36	
3/14/2017	110-34-1106	14:35	23:55	203	6951	RU	5:15	4:05	
3/15/2017	111-2345-1203	6:10	14:30	180	5968	SQ	4:31	3:49	
3/15/2017	111-2345-1203	14:35	23:55	200	6839	RU	5:10	4:10	
3/16/2017	111-2345-1203	6:10	14:30	184	6325	SQ	4:47	3:33	
3/16/2017	111-2345-1203	14:35	23:55	215	7196	RU	5:26	3:54	
3/17/2017	120-23-1443	6:10	14:25	175	6035	SQ	4:34	3:41	

Press Number: 3									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/20/2017	111-34578-1150	6:10	14:30	171	5901	SQ	4:28	3:52	
3/20/2017	111-34578-1150	14:35	23:55	196	6772	RU	5:07	4:13	
3/21/2017	111-34578-1150	6:10	14:30	178	6236	SQ	4:43	3:37	
3/21/2017	111-34578-1150	14:35	23:55	204	6973	RU	5:16	4:04	
3/22/2017	111-34578-1151	6:10	14:30	181	6057	SQ	4:35	3:45	
3/22/2017	111-34578-1151	14:35	23:55	204	6995	RU	5:17	4:03	
3/23/2017	111-34578-1151	6:10	14:30	182	6437	SQ	4:52	3:28	
3/23/2017	111-34578-1151	14:35	23:55	213	7286	RU	5:30	3:50	
3/24/2017	119-34578-1353	6:10	14:25	175	6057	SQ	4:35	3:40	
3/27/2017	119-2345-1347	6:10	14:30	187	6214	SQ	4:42	3:38	
3/27/2017	119-2345-1347	14:35	23:55	205	7018	RU	5:18	4:02	
3/28/2017	119-2345-1348	6:10	14:30	177	6147	SQ	4:39	3:41	
3/28/2017	119-2345-1348	14:35	23:55	171	5812	RU	4:24	4:56	
3/29/2017	119-2345-1395	6:10	14:30	180	6191	SQ	4:41	3:39	
3/29/2017	119-2345-1395	14:35	23:55	198	6794	RU	5:08	4:12	
3/30/2017	119-2345-1406	6:10	14:30	186	6147	SQ	4:39	3:41	
3/30/2017	119-2345-1406	14:35	23:55	208	7040	RU	5:19	4:01	
3/31/2017	111-34578-1183	6:10	14:25	179	6124	SQ	4:38	3:37	

Press Number: 4									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	102-345-1052	6:35	14:30	146	5626	CL	4:19	3:36	
2/8/2017	102-345-1052	14:35	21:10	119	4672	PE	3:36	2:59	
2/8/2017	111-345-1179	21:25	23:55	40	1808	PE	1:27	1:03	
2/9/2017	102-345-1051	6:20	14:30	121	5693	CL	4:22	3:48	
2/9/2017	102-345-1051	14:35	20:55	107	4161	PE	3:13	3:07	
2/9/2017	111-345-1147	21:20	23:55	48	1963	PE	1:34	1:01	
2/10/2017	103-345-1075	6:30	14:25	139	5471	CL	4:12	3:43	
2/13/2017	113-345-1302	6:45	14:30	130	5094	CL	3:55	3:50	
2/13/2017	113-345-1302	14:35	21:00	105	4383	PE	3:23	3:02	
2/13/2017	120-345-1463	21:20	23:55	42	1719	PE	1:23	1:12	
2/14/2017	113-345-1301	6:55	14:30	108	4960	CL	3:49	3:46	
2/14/2017	113-345-1301	14:35	20:40	100	3917	PE	3:02	3:03	
2/14/2017	120-345-1458	21:15	23:55	51	2030	PE	1:37	1:03	
2/15/2017	113-345-1305	6:55	14:30	119	5094	CL	3:55	3:40	
2/15/2017	113-345-1305	14:35	20:55	102	3984	PE	3:05	3:15	
2/15/2017	120-345-2017	21:25	23:55	45	1830	PE	1:28	1:02	
2/16/2017	111-345-1160	6:55	14:30	98	4894	CL	3:46	3:49	
2/16/2017	111-345-1160	14:35	20:55	101	3939	PE	3:03	3:17	
2/16/2017	102-45-1030	21:25	23:55	41	1675	PE	1:21	1:09	
2/17/2017	103-345-1075	6:30	14:25	143	5493	CL	4:13	3:42	
2/20/2017	102-34-1035	7:05	14:30	119	4627	CL	3:34	3:51	
2/20/2017	102-34-1035	14:35	23:55	173	6714	PE	5:08	4:12	
2/21/2017	110-34-1106	7:00	14:30	122	5071	CL	3:54	3:36	
2/21/2017	110-34-1106	14:35	23:55	159	6914	PE	5:17	4:03	
2/22/2017	110-34-1107	6:55	14:30	112	5071	CL	3:54	3:41	
2/22/2017	110-34-1107	14:35	23:55	178	6803	PE	5:12	4:08	
2/23/2017	120-45-1429	6:50	14:30	130	5116	CL	3:56	3:44	
2/23/2017	120-45-1429	14:35	23:55	163	7025	PE	5:22	3:58	
2/24/2017	102-2345-1012	6:45	14:25	121	5027	CL	3:52	3:48	

Press Number: 4									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/27/2017	119-4-1326	7:05	14:30	105	4716	CL	3:38	3:47	
2/27/2017	119-4-1326	14:35	23:55	165	6892	PE	5:16	4:04	
2/28/2017	119-4-1326	7:05	14:30	130	5005	CL	3:51	3:34	
2/28/2017	119-4-1326	14:35	23:55	180	7225	PE	5:31	3:49	
3/1/2017	120-345-1441	6:55	14:30	128	4960	CL	3:49	3:46	
3/1/2017	120-345-1441	14:35	23:55	175	6803	PE	5:12	4:08	
3/2/2017	120-45-1429	6:55	14:30	101	5094	CL	3:55	3:40	
3/2/2017	120-45-1429	14:35	23:55	150	6736	PE	5:09	4:11	
3/3/2017	120-45-1429	7:10	14:25	102	4916	CL	3:47	3:28	
3/6/2017	111-345-1184	7:20	14:30	112	4339	CL	3:21	3:49	
3/6/2017	111-345-1184	14:35	23:55	170	6847	PE	5:14	4:06	
3/7/2017	111-345-1184	6:30	14:30	153	5760	CL	4:25	3:35	
3/7/2017	111-345-1184	14:35	23:55	153	6936	PE	5:18	4:02	
3/8/2017	111-345-1184	6:25	14:30	157	6048	CL	4:38	3:27	
3/8/2017	111-345-1184	14:35	23:55	188	7203	PE	5:30	3:50	
3/9/2017	111-345-1167	7:00	14:30	125	4827	CL	3:43	3:47	
3/9/2017	111-345-1167	14:35	23:55	119	6670	PE	5:06	4:14	
3/10/2017	111-345-1167	6:35	14:25	141	5427	CL	4:10	3:40	
3/13/2017	110-34-1107	6:20	14:30	106	5737	CL	4:24	3:46	
3/13/2017	110-34-1107	14:35	23:55	146	6914	PE	5:17	4:03	
3/14/2017	110-34-1107	6:15	14:30	152	6137	CL	4:42	3:33	
3/14/2017	110-34-1107	14:35	23:55	183	7003	PE	5:21	3:59	
3/15/2017	111-2345-1204	6:15	14:30	157	6026	CL	4:37	3:38	
3/15/2017	111-2345-1204	14:35	23:55	182	6981	PE	5:20	4:00	
3/16/2017	111-2345-1204	6:15	14:30	162	6226	CL	4:46	3:29	
3/16/2017	111-2345-1204	14:35	23:55	185	7069	PE	5:24	3:56	
3/17/2017	120-2345-1442	6:15	14:25	150	5782	CL	4:26	3:44	

Press Number: 4									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/20/2017	119-345-1418	6:15	14:30	152	5959	CL	4:34	3:41	
3/20/2017	119-345-1418	14:35	23:55	153	7003	PE	5:21	3:59	
3/21/2017	119-345-1418	6:10	14:30	163	6270	CL	4:48	3:32	
3/21/2017	119-345-1418	14:35	23:55	142	7247	PE	5:32	3:48	
3/22/2017	119-345-1418	6:10	14:30	101	6426	CL	4:55	3:25	
3/22/2017	119-345-1418	14:35	23:55	187	7136	PE	5:27	3:53	
3/23/2017	119-345-1418	6:10	14:30	156	6004	CL	4:36	3:44	
3/23/2017	119-345-1418	14:35	23:55	175	6714	PE	5:08	4:12	
3/24/2017	119-2345-1347	6:15	14:25	147	5649	CL	4:20	3:50	
3/27/2017	111-345-1167	6:15	14:30	123	5804	CL	4:27	3:48	
3/27/2017	111-345-1167	14:35	23:55	152	7180	PE	5:29	3:51	
3/28/2017	111-345-1167	6:10	14:30	114	6181	CL	4:44	3:36	
3/28/2017	111-345-1167	14:35	23:55	119	7092	PE	5:25	3:55	
3/29/2017	111-345-1168	6:15	14:30	150	5782	CL	4:26	3:49	
3/29/2017	111-345-1168	14:35	23:55	181	6936	PE	5:18	4:02	
3/30/2017	111-345-1168	6:10	14:30	163	6248	CL	4:47	3:33	
3/30/2017	111-345-1168	14:35	23:55	184	7025	PE	5:22	3:58	
3/31/2017	111-345-1168	6:10	14:25	109	6381	CL	4:53	3:22	

Press Number: 5									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	103-345-1075	6:50	14:30	115	5488	CJ	4:01	3:39	
2/8/2017	103-345-1075	14:35	21:20	101	4838	AD	3:33	3:12	
2/8/2017	111-345-1181	21:35	23:55	37	1843	AD	1:24	0:56	
2/9/2017	102-345-1052	6:10	14:30	131	6277	CJ	4:35	3:45	
2/9/2017	102-345-1052	14:35	21:15	100	4791	AD	3:31	3:09	
2/9/2017	111-345-1179	21:35	23:55	36	1819	AD	1:23	0:57	
2/10/2017	102-345-1051	6:40	14:25	116	5534	CJ	4:03	3:42	
2/13/2017	113-345-1305	7:05	14:30	87	4745	CJ	3:29	3:56	
2/13/2017	113-345-1305	14:35	21:20	120	4722	AD	3:28	3:17	
2/13/2017	120-345-2017	21:55	23:55	30	1494	AD	1:09	0:51	
2/14/2017	113-345-1302	7:25	14:30	98	4698	CJ	3:27	3:38	
2/14/2017	113-345-1302	14:35	21:00	96	4605	AD	3:23	3:02	
2/14/2017	120-345-1463	21:45	23:55	25	1262	AD	0:59	1:11	
2/15/2017	113-345-1301	7:20	14:30	97	4652	CJ	3:25	3:45	
2/15/2017	113-345-1301	14:35	21:15	101	4861	AD	3:34	3:06	
2/15/2017	120-345-1458	21:45	23:55	30	1518	AD	1:10	1:00	
2/16/2017	119-345-2011	7:20	14:30	99	4745	CJ	3:29	3:41	
2/16/2017	119-345-2011	14:35	21:10	98	4698	AD	3:27	3:08	
2/16/2017	120-45-1434	21:45	23:55	17	1471	AD	1:08	1:02	
2/17/2017	102-345-1051	6:45	14:25	97	5232	CJ	3:50	3:50	
2/20/2017	102-2345-1012	7:25	14:30	114	4420	CJ	3:15	3:50	
2/20/2017	102-2345-1012	14:35	23:55	152	7229	AD	5:16	4:04	
2/21/2017	102-2345-10121	7:10	14:30	103	4954	CJ	3:38	3:42	
2/21/2017	102-2345-10121	14:35	23:55	150	7136	AD	5:12	4:08	
2/22/2017	102-2345-1014	7:35	14:30	88	4257	CJ	3:08	3:47	
2/22/2017	102-2345-1014	14:35	23:55	148	7066	AD	5:09	4:11	
2/23/2017	102-2345-1017	7:05	14:30	102	4907	CJ	3:36	3:49	
2/23/2017	102-2345-1017	14:35	23:55	156	7461	AD	5:26	3:54	
2/24/2017	102-45-1030	7:00	14:25	107	5139	CJ	3:46	3:39	

Press Number: 5									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/27/2017	119-345-1421	7:50	14:30	80	3881	CJ	2:52	3:48	
2/27/2017	119-345-1421	14:35	23:55	148	7038	AD	5:08	4:12	
2/28/2017	119-345-1418	7:30	14:30	112	4322	CJ	3:11	3:49	
2/28/2017	119-345-1418	14:35	23:55	152	7247	AD	5:17	4:03	
3/1/2017	119-345-1419	7:10	14:30	104	4995	CJ	3:40	3:40	
3/1/2017	119-345-1419	14:35	23:55	141	7294	AD	5:19	4:01	
3/2/2017	111-345-1152	7:30	14:30	92	4438	CJ	3:16	3:44	
3/2/2017	111-345-1152	14:35	23:55	151	7178	AD	5:14	4:06	
3/3/2017	111-34578-1183	7:35	14:25	87	4183	CJ	3:05	3:45	
3/6/2017	111-345-1185	7:35	14:30	86	4159	CJ	3:04	3:51	
3/6/2017	111-345-1185	14:35	23:55	138	7154	AD	5:13	4:07	
3/7/2017	111-345-1185	6:40	14:30	122	5831	CJ	4:16	3:34	
3/7/2017	111-345-1185	14:35	23:55	155	7363	AD	5:22	3:58	
3/8/2017	111-345-1185	6:40	14:30	124	5947	CJ	4:21	3:29	
3/8/2017	111-345-1185	14:35	23:55	156	7410	AD	5:24	3:56	
3/9/2017	111-345-1168	7:25	14:30	81	4461	CJ	3:17	3:48	
3/9/2017	111-345-1168	14:35	23:55	152	7247	AD	5:17	4:03	
3/10/2017	111-345-1168	6:45	14:25	117	5622	CJ	4:07	3:33	
3/13/2017	111-34578-1150	6:30	14:30	122	5831	CJ	4:16	3:44	
3/13/2017	111-34578-1150	14:35	23:55	149	7085	AD	5:10	4:10	
3/14/2017	111-34578-1150	6:20	14:30	152	6202	CJ	4:32	3:38	
3/14/2017	111-34578-1150	14:35	23:55	141	7294	AD	5:19	4:01	
3/15/2017	111-34578-1151	6:20	14:30	125	5993	CJ	4:23	3:47	
3/15/2017	111-34578-1151	14:35	23:55	150	7131	AD	5:12	4:08	
3/16/2017	111-34578-1151	6:20	14:30	130	6226	CJ	4:33	3:37	
3/16/2017	111-34578-1151	14:35	23:55	152	7224	AD	5:16	4:04	
3/17/2017	120-345-1441	6:20	14:25	123	5901	CJ	4:19	3:46	

Press Number: 5									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/20/2017	119-345-1419	6:15	14:30	126	6045	CJ	4:25	3:50	
3/20/2017	119-345-1419	14:35	23:55	147	7020	AD	5:07	4:13	
3/21/2017	119-345-1419	6:15	14:30	129	6184	CJ	4:31	3:44	
3/21/2017	119-345-1419	14:35	23:55	150	7159	AD	5:13	4:07	
3/22/2017	119-345-1419	6:15	14:30	119	6277	CJ	4:35	3:40	
3/22/2017	119-345-1419	14:35	23:55	153	7275	AD	5:18	4:02	
3/23/2017	119-345-1419	6:15	14:30	137	6556	CJ	4:47	3:28	
3/23/2017	119-345-1419	14:35	23:55	159	7577	AD	5:31	3:49	
3/24/2017	119-2345-1348	6:15	14:25	115	6091	CJ	4:27	3:43	
3/27/2017	120-45-1429	6:15	14:30	131	6277	CJ	4:35	3:40	
3/27/2017	120-45-1429	14:35	23:55	175	7275	AD	5:18	4:02	
3/28/2017	120-45-1429	6:15	14:30	133	6347	CJ	4:38	3:37	
3/28/2017	120-45-1429	14:35	23:55	144	7461	AD	5:26	3:54	
3/29/2017	120-45-1429	6:15	14:30	135	6463	CJ	4:43	3:32	
3/29/2017	120-45-1429	14:35	23:55	159	7600	AD	5:32	3:48	
3/30/2017	120-45-1429	6:15	14:30	144	6858	CJ	5:00	3:15	
3/30/2017	120-45-1429	14:35	23:55	156	7415	AD	5:24	3:56	
3/31/2017	120-45-1429	6:15	14:25	136	6486	CJ	4:44	3:26	

Press Number: 6								
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time
2/8/2017	103-16-1069	6:50	14:30	25.00	2232.00	JA	3:47	3:53
2/8/2017	103-16-1069	14:35	23:55	33.00	2935.00	LR	4:57	4:23
2/9/2017	103-16-1069	6:35	14:30	29.00	2574.00	JA	4:21	3:34
2/9/2017	103-16-1069	14:35	23:55	36.00	3197.00	LR	5:23	3:57
2/10/2017	101-6-1002	7:20	14:25	19.00	1679.00	JA	2:52	4:13
2/13/2017	103-16-1068	7:25	14:30	14.00	1709.00	JA	2:55	4:10
2/13/2017	103-16-1068	14:35	23:55	33.00	2935.00	LR	4:57	4:23
2/14/2017	103-16-1068	8:00	14:30	16.00	1438.00	JA	2:28	4:02
2/14/2017	103-16-1068	14:35	23:55	34.00	3046.00	LR	5:08	4:12
2/15/2017	101-6-1002	7:05	14:30	23.00	1920.00	JA	3:16	4:09
2/15/2017	101-6-1002	14:35	23:55	32.00	2815.00	LR	4:45	4:35
2/16/2017	101-6-1002	6:40	14:30	27.00	2373.00	JA	4:01	3:49
2/16/2017	101-6-1002	14:35	23:55	35.00	3096.00	LR	5:13	4:07
2/17/2017	101-6-1002	7:40	14:25	22.00	1910.00	JA	3:15	3:30
2/20/2017	103-16-1072	7:45	14:30	18.00	1579.00	JA	2:42	4:03
2/20/2017	103-16-1072	14:35	23:55	33.00	2895.00	LR	4:53	4:27
2/21/2017	103-16-1072	7:05	14:30	23.00	1619.00	JA	2:46	4:39
2/21/2017	103-16-1072	14:35	23:55	36.00	3197.00	LR	5:23	3:57
2/22/2017	101-6-1006	6:45	14:30	24.00	2091.00	JA	3:33	4:12
2/22/2017	101-6-1006	14:35	23:55	31.00	2785.00	LR	4:42	4:38
2/23/2017	101-6-1002	6:55	14:30	24.00	2091.00	JA	3:33	4:02
2/23/2017	101-6-1002	14:35	23:55	31.00	2754.00	LR	4:39	4:41
2/24/2017	101-6-1002	6:50	14:25	29.00	2342.00	JA	3:58	3:37
2/27/2017	103-16-1071	7:25	14:30	21.00	1830.00	JA	3:07	3:58
2/27/2017	103-16-1071	14:35	23:55	32.00	2805.00	LR	4:44	4:36
2/28/2017	103-16-1071	7:10	14:30	25.00	2202.00	JA	3:44	3:36
2/28/2017	103-16-1071	14:35	23:55	36.00	3156.00	LR	5:19	4:01
3/1/2017	101-6-1006	7:30	14:30	20.00	1749.00	JA	2:59	4:01
3/1/2017	101-6-1006	14:35	23:55	33.00	2895.00	LR	4:53	4:27
3/2/2017	101-6-1006	7:00	14:30	24.00	2131.00	JA	3:37	3:53
3/2/2017	101-6-1006	14:35	23:55	41.00	3156.00	LR	5:19	4:01
3/3/2017	101-6-1006	7:20	14:25	24.00	2101.00	JA	3:34	3:31

Press Number: 6								
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time
3/6/2017	119-16-1332	7:50	14:30	17.00	1508.00	JA	2:35	4:05
3/6/2017	119-16-1332	14:35	23:55	32.00	2795.00	LR	4:43	4:37
3/7/2017	119-16-1332	7:05	14:30	24.00	2151.00	JA	3:39	3:46
3/7/2017	119-16-1332	14:35	23:55	35.00	3126.00	LR	5:16	4:04
3/8/2017	119-16-1332	7:05	14:30	25.00	2252.00	JA	3:49	3:36
3/8/2017	119-16-1332	14:35	23:55	36.00	3187.00	LR	5:22	3:58
3/9/2017	119-16-1332	6:50	14:30	28.00	2443.00	JA	4:08	3:32
3/9/2017	119-16-1332	14:35	23:55	40.00	3257.00	LR	5:29	3:51
3/10/2017	119-16-1332	6:50	14:25	28.00	2443.00	JA	4:08	3:27
3/13/2017	114-6-2001	6:25	14:30	31.00	2292.00	JA	3:53	4:12
3/13/2017	114-6-2001	14:35	23:55	32.00	2855.00	LR	4:49	4:31
3/14/2017	114-6-2001	6:15	14:30	29.00	2564.00	JA	4:20	3:55
3/14/2017	114-6-2001	14:35	23:55	34.00	2996.00	LR	5:03	4:17
3/15/2017	114-6-2001	6:20	14:30	29.00	2553.00	JA	4:19	3:51
3/15/2017	114-6-2001	14:35	23:55	36.00	3146.00	LR	5:18	4:02
3/16/2017	114-6-2001	6:15	14:30	31.00	2714.00	JA	4:35	3:40
3/16/2017	114-6-2001	14:35	23:55	36.00	3177.00	LR	5:21	3:59
3/17/2017	114-6-2001	6:20	14:25	31.00	2775.00	JA	4:41	3:24
3/20/2017	114-6-2002	6:15	14:30	31.00	2483.00	JA	4:12	4:03
3/20/2017	114-6-2002	14:35	23:55	31.00	2765.00	LR	4:40	4:40
3/21/2017	114-6-2002	6:15	14:30	34.00	2594.00	JA	4:23	3:52
3/21/2017	114-6-2002	14:35	23:55	35.00	3106.00	LR	5:14	4:06
3/22/2017	114-6-2002	6:15	14:30	31.00	2754.00	JA	4:39	3:36
3/22/2017	114-6-2002	14:35	23:55	37.00	3277.00	LR	5:31	3:49
3/23/2017	114-6-2002	6:15	14:30	31.00	2754.00	JA	4:39	3:36
3/23/2017	114-6-2002	14:35	23:55	37.00	3257.00	LR	5:29	3:51
3/24/2017	114-6-2002	6:15	14:25	35.00	2795.00	JA	4:43	3:27

Press Number: 6									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/27/2017	114-6-1313	6:15	14:30	27.00	2433.00	JA	4:07	4:08	
3/27/2017	114-6-1313	14:35	23:55	32.00	2865.00	LR	4:50	4:30	
3/28/2017	114-6-1313	6:15	14:30	29.00	2574.00	JA	4:21	3:54	
3/28/2017	114-6-1313	14:35	23:55	34.00	3046.00	LR	5:08	4:12	
3/29/2017	114-6-1313	6:15	14:30	31.00	2704.00	JA	4:34	3:41	
3/29/2017	114-6-1313	14:35	23:55	36.00	3177.00	LR	5:21	3:59	
3/30/2017	114-6-1313	6:15	14:30	32.00	2795.00	JA	4:43	3:32	
3/30/2017	114-6-1313	14:35	23:55	37.00	3287.00	LR	5:32	3:48	
3/31/2017	114-6-1313	6:15	14:25	31.00	2785.00	JA	4:42	3:28	

Press Number: 7									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	102-78-1015	6:20	14:30	95	7391	DM	4:19	3:51	
2/8/2017	102-78-1015	14:35	23:55	122	8907	MN	5:11	4:09	
2/9/2017	102-78-1015	6:15	14:30	102	7945	DM	4:38	3:37	
2/9/2017	102-78-1015	14:35	17:30	23	2374	MN	1:27	1:28	
2/9/2017	000-78-9002	17:55	23:55	51	4912	MN	2:54	3:06	
2/10/2017	102-78-1018	6:20	14:25	97	7478	DM	4:22	3:43	
2/13/2017	102-78-2008	6:50	14:30	134	6603	DM	3:52	3:48	
2/13/2017	102-78-2008	14:35	23:55	102	8820	MN	5:08	4:12	
2/14/2017	102-78-2008	6:55	14:30	86	6866	DM	4:01	3:34	
2/14/2017	102-78-2008	14:35	16:45	18	2082	MN	1:17	0:53	
2/14/2017	102-78-1021	17:35	23:55	66	5728	MN	3:22	2:58	
2/15/2017	102-78-1023	6:30	14:30	93	7274	DM	4:15	3:45	
2/15/2017	102-78-1023	14:35	23:55	122	8907	MN	5:11	4:09	
2/16/2017	102-78-1059	6:20	14:30	102	7799	DM	4:33	3:37	
2/16/2017	102-78-1059	14:35	23:55	129	9287	MN	5:24	3:56	
2/17/2017	102-78-1018	6:35	14:25	86	6866	DM	4:01	3:49	
2/20/2017	102-78-2009	6:30	14:30	95	7362	DM	4:18	3:42	
2/20/2017	102-78-2009	14:35	23:55	181	9228	MN	5:22	3:58	
2/21/2017	111-78-1120	6:35	14:30	92	7245	DM	4:14	3:41	
2/21/2017	111-78-1120	14:35	23:55	105	8995	MN	5:14	4:06	
2/22/2017	111-78-1133	6:30	14:30	90	7128	DM	4:10	3:50	
2/22/2017	111-78-1133	14:35	23:55	128	9228	MN	5:22	3:58	
2/23/2017	111-78-1234	6:25	14:30	102	7799	DM	4:33	3:32	
2/23/2017	111-78-1234	14:35	23:55	130	9374	MN	5:27	3:53	
2/24/2017	000-78-9004	7:00	14:25	77	6370	DM	3:44	3:41	

Press Number: 7									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/27/2017	111-78-1242	6:35	14:30	71	7041	DM	4:07	3:48	
2/27/2017	111-78-1242	14:35	23:55	173	8791	MN	5:07	4:13	
2/28/2017	111-78-1242	6:20	14:35	104	7916	DM	4:37	3:38	
2/28/2017	111-78-1242	14:35	23:55	126	9112	MN	5:18	4:02	
3/1/2017	111-78-1243	6:25	14:30	95	7391	DM	4:19	3:46	
3/1/2017	111-78-1243	14:35	23:55	121	8878	MN	5:10	4:10	
3/2/2017	111-78-1243	6:15	14:35	110	8207	DM	4:47	3:33	
3/2/2017	111-78-1243	14:35	23:55	125	9082	MN	5:17	4:03	
3/3/2017	102-78-2009	6:35	14:25	91	7157	DM	4:11	3:39	
3/6/2017	119-78-1396	6:30	14:30	94	7303	DM	4:16	3:44	
3/6/2017	119-78-1396	14:35	23:55	123	8995	MN	5:14	4:06	
3/7/2017	119-78-1396	6:20	14:30	102	7799	DM	4:33	3:37	
3/7/2017	119-78-1396	14:35	23:55	104	9141	MN	5:19	4:01	
3/8/2017	119-78-1396	6:20	14:30	105	7945	DM	4:38	3:32	
3/8/2017	119-78-1396	14:35	23:55	130	9345	MN	5:26	3:54	
3/9/2017	111-78-1248	6:40	14:30	143	7128	DM	4:10	3:40	
3/9/2017	111-78-1248	14:35	23:55	125	9053	MN	5:16	4:04	
3/10/2017	111-78-1248	6:25	14:25	96	7420	DM	4:20	3:40	
3/13/2017	111-78-1132	6:15	14:30	98	7566	DM	4:25	3:50	
3/13/2017	111-78-1132	14:35	23:55	119	8762	MN	5:06	4:14	
3/14/2017	111-78-1132	6:10	14:30	107	8062	DM	4:42	3:38	
3/14/2017	111-78-1132	14:35	23:55	122	8937	MN	5:12	4:08	
3/15/2017	111-78-1135	6:10	14:30	112	8353	DM	4:52	3:28	
3/15/2017	111-78-1135	14:35	23:55	121	8849	MN	5:09	4:11	
3/16/2017	111-78-1135	6:10	14:30	112	8353	DM	4:52	3:28	
3/16/2017	111-78-1135	14:35	23:55	131	9432	MN	5:29	3:51	
3/17/2017	119-78-1398	6:10	14:25	155	7799	DM	4:33	3:42	

Press Number: 7									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/20/2017	111-78-1239	6:10	14:30	103	7828	DM	4:34	3:46	
3/20/2017	111-78-1239	14:35	23:55	125	9053	MN	5:16	4:04	
3/21/2017	111-78-1239	6:10	14:30	107	8091	DM	4:43	3:37	
3/21/2017	111-78-1239	14:35	23:55	130	9345	MN	5:26	3:54	
3/22/2017	111-78-1239	6:10	14:30	110	8237	DM	4:48	3:32	
3/22/2017	111-78-1239	14:35	23:55	130	9374	MN	5:27	3:53	
3/23/2017	111-78-1239	6:10	14:30	113	8382	DM	4:53	3:27	
3/23/2017	111-78-1239	14:35	23:55	133	9520	MN	5:32	3:48	
3/24/2017	111-78-1239	6:10	14:25	113	8382	DM	4:53	3:22	
3/27/2017	119-78-1404	6:10	14:30	102	7770	DM	4:32	3:48	
3/27/2017	119-78-1404	14:35	23:55	125	9082	MN	5:17	4:03	
3/28/2017	119-78-1404	6:10	14:30	108	8120	DM	4:44	3:36	
3/28/2017	119-78-1404	14:35	23:55	130	9374	MN	5:27	3:53	
3/29/2017	119-78-1404	6:10	14:30	108	8120	DM	4:44	3:36	
3/29/2017	119-78-1404	14:35	23:55	132	9462	MN	5:30	3:50	
3/30/2017	119-78-1404	6:10	14:30	112	8324	DM	4:51	3:29	
3/30/2017	119-78-1404	14:35	23:55	131	9432	MN	5:29	3:51	
3/31/2017	119-78-1404	6:10	14:25	112	8353	DM	4:52	3:23	

Press Number: 8									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/8/2017	102-78-1018	6:30	14:30	123	7350	TL	4:12	3:48	
2/8/2017	102-78-1018	14:35	23:55	141	9016	JS	5:08	4:12	
2/9/2017	102-78-1018	6:20	14:30	135	8034	TL	4:35	3:35	
2/9/2017	102-78-1018	14:35	17:50	44	3095	JS	1:49	1:26	
2/9/2017	000-78-9004	18:05	23:55	76	4791	JS	2:46	3:04	
2/10/2017	102-78-1015	6:35	14:25	121	7260	TL	4:09	3:41	
2/13/2017	102-78-2009	7:00	14:30	102	6219	TL	3:34	3:56	
2/13/2017	102-78-2009	14:35	23:55	159	9343	JS	5:19	4:01	
2/14/2017	102-78-2009	7:10	14:30	137	6814	TL	3:54	3:26	
2/14/2017	102-78-2009	14:35	17:15	39	2798	JS	1:39	1:01	
2/14/2017	102-78-1022	17:50	23:55	85	5297	JS	3:03	3:02	
2/15/2017	102-78-1059	6:55	14:30	113	6814	TL	3:54	3:41	
2/15/2017	102-78-1059	14:35	23:55	43	3661	JS	2:08	7:12	
2/16/2017	102-78-1023	6:20	14:30	131	7826	TL	4:28	3:42	
2/16/2017	102-78-1023	14:35	23:55	161	9462	JS	5:23	3:57	
2/17/2017	102-78-1015	6:50	14:25	110	6665	TL	3:49	3:46	
2/20/2017	102-78-2008	6:45	14:30	119	7141	TL	4:05	3:40	
2/20/2017	102-78-2008	14:35	23:55	163	9521	JS	5:25	3:55	
2/21/2017	111-78-1133	6:50	14:30	112	6784	TL	3:53	3:47	
2/21/2017	111-78-1133	14:35	23:55	157	9194	JS	5:14	4:06	
2/22/2017	111-78-1120	7:05	14:30	126	6219	TL	3:34	3:51	
2/22/2017	111-78-1120	14:35	23:55	164	9611	JS	5:28	3:52	
2/23/2017	111-78-1242	6:55	14:30	119	7171	TL	4:06	3:29	
2/23/2017	111-78-1242	14:35	23:55	166	9700	JS	5:31	3:49	
2/24/2017	000-78-9002	7:00	14:25	99	6606	TL	3:47	3:38	

Press Number: 8									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
2/27/2017	111-78-1243	7:00	14:30	129	6368	TL	3:39	3:51	
2/27/2017	111-78-1243	14:35	23:55	153	9016	JS	5:08	4:12	
2/28/2017	111-78-1243	6:30	14:30	131	7796	TL	4:27	3:33	
2/28/2017	111-78-1243	14:35	23:55	155	9105	JS	5:11	4:09	
3/1/2017	111-78-1234	6:55	14:30	113	6814	TL	3:54	3:41	
3/1/2017	111-78-1234	14:35	23:55	159	9343	JS	5:19	4:01	
3/2/2017	111-78-1234	6:30	14:30	130	7736	TL	4:25	3:35	
3/2/2017	111-78-1234	14:35	23:55	160	9373	JS	5:20	4:00	
3/3/2017	102-78-2008	7:00	14:25	111	6725	TL	3:51	3:34	
3/6/2017	111-78-1398	6:55	14:30	98	6636	TL	3:48	3:47	
3/6/2017	111-78-1398	14:35	23:55	159	9343	JS	5:19	4:01	
3/7/2017	111-78-1398	6:35	14:30	131	7826	TL	4:28	3:27	
3/7/2017	111-78-1398	14:35	23:55	164	9581	JS	5:27	3:53	
3/8/2017	111-78-1398	6:30	14:30	154	7736	TL	4:25	3:35	
3/8/2017	111-78-1398	14:35	23:55	167	9759	JS	5:33	3:47	
3/9/2017	111-78-1276	6:55	14:30	112	6755	TL	3:52	3:43	
3/9/2017	111-78-1276	14:35	23:55	159	9343	JS	5:19	4:01	
3/10/2017	111-78-1276	6:40	14:25	118	7082	TL	4:03	3:42	
3/13/2017	111-78-1134	6:15	14:30	134	7945	TL	4:32	3:43	
3/13/2017	111-78-1134	14:35	23:55	157	9224	JS	5:15	4:05	
3/14/2017	111-78-1134	6:15	14:30	140	8272	TL	4:43	3:32	
3/14/2017	111-78-1134	14:35	23:55	159	9343	JS	5:19	4:01	
3/15/2017	111-78-1139	6:15	14:30	135	8004	TL	4:34	3:41	
3/15/2017	111-78-1139	14:35	23:55	140	8926	JS	5:05	4:15	
3/16/2017	111-78-1139	6:15	14:30	142	8421	TL	4:48	3:27	
3/16/2017	111-78-1139	14:35	23:55	191	9789	JS	5:34	3:46	
3/17/2017	119-78-1396	6:15	14:25	133	7915	TL	4:31	3:39	

Press Number: 8									
Date	Die Code	Start Time	End Time	Scrapped	Good	Operator	Running time	Holding Time	
3/20/2017	111-78-1240	6:15	14:30	135	8004	TL	4:34	3:41	
3/20/2017	111-78-1240	14:35	23:55	159	9343	JS	5:19	4:01	
3/21/2017	111-78-1240	6:10	14:30	162	8183	TL	4:40	3:40	
3/21/2017	111-78-1240	14:35	23:55	143	9640	JS	5:29	3:51	
3/22/2017	111-78-1240	6:10	14:30	142	8421	TL	4:48	3:32	
3/22/2017	111-78-1240	14:35	23:55	160	9402	JS	5:21	3:59	
3/23/2017	111-78-1240	6:10	14:30	142	8421	TL	4:48	3:32	
3/23/2017	111-78-1240	14:35	23:55	170	9938	JS	5:39	3:41	
3/24/2017	111-78-1240	6:10	14:30	145	9569	TL	4:53	3:27	
3/27/2017	119-78-1405	6:10	14:30	131	7826	TL	4:28	3:52	
3/27/2017	119-78-1405	14:35	23:55	160	9373	JS	5:20	4:00	
3/28/2017	119-78-1405	6:10	14:30	164	8302	TL	4:44	3:36	
3/28/2017	119-78-1405	14:35	23:55	170	9938	JS	5:39	3:41	
3/29/2017	119-78-1405	6:10	14:30	127	8212	TL	4:41	3:39	
3/29/2017	119-78-1405	14:35	23:55	170	9908	JS	5:38	3:42	
3/30/2017	119-78-1405	6:10	14:30	142	8391	TL	4:47	3:33	
3/30/2017	119-78-1405	14:35	23:55	166	9730	JS	5:32	3:48	
3/31/2017	119-78-1405	6:10	14:25	141	8361	TL	4:46	3:29	

Appendix B: Die Moving Sheets

Driver Name: OF			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1068	Storage	Press 1	2/8/2017	6:03	6:18
111-2-1166	Storage	Press 2	2/8/2017	6:19	6:32
103-16-1069	Storage	Press 6	2/8/2017	6:33	6:45
103-16-1068	Storage	Press 1	2/9/2017	6:01	6:09
111-2-1166	Storage	Press 2	2/9/2017	6:10	6:21
103-16-1069	Storage	Press 6	2/9/2017	6:22	6:31
103-16-1068	Storage	Press 1	2/10/2017	6:01	6:15
111-2-1166	Storage	Press 2	2/10/2017	6:16	6:30
101-6-1002	Storage	Press 6	2/10/2017	6:31	7:13
103-16-1068	Press 1	Storage	2/10/2017	14:25	14:28
111-2-1166	Press 2	Storage	2/10/2017	14:29	14:32
101-6-1002	Press 6	Storage	2/10/2017	14:33	14:36
Driver Name: OF			Week: 2/13/17-2/17/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1069	Storage	Press 1	2/13/2017	6:00	6:17
111-2-1188	Storage	Press 2	2/13/2017	6:18	6:54
103-16-1068	Storage	Press 6	2/13/2017	6:55	7:17
103-16-1069	Storage	Press 1	2/14/2017	6:00	6:30
111-2-1188	Storage	Press 2	2/14/2017	6:24	7:10
103-16-1068	Storage	Press 6	2/14/2017	7:03	8:00
103-16-1069	Storage	Press 1	2/15/2017	6:00	6:22
111-2-1188	Storage	Press 2	2/15/2017	6:23	6:48
101-6-1002	Storage	Press 6	2/15/2017	6:49	7:01
103-16-1069	Storage	Press 1	2/16/2017	6:01	6:17
111-2-1166	Storage	Press 2	2/16/2017	6:18	6:23
101-6-1002	Storage	Press 6	2/16/2017	6:24	6:36
103-16-1068	Storage	Press 1	2/17/2017	6:01	6:32
111-2-1188	Storage	Press 2	2/17/2017	6:33	6:57
101-6-1002	Storage	Press 6	2/17/2017	6:58	7:33
103-16-1068	Press 1	Storage	2/17/2017	14:25	14:28
111-2-1188	Press 2	Storage	2/17/2017	14:29	14:32
101-6-1002	Press 6	Storage	2/17/2017	14:33	14:40

Driver Name: OF			Week:2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1071	Storage	Press 1	2/20/2017	6:01	6:38
111-2-1189	Storage	Press 2	2/20/2017	6:39	7:03
103-16-1072	Storage	Press 6	2/20/2017	7:04	7:39
103-16-1071	Storage	Press 1	2/21/2017	6:14	6:31
111-2-1189	Storage	Press 2	2/21/2017	6:32	6:41
103-16-1072	Storage	Press 6	2/21/2017	6:42	6:57
103-16-1071	Storage	Press 1	2/22/2017	6:00	6:07
111-2-1189	Storage	Press 2	2/22/2017	6:08	6:21
101-6-1006	Storage	Press 6	2/22/2017	6:22	6:37
103-16-1071	Storage	Press 1	2/23/2017	6:00	6:08
000-2345-9008	Storage	Press 2	2/23/2017	6:09	6:36
101-6-1002	Storage	Press 6	2/23/2017	6:37	6:48
103-16-1068	Storage	Press 1	2/24/2017	6:00	6:23
111-2-1189	Storage	Press 2	2/24/2017	6:24	6:35
101-6-1002	Storage	Press 6	2/24/2017	6:36	6:46
103-16-1068	Press 1	Storage	2/24/2017	14:25	14:29
111-2-1189	Press 2	Storage	2/24/2017	14:30	14:33
101-6-1002	Press 6	Storage	2/24/2017	14:34	14:38
Driver Name: OF			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1072	Storage	Press 1	2/27/2017	6:01	6:23
119-2345-1347	Storage	Press 2	2/27/2017	6:24	6:59
103-16-1071	Storage	Press 6	2/27/2017	7:00	7:17
103-16-1072	Storage	Press 1	2/28/2017	6:01	6:15
119-2345-1348	Storage	Press 2	2/28/2017	6:16	6:52
103-16-1071	Storage	Press 6	2/28/2017	6:53	7:02
103-16-1072	Storage	Press 1	3/1/2017	6:02	6:17
119-2345-1345	Storage	Press 2	3/1/2017	6:18	7:01
101-6-1006	Storage	Press 6	3/1/2017	7:02	7:22
103-16-1072	Storage	Press 1	3/2/2017	6:01	6:15
119-2345-13451	Storage	Press 2	3/2/2017	6:16	6:41
101-6-1006	Storage	Press 6	3/2/2017	6:42	6:53
103-16-1068	Storage	Press 1	3/3/2017	6:00	6:23
120-2345-1442	Storage	Press 2	3/3/2017	6:24	6:48
101-6-1006	Storage	Press 6	3/3/2017	6:49	7:12
103-16-1068	Press 1	Storage	3/3/2017	14:25	14:28
120-2345-1442	Press 2	Storage	3/3/2017	14:29	14:33
101-6-1006	Press 6	Storage	3/3/2017	14:34	14:37

Driver Name: OF			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
119-16-1331	Storage	Press 1	3/6/2017	6:00	6:38
119-2-1422	Storage	Press 2	3/6/2017	6:39	6:59
119-16-1332	Storage	Press 6	3/6/2017	7:00	7:42
119-16-1331	Storage	Press 1	3/7/2017	6:00	6:22
119-2-1422	Storage	Press 2	3/7/2017	6:23	6:37
119-16-1332	Storage	Press 6	3/7/2017	6:38	6:57
119-16-1331	Storage	Press 1	3/8/2017	6:00	6:25
119-2-1422	Storage	Press 2	3/8/2017	6:26	6:40
119-16-1332	Storage	Press 6	3/8/2017	6:41	6:57
119-16-1331	Storage	Press 1	3/9/2017	6:00	6:20
119-2-1422	Storage	Press 2	3/9/2017	6:21	6:33
119-16-1332	Storage	Press 6	3/9/2017	6:34	6:43
119-16-1331	Storage	Press 1	3/10/2017	6:00	6:12
119-2-1422	Storage	Press 2	3/10/2017	6:13	6:29
119-16-1332	Storage	Press 6	3/10/2017	6:30	6:42
119-16-1331	Press 1	Storage	3/10/2017	14:25	14:31
119-2-1422	Press 2	Storage	3/10/2017	14:32	14:39
119-16-1332	Press 6	Storage	3/10/2017	14:40	14:55
Driver Name: OF			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
111-16-1180	Storage	Press 1	3/13/2017	6:00	6:05
102-2345-1012	Storage	Press 2	3/13/2017	6:06	6:12
114-6-2001	Storage	Press 6	3/13/2017	6:13	6:18
111-16-1180	Storage	Press 1	3/14/2017	6:00	6:03
102-2345-1012	Storage	Press 2	3/14/2017	6:04	6:07
114-6-2001	Storage	Press 6	3/14/2017	6:08	6:11
111-16-1180	Storage	Press 1	3/15/2017	6:00	6:03
102-2345-10121	Storage	Press 2	3/15/2017	6:04	6:09
114-6-2001	Storage	Press 6	3/15/2017	6:10	6:13
111-16-1180	Storage	Press 1	3/16/2017	6:00	6:02
102-2345-10121	Storage	Press 2	3/16/2017	6:03	6:06
114-6-2001	Storage	Press 6	3/16/2017	6:07	6:10
111-16-1180	Storage	Press 1	3/17/2017	6:00	6:03
102-2345-1014	Storage	Press 2	3/17/2017	6:04	6:08
111-6-2001	Storage	Press 6	3/17/2017	6:09	6:12
102-2345-1014	Press 2	Storage	3/17/2017	9:30	9:33
102-2345-1017	Storage	Press 2	3/17/2017	9:33	9:37
111-16-1180	Press 1	Storage	3/17/2017	14:25	14:27
102-2345-1017	Press 2	Storage	3/17/2017	14:28	14:30
114-6-2001	Press 6	Storage	3/17/2017	14:31	14:33

Driver Name: OF			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
110-12-1117	Storage	Press 1	3/20/2017	6:00	6:03
119-23-1350	Storage	Press 2	3/20/2017	6:04	6:07
114-6-2002	Storage	Press 6	3/20/2017	6:08	6:10
110-12-1117	Storage	Press 1	3/21/2017	6:00	6:02
119-23-1350	Storage	Press 2	3/21/2017	6:03	6:05
114-6-2002	Storage	Press 6	3/21/2017	6:06	6:08
110-12-1117	Storage	Press 1	3/22/2017	6:00	6:02
103-23-1077	Storage	Press 2	3/22/2017	6:03	6:06
114-6-2002	Storage	Press 6	3/22/2017	6:07	6:09
110-12-1117	Storage	Press 1	3/23/2017	6:00	6:02
103-23-1077	Storage	Press 2	3/23/2017	6:03	6:05
114-6-2002	Storage	Press 6	3/23/2017	6:06	6:08
110-12-1117	Storage	Press 1	3/24/2017	6:00	6:02
103-23-1077	Storage	Press 2	3/24/2017	6:03	6:05
114-6-2002	Storage	Press 6	3/24/2017	6:06	6:08
110-12-1117	Press 1	Storage	3/24/2017	14:25	14:27
103-23-1077	Press 2	Storage	3/24/2017	14:28	14:30
114-6-2002	Press 6	Storage	3/24/2017	14:31	14:34
Driver Name: OF			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
111-16-1175	Storage	Press 1	3/27/2017	6:00	6:02
120-23-1443	Storage	Press 2	3/27/2017	6:03	6:05
114-6-1313	Storage	Press 6	3/27/2017	6:06	6:08
111-16-1175	Storage	Press 1	3/28/2017	6:00	6:02
120-23-1443	Storage	Press 2	3/28/2017	6:03	6:05
114-6-1313	Storage	Press 6	3/28/2017	6:06	6:08
111-16-1175	Storage	Press 1	3/29/2017	6:00	6:02
120-23-1443	Storage	Press 2	3/29/2017	6:03	6:05
114-6-1313	Storage	Press 6	3/29/2017	6:06	6:08
111-16-1175	Storage	Press 1	3/30/2017	6:00	6:02
102-2345-1040	Storage	Press 2	3/30/2017	6:03	6:06
114-6-1313	Storage	Press 6	3/30/2017	6:07	6:09
111-16-1175	Storage	Press 1	3/31/2017	6:01	6:03
102-2345-1040	Storage	Press 2	3/31/2017	6:04	6:06
114-6-1313	Storage	Press 6	3/31/2017	6:07	6:09
111-16-1175	Press 1	Storage	3/31/2017	14:25	14:28
102-2345-1040	Press 2	Storage	3/31/2017	14:29	14:32
114-6-1313	Press 6	Storage	3/31/2017	14:33	14:36

Driver Name: HM			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
102-345-1051	Storage	Press 3	2/8/2017	6:00	6:17
102-345-1052	Storage	Press 4	2/8/2017	6:18	6:33
103-345-1075	Storage	Press 5	2/8/2017	6:34	6:47
103-345-1052	Storage	Press 5	2/9/2017	6:00	6:05
103-345-1051	Storage	Press 4	2/9/2017	6:06	6:17
103-345-1075	Storage	Press 3	2/9/2017	6:18	6:30
102-345-1052	Storage	Press 3	2/10/2017	6:00	6:12
103-345-1075	Storage	Press 4	2/10/2017	6:19	6:25
102-345-1051	Storage	Press 5	2/10/2017	6:26	6:33
102-345-1052	Press 3	Storage	2/10/2017	14:25	14:28
103-345-1075	Press 4	Storage	2/10/2017	14:29	14:33
102-345-1051	Press 5	Storage	2/10/2017	14:34	14:37
Driver Name: HM			Week: 2/13/17-2/17/17		
Die Number	From	To	Date	Start Time	End Time
113-345-1301	Storage	Press 3	2/13/2017	6:00	6:27
113-345-1302	Storage	Press 4	2/13/2017	6:28	6:41
113-345-1305	Storage	Press 5	2/13/2017	6:42	6:58
113-345-1305	Storage	Press 3	2/14/2017	6:00	6:32
113-345-1301	Storage	Press 4	2/14/2017	6:33	6:47
113-345-1302	Storage	Press 5	2/14/2017	6:48	7:17
113-345-1302	Storage	Press 3	2/15/2017	6:01	6:26
113-345-1305	Storage	Press 4	2/15/2017	6:27	6:49
113-345-1301	Storage	Press 5	2/15/2017	6:50	7:12
111-345-1152	Storage	Press 3	2/16/2017	6:01	6:33
111-345-1160	Storage	Press 4	2/16/2017	6:34	6:50
119-345-2011	Storage	Press 5	2/16/2017	6:51	7:12
102-345-1052	Storage	Press 3	2/17/2017	6:00	6:12
103-345-1075	Storage	Press 4	2/17/2017	6:13	6:24
102-345-1051	Storage	Press 5	2/17/2017	6:25	6:39
102-345-1052	Press 6	Storage	2/17/2017	14:25	14:28
103-345-1075	Press 7	Storage	2/17/2017	14:29	14:33
102-345-1051	Press 8	Storage	2/17/2017	14:34	14:40

Driver Name: HM			Week:2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
102-3-1033	Storage	Press 3	2/20/2017	6:02	6:37
102-34-1035	Storage	Press 4	2/20/2017	6:38	6:59
102-2345-1012	Storage	Press 5	2/20/2017	7:00	7:18
102-3-1033	Storage	Press 3	2/21/2017	6:00	6:13
110-34-1106	Storage	Press 4	2/21/2017	6:14	6:48
102-2345-10121	Storage	Press 5	2/21/2017	6:49	7:03
102-3-1034	Storage	Press 3	2/22/2017	6:00	6:29
110-34-1107	Storage	Press 4	2/22/2017	6:30	6:49
102-2345-1014	Storage	Press 5	2/22/2017	6:50	7:27
102-3-1034	Storage	Press 3	2/23/2017	6:01	6:14
120-45-1429	Storage	Press 4	2/23/2017	6:15	6:41
102-2345-1017	Storage	Press 5	2/23/2017	6:42	7:00
000-2345-9008	Storage	Press 3	2/24/2017	6:00	6:23
102-2345-1012	Storage	Press 4	2/24/2017	6:24	6:37
102-45-1030	Storage	Press 5	2/24/2017	6:38	6:56
000-2345-9008	Press 3	Press 3	2/24/2017	14:25	14:29
102-2345-1012	Press 4	Press 4	2/24/2017	14:30	14:33
102-45-1030	Press 5	Press 5	2/24/2017	14:34	14:36
Driver Name: HM			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
119-23-1350	Storage	Press 3	2/27/2017	6:02	6:33
119-4-1326	Storage	Press 4	2/27/2017	6:35	6:59
119-345-1421	Storage	Press 5	2/27/2017	7:00	7:42
120-23-1443	Storage	Press 3	2/28/2017	6:00	6:41
119-4-1326	Storage	Press 4	2/28/2017	6:42	6:58
119-345-1418	Storage	Press 5	2/28/2017	6:59	7:23
104-3-1099	Storage	Press 3	3/1/2017	6:00	6:32
120-345-1441	Storage	Press 4	3/1/2017	6:33	6:50
119-345-1419	Storage	Press 5	3/1/2017	6:51	7:02
104-3-1099	Storage	Press 3	3/2/2017	6:00	6:12
120-45-1429	Storage	Press 4	3/2/2017	6:13	6:51
111-345-1152	Storage	Press 5	3/2/2017	6:52	7:23
102-2345-1040	Storage	Press 3	3/3/2017	6:00	6:41
120-45-1429	Storage	Press 4	3/3/2017	6:42	7:03
111-34578-1183	Storage	Press 5	3/3/2017	7:04	7:29
102-2345-1040	Press 3	Storage	3/3/2017	14:25	14:28
120-45-1429	Press 4	Storage	3/3/2017	14:29	14:32
111-34578-1183	Press 5	Storage	3/3/2017	14:33	14:36

Driver Name: HM			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
111-345-1182	Storage	Press 3	3/6/2017	6:00	6:47
111-345-1184	Storage	Press 4	3/6/2017	6:48	7:13
111-345-1185	Storage	Press 5	3/6/2017	7:14	7:29
111-345-1182	Storage	Press 3	3/7/2017	6:00	6:12
111-345-1184	Storage	Press 4	3/7/2017	6:13	6:25
111-345-1185	Storage	Press 5	3/7/2017	6:26	6:33
111-345-1182	Storage	Press 3	3/8/2017	6:00	6:09
111-345-1184	Storage	Press 4	3/8/2017	6:10	6:21
111-345-1185	Storage	Press 5	3/8/2017	6:22	6:34
111-345-1165	Storage	Press 3	3/9/2017	6:00	6:33
111-345-1167	Storage	Press 4	3/9/2017	6:34	6:52
111-345-1168	Storage	Press 5	3/9/2017	6:53	7:19
111-345-1165	Storage	Press 3	3/10/2017	6:00	6:13
111-345-1167	Storage	Press 4	3/10/2017	6:14	6:28
111-345-1168	Storage	Press 5	3/10/2017	6:29	6:40
111-345-1165	Press 3	Storage	3/10/2017	14:25	14:31
111-345-1167	Press 4	Storage	3/10/2017	14:32	14:42
111-345-1168	Press 5	Storage	3/10/2017	14:43	14:49
Driver Name: HM			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
110-34-1106	Storage	Press 3	3/13/2017	6:00	6:07
110-34-1107	Storage	Press 4	3/13/2017	6:08	6:15
111-34578-1150	Storage	Press 5	3/13/2017	6:16	6:22
110-34-1106	Storage	Press 3	3/14/2017	6:00	6:04
110-34-1107	Storage	Press 4	3/14/2017	6:05	6:10
111-34578-1150	Storage	Press 5	3/14/2017	6:11	6:15
111-2345-1203	Storage	Press 3	3/15/2017	6:00	6:06
111-2345-1204	Storage	Press 4	3/15/2017	6:07	6:09
111-34578-1151	Storage	Press 5	3/15/2017	6:10	6:15
111-2345-1203	Storage	Press 3	3/16/2017	6:00	6:03
111-2345-1204	Storage	Press 4	3/16/2017	6:04	6:07
111-34578-1151	Storage	Press 5	3/16/2017	6:08	6:11
120-23-1443	Storage	Press 3	3/17/2017	6:00	6:06
120-2345-1442	Storage	Press 4	3/17/2017	6:07	6:11
120-345-1441	Storage	Press 5	3/17/2017	6:12	6:16
120-23-1443	Press 3	Storage	3/17/2017	14:25	14:27
120-2345-1442	Press 4	Storage	3/17/2017	14:28	14:30
120-345-1441	Press 5	Storage	3/17/2017	14:31	14:34

Driver Name: HM			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
111-34578-1150	Storage	Press 3	3/20/2017	6:00	6:03
119-345-1418	Storage	Press 4	3/20/2017	6:04	6:07
119-345-1419	Storage	Press 5	3/20/2017	6:08	6:10
111-34578-1150	Storage	Press 3	3/21/2017	6:00	6:02
119-345-1418	Storage	Press 4	3/21/2017	6:03	6:05
119-345-1419	Storage	Press 5	3/21/2017	6:06	6:08
111-34578-1151	Storage	Press 3	3/22/2017	6:00	6:03
119-345-1418	Storage	Press 4	3/22/2017	6:04	6:06
119-345-1419	Storage	Press 5	3/22/2017	6:07	6:09
111-34578-1151	Storage	Press 3	3/23/2017	6:00	6:02
119-345-1418	Storage	Press 4	3/23/2017	6:03	6:05
119-345-1419	Storage	Press 5	3/23/2017	6:06	6:08
119-34578-1353	Storage	Press 3	3/24/2017	6:00	6:03
119-2345-1347	Storage	Press 4	3/24/2017	6:04	6:07
119-2345-1348	Storage	Press 5	3/24/2017	6:08	6:10
119-34578-1353	Press 3	Storage	3/24/2017	14:25	14:27
119-2345-1347	Press 4	Storage	3/24/2017	14:28	14:31
119-2345-1348	Press 5	Storage	3/24/2017	14:32	14:34
Driver Name: HM			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
119-2345-1347	Storage	Press 3	3/27/2017	6:00	6:03
111-345-1167	Storage	Press 4	3/27/2017	6:04	6:07
120-45-1429	Storage	Press 5	3/27/2017	6:08	6:10
119-2345-1348	Storage	Press 3	3/28/2017	6:00	6:03
111-345-1167	Storage	Press 4	3/28/2017	6:04	6:06
120-45-1429	Storage	Press 5	3/28/2017	6:07	6:09
119-2345-1395	Storage	Press 3	3/29/2017	6:00	6:03
111-345-1168	Storage	Press 4	3/29/2017	6:04	6:07
120-45-1429	Storage	Press 5	3/29/2017	6:08	6:10
119-2345-1406	Storage	Press 3	3/30/2017	6:00	6:03
111-345-1168	Storage	Press 4	3/30/2017	6:04	6:06
120-45-1429	Storage	Press 5	3/30/2017	6:07	6:10
111-34578-1183	Storage	Press 3	3/31/2017	6:00	6:03
111-345-1168	Storage	Press 4	3/31/2017	6:04	6:06
120-45-1429	Storage	Press 5	3/31/2017	6:07	6:09
111-34578-1183	Press 3	Storage	3/31/2017	14:25	14:28
111-345-1168	Press 4	Storage	3/31/2017	14:29	14:31
120-45-1429	Press 5	Storage	3/31/2017	14:32	14:34

Driver Name: CS			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
102-78-1015	Storage	Press 7	2/8/2017	6:02	6:15
102-78-1018	Storage	Press 8	2/8/2017	6:16	6:28
102-78-1015	Storage	Press 7	2/9/2017	6:02	6:10
102-78-1018	Storage	Press 8	2/9/2017	6:11	6:15
102-78-1018	Storage	Press 7	2/10/2017	6:00	6:13
102-78-1015	Storage	Press 8	2/10/2017	6:14	6:27
102-78-1018	Press 7	Storage	2/10/2017	14:25	14:28
102-78-1015	Press 8	Storage	2/10/2017	14:29	14:33
Driver Name: CS			Week: 2/13/17-2/17/17		
Die Number	From	To	Date	Start Time	End Time
102-78-2008	Storage	Press 7	2/13/2017	6:01	6:42
102-78-2009	Storage	Press 8	2/13/2017	6:43	6:55
102-78-2008	Storage	Press 7	2/14/2017	6:02	6:46
102-78-2009	Storage	Press 8	2/14/2017	6:47	7:03
102-78-1023	Storage	Press 7	2/15/2017	6:00	6:23
102-78-1059	Storage	Press 8	2/15/2017	6:24	6:48
102-78-1059	Storage	Press 7	2/16/2017	6:00	6:12
102-78-1023	Storage	Press 8	2/16/2017	6:13	6:21
102-78-1018	Storage	Press 7	2/17/2017	6:01	6:27
102-78-1015	Storage	Press 8	2/17/2017	6:28	6:44
102-78-1018	Press 7	Storage	2/17/2017	14:25	14:28
102-78-1015	Press 8	Storage	2/17/2017	14:29	14:33
Driver Name: CS			Week:2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
102-78-2009	Storage	Press 7	2/20/2017	6:02	6:22
102-78-2008	Storage	Press 8	2/20/2017	6:23	6:38
111-78-1120	Storage	Press 7	2/21/2017	6:00	6:27
111-78-1133	Storage	Press 8	2/21/2017	6:27	6:44
111-78-1133	Storage	Press 7	2/22/2017	6:00	6:23
111-78-1120	Storage	Press 8	2/22/2017	6:23	6:59
111-78-1234	Storage	Press 7	2/23/2017	6:00	6:19
111-78-1242	Storage	Press 8	2/23/2017	6:20	6:49
000-78-9004	Storage	Press 7	2/24/2017	6:00	6:51
000-78-9002	Storage	Press 8	2/24/2017	6:52	7:17
000-78-9004	Press 7	Storage	2/24/2017	14:25	14:28
000-78-9002	Press 8	Storage	2/24/2017	14:29	14:33

Driver Name: CS			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1242	Storage	Press 7	2/27/2017	6:00	6:28
111-78-1243	Storage	Press 8	2/27/2017	6:29	6:55
111-78-1242	Storage	Press 7	2/28/2017	6:00	6:13
111-78-1243	Storage	Press 8	2/28/2017	6:14	6:22
111-78-1243	Storage	Press 7	3/1/2017	6:00	6:17
111-78-1234	Storage	Press 8	3/1/2017	6:18	6:49
111-78-1243	Storage	Press 7	3/2/2017	6:00	6:11
111-78-1234	Storage	Press 8	3/2/2017	6:12	6:24
102-78-2009	Storage	Press 7	3/3/2017	6:00	6:28
102-78-2008	Storage	Press 8	3/3/2017	6:29	6:52
102-78-2009	Press 7	Storage	3/3/2017	14:25	14:28
102-78-2008	Press 8	Storage	3/3/2017	14:29	14:35
Driver Name: CS			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
119-78-1396	Storage	Press 7	3/6/2017	6:00	6:23
119-78-1398	Storage	Press 8	3/6/2017	6:24	6:49
119-78-1396	Storage	Press 7	3/7/2017	6:01	6:14
119-78-1398	Storage	Press 8	3/7/2017	6:15	6:27
119-78-1396	Storage	Press 7	3/8/2017	6:00	6:12
119-78-1398	Storage	Press 8	3/8/2017	6:13	6:23
111-78-1248	Storage	Press 7	3/9/2017	6:00	6:32
111-78-1276	Storage	Press 8	3/9/2017	6:33	6:51
111-78-1248	Storage	Press 7	3/10/2017	6:00	6:19
111-78-1276	Storage	Press 8	3/10/2017	6:20	6:33
111-78-1248	Press 7	Storage	3/10/2017	14:25	14:31
111-78-1276	Press 8	Storage	3/10/2017	14:32	14:39
Driver Name: CS			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1132	Storage	Press 7	3/13/2017	6:00	6:07
111-78-1134	Storage	Press 8	3/13/2017	6:08	6:11
111-78-1132	Storage	Press 7	3/14/2017	6:00	6:03
111-78-1134	Storage	Press 8	3/14/2017	6:04	6:07
111-78-1135	Storage	Press 7	3/15/2017	6:00	6:03
111-78-1139	Storage	Press 8	3/15/2017	6:04	6:08
111-78-1135	Storage	Press 7	3/16/2017	6:00	6:03
111-78-1139	Storage	Press 8	3/16/2017	6:04	6:07
119-78-1398	Storage	Press 7	3/17/2017	6:00	6:05
119-78-1396	Storage	Press 8	3/17/2017	6:06	6:10
119-78-1398	Press 7	Storage	3/17/2017	14:25	14:27
119-78-1396	Press 8	Storage	3/17/2017	14:28	14:30

Driver Name: CS			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1239	Storage	Press 7	3/20/2017	6:00	6:04
111-78-1240	Storage	Press 8	3/20/2017	6:05	6:07
111-78-1239	Storage	Press 7	3/21/2017	6:00	6:02
111-78-1240	Storage	Press 8	3/21/2017	6:03	6:05
111-78-1239	Storage	Press 7	3/22/2017	6:00	6:02
111-78-1240	Storage	Press 8	3/22/2017	6:03	6:05
111-78-1239	Storage	Press 7	3/23/2017	6:00	6:02
111-78-1240	Storage	Press 8	3/23/2017	6:03	6:05
111-78-1239	Storage	Press 7	3/24/2017	6:00	6:02
111-78-1240	Storage	Press 8	3/24/2017	6:03	6:05
111-78-1239	Press 7	Storage	3/24/2017	14:25	14:27
111-78-1240	Press 8	Storage	3/24/2017	14:28	14:30
Driver Name: CS			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
119-78-1404	Storage	Press 7	3/27/2017	6:00	6:03
119-78-1405	Storage	Press 8	3/27/2017	6:04	6:06
119-78-1404	Storage	Press 7	3/28/2017	6:00	6:02
119-78-1405	Storage	Press 8	3/28/2017	6:03	6:05
119-78-1404	Storage	Press 7	3/29/2017	6:00	6:02
119-78-1405	Storage	Press 8	3/29/2017	6:03	6:05
119-78-1404	Storage	Press 7	3/30/2017	6:01	6:03
119-78-1405	Storage	Press 8	3/30/2017	6:04	6:06
119-78-1404	Storage	Press 7	3/31/2017	6:01	6:02
119-78-1405	Storage	Press 8	3/31/2017	6:03	6:05
119-78-1404	Press 7	Storage	3/31/2017	14:25	14:28
119-78-1405	Press 8	Storage	3/31/2017	14:29	14:32

Driver Name: AS			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
111-2-1166	Press 2	Storage	2/8/2017	23:55	23:59
103-16-1068	Press 1	Storage	2/8/2017	0:00	0:03
103-16-1069	Press 6	Storage	2/8/2017	0:04	0:09
103-16-1068	Press 1	Storage	2/9/2017	23:55	23:58
111-2-1166	Press 2	Storage	2/9/2017	23:59	0:01
103-16-1069	Press 6	Storage	2/9/2017	0:02	0:05
Driver Name: AS			Week: 2/13/17-2/17/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1069	Press 1	Storage	2/13/2017	23:55	23:58
111-2-1188	Press 2	Storage	2/13/2017	23:59	0:02
103-16-1068	Press 6	Storage	2/13/2017	0:03	0:07
103-16-1069	Press 1	Storage	2/14/2017	23:55	23:58
111-2-1188	Press 2	Storage	2/14/2017	23:59	0:02
103-16-1068	Press 6	Storage	2/14/2017	0:03	0:09
103-16-1069	Press 1	Storage	2/15/2017	23:55	23:57
111-2-1188	Press 2	Storage	2/15/2017	23:58	0:01
101-6-1002	Press 6	Storage	2/15/2017	0:02	0:05
103-16-1069	Press 1	Storage	2/16/2017	23:56	23:59
111-2-1166	Press 2	Storage	2/16/2017	0:00	0:04
101-6-1002	Press 6	Storage	2/16/2017	0:05	0:08
Driver Name: AS			Week: 2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1071	Press 1	Storage	2/20/2017	23:55	23:58
111-2-1189	Press 2	Storage	2/20/2017	23:59	0:03
103-16-1072	Press 6	Storage	2/20/2017	0:04	0:08
103-16-1071	Press 1	Storage	2/21/2017	23:55	23:59
111-2-1189	Press 2	Storage	2/21/2017	0:00	0:04
103-16-1072	Press 6	Storage	2/21/2017	0:05	0:10
103-16-1071	Press 1	Storage	2/22/2017	23:55	23:58
111-2-1189	Press 2	Storage	2/22/2017	23:59	0:02
101-6-1006	Press 6	Storage	2/22/2017	0:03	0:05
103-16-1071	Press 1	Storage	2/23/2017	23:55	23:58
000-2345-9008	Press 2	Storage	2/23/2017	23:59	0:03
101-6-1002	Press 6	Storage	2/23/2017	0:04	0:07

Driver Name: AS			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
103-16-1072	Press 1	Storage	2/27/2017	23:55	23:59
119-2345-1347	Press 2	Storage	2/27/2017	0:00	0:03
103-16-1071	Press 6	Storage	2/27/2017	0:04	0:06
103-16-1072	Press 1	Storage	2/28/2017	23:55	23:58
119-2345-1348	Press 2	Storage	2/28/2017	23:59	0:02
103-16-1071	Press 6	Storage	2/28/2017	0:03	0:06
103-16-1072	Press 1	Storage	3/1/2017	23:55	23:58
119-2345-1345	Press 2	Storage	3/1/2017	23:59	0:03
101-6-1006	Press 6	Storage	3/1/2017	0:04	0:08
103-16-1072	Press 1	Storage	3/2/2017	23:55	23:58
119-2345-13451	Press 2	Storage	3/2/2017	23:59	0:02
101-6-1006	Press 6	Storage	3/2/2017	0:03	0:08
Driver Name: AS			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
119-2-1422	Press 2	Storage	3/6/2017	17:55	17:58
110-12-1117	Storage	Press 2	3/6/2017	17:59	18:03
119-16-1331	Press 1	Storage	3/6/2017	23:55	0:00
110-12-1117	Press 2	Storage	3/6/2017	0:01	0:10
119-16-1332	Press 6	Storage	3/6/2017	0:11	0:16
119-2-1422	Press 2	Storage	3/7/2017	17:55	17:58
110-12-1117	Storage	Press 2	3/7/2017	17:59	18:02
119-16-1331	Press 1	Storage	3/7/2017	23:55	23:58
110-12-1117	Press 2	Storage	3/7/2017	23:59	0:02
119-16-1332	Press 6	Storage	3/7/2017	0:03	0:07
119-2-1422	Press 2	Storage	3/8/2017	17:55	17:57
119-26-1401	Storage	Press 2	3/8/2017	17:58	18:01
119-16-1331	Press 1	Storage	3/8/2017	23:55	23:59
119-26-1401	Press 2	Storage	3/8/2017	0:00	0:03
119-16-1332	Press 6	Storage	3/8/2017	0:04	0:08
119-2-1422	Press 2	Storage	3/9/2017	17:55	17:58
119-26-1401	Storage	Press 2	3/9/2017	17:59	18:04
119-16-1331	Press 1	Storage	3/9/2017	23:55	23:58
119-26-1401	Press 2	Storage	3/9/2017	23:59	0:02
119-16-1332	Press 6	Storage	3/9/2017	0:03	0:07

Driver Name: AS			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
111-16-1180	Press 1	Storage	3/13/2017	23:55	23:59
102-2345-1012	Press 2	Storage	3/13/2017	0:00	0:03
114-6-2001	Press 6	Storage	3/13/2017	0:04	0:07
111-16-1180	Press 1	Storage	3/14/2017	23:55	23:57
102-2345-1012	Press 2	Storage	3/14/2017	23:58	0:00
114-6-2001	Press 6	Storage	3/14/2017	0:01	0:03
111-16-1180	Press 1	Storage	3/15/2017	23:55	23:57
102-2345-10121	Press 2	Storage	3/15/2017	23:58	0:00
114-6-2001	Press 6	Storage	3/15/2017	0:01	0:03
111-16-1180	Press 1	Storage	3/16/2017	23:55	23:57
102-2345-10121	Press 2	Storage	3/16/2017	23:58	0:00
114-6-2001	Press 6	Storage	3/16/2017	0:01	0:03
Driver Name: AS			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
110-12-1117	Press 1	Storage	3/20/2017	23:55	23:56
119-23-1350	Press 2	Storage	3/20/2017	23:57	23:58
114-6-2002	Press 6	Storage	3/20/2017	23:59	0:00
110-12-1117	Press 1	Storage	3/21/2017	23:55	23:56
119-23-1350	Press 2	Storage	3/21/2017	23:57	0:00
114-6-2002	Press 6	Storage	3/21/2017	0:01	0:02
110-12-1117	Press 1	Storage	3/22/2017	23:55	23:56
103-23-1077	Press 2	Storage	3/22/2017	23:57	23:58
114-6-2002	Press 6	Storage	3/22/2017	23:59	0:00
110-12-1117	Press 1	Storage	3/23/2017	23:55	23:56
103-23-1077	Press 2	Storage	3/23/2017	23:57	23:58
114-6-2002	Press 6	Storage	3/23/2017	23:59	0:00
Driver Name: AS			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
111-16-1175	Press 1	Storage	3/27/2017	23:55	23:56
120-23-1443	Press 2	Storage	3/27/2017	23:57	23:58
114-6-1313	Press 6	Storage	3/27/2017	23:59	0:00
111-16-1175	Press 1	Storage	3/28/2017	23:55	23:56
120-23-1443	Press 2	Storage	3/28/2017	23:57	23:58
114-6-1313	Press 6	Storage	3/28/2017	23:59	0:00
111-16-1175	Press 1	Storage	3/29/2017	23:55	23:56
120-23-1443	Press 2	Storage	3/29/2017	23:57	0:00
114-6-1313	Press 6	Storage	3/29/2017	0:01	0:02
111-16-1175	Press 1	Storage	3/30/2017	23:55	23:56
102-2345-1040	Press 2	Storage	3/30/2017	23:57	23:58
114-6-1313	Press 6	Storage	3/30/2017	23:59	0:00

Driver Name: BT			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
102-345-1051	Press 3	Storage	2/8/2017	20:55	20:58
111-345-1147	Storage	Press 3	2/8/2017	20:58	21:10
102-345-1052	Press 4	Storage	2/8/2017	21:10	21:12
111-345-1179	Storage	Press 4	2/8/2017	21:12	21:21
103-345-1075	Press 5	Storage	2/8/2017	21:21	21:23
111-345-1181	Storage	Press 5	2/8/2017	21:23	21:30
111-345-1147	Press 3	Storage	2/8/2017	23:55	23:58
111-345-1179	Press 4	Storage	2/8/2017	23:59	0:01
111-345-1181	Press 5	Storage	2/8/2017	0:02	0:04
103-345-75	Press 3	Storage	2/9/2017	20:45	20:48
111-345-1181	Storage	Press 3	2/9/2017	20:48	20:59
102-345-1051	Press 4	Storage	2/9/2017	21:00	21:03
111-345-1147	Storage	Press 4	2/9/2017	21:03	21:15
102-345-1052	Press 5	Storage	2/9/2017	21:15	21:18
111-345-1179	Storage	Press 5	2/9/2017	21:18	21:30
111-345-1181	Press 3	Storage	2/9/2017	23:55	23:58
111-345-1147	Press 4	Storage	2/9/2017	23:59	0:02
111-345-1179	Press 5	Storage	2/9/2017	0:03	0:06

Driver Name: BT			Week: 2/13/17-2/17/17		
Die Number:	From	To	Date	Start Time	End Time
113-345-1301	Press 3	Storage	2/13/2017	20:41	20:44
120-345-1458	Storage	Press 3	2/13/2017	20:44	20:59
113-345-1302	Press 4	Storage	2/13/2017	21:00	21:04
120-345-1463	Storage	Press 4	2/13/2017	21:04	21:19
113-345-1305	Press 5	Storage	2/13/2017	21:20	21:24
120-345-2017	Storage	Press 5	2/13/2017	21:24	21:48
120-345-1458	Press 3	Storage	2/13/2017	23:55	23:58
120-345-1463	Press 4	Storage	2/13/2017	0:00	0:04
120-345-2017	Press 5	Storage	2/13/2017	0:05	0:09
113-345-1305	Press 3	Storage	2/14/2017	20:01	20:04
120-345-2017	Storage	Press 3	2/14/2017	20:04	20:38
113-345-1301	Press 4	Storage	2/14/2017	20:40	20:43
120-345-1458	Storage	Press 4	2/14/2017	20:43	21:06
113-345-1302	Press 5	Storage	2/14/2017	21:06	21:09
120-345-1463	Storage	Press 5	2/14/2017	21:09	21:37
120-345-2017	Press 3	Storage	2/14/2017	23:55	23:58
120-345-1458	Press 4	Storage	2/14/2017	23:59	0:03
120-345-1463	Press 5	Storage	2/14/2017	0:04	0:07
113-345-1302	Press 3	Storage	2/15/2017	20:45	20:48
120-345-1463	Storage	Press 3	2/15/2017	20:48	21:01
113-345-1305	Press 4	Storage	2/15/2017	21:02	21:05
120-345-2017	Storage	Press 4	2/15/2017	21:05	21:18
113-345-1301	Press 5	Storage	2/15/2017	21:19	21:22
120-345-1458	Storage	Press 5	2/15/2017	21:22	21:37
120-345-1463	Press 3	Storage	2/15/2017	23:55	23:58
120-345-2017	Press 4	Storage	2/15/2017	23:59	0:02
120-345-1458	Press 5	Storage	2/15/2017	0:03	0:07
111-345-1152	Press 3	Storage	2/16/2017	20:45	20:48
102-3-1033	Storage	Press 3	2/16/2017	20:48	20:57
111-345-1160	Press 4	Storage	2/16/2017	20:58	21:02
102-45-1030	Storage	Press 4	2/16/2017	21:02	21:18
119-345-2011	Press 5	Storage	2/16/2017	21:19	21:23
120-45-1434	Storage	Press 5	2/16/2017	21:23	21:41
102-3-1033	Press 3	Storage	2/16/2017	23:55	23:58
102-45-1030	Press 4	Storage	2/16/2017	23:59	0:04
120-45-1434	Press 5	Storage	2/16/2017	0:05	0:10

Driver Name: BT			Week:2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
102-3-1033	Press 3	Storage	2/20/2017	23:55	23:59
102-34-1035	Press 4	Storage	2/20/2017	0:00	0:03
102-2345-1012	Press 5	Storage	2/20/2017	0:04	0:08
102-3-1033	Press 3	Storage	2/21/2017	23:55	0:03
110-34-1106	Press 4	Storage	2/21/2017	0:04	0:07
102-2345-10121	Press 5	Storage	2/21/2017	0:08	0:12
102-3-1034	Press 3	Storage	2/22/2017	23:55	23:58
110-34-1107	Press 4	Storage	2/22/2017	23:59	0:02
102-2345-1014	Press 5	Storage	2/22/2017	0:03	0:07
102-3-1034	Press 3	Storage	2/23/2017	23:55	23:58
120-45-1429	Press 4	Storage	2/23/2017	23:59	0:03
102-2345-1017	Press 5	Storage	2/23/2017	0:04	0:07
Driver Name: BT			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
119-23-1350	Press 3	Storage	2/27/2017	23:55	23:58
119-4-1326	Press 4	Storage	2/27/2017	23:59	0:03
119-345-1421	Press 5	Storage	2/27/2017	0:04	0:07
120-23-1443	Press 3	Storage	2/28/2017	23:55	23:58
119-4-1326	Press 4	Storage	2/28/2017	23:59	0:02
119-345-1418	Press 5	Storage	2/28/2017	0:03	0:06
104-3-1099	Press 3	Storage	3/1/2017	23:55	23:56
120-345-1441	Press 4	Storage	3/1/2017	23:59	0:02
119-345-1419	Press 5	Storage	3/1/2017	0:03	0:07
104-3-1099	Press 3	Storage	3/2/2017	23:55	23:58
120-45-1429	Press 4	Storage	3/2/2017	23:59	0:04
111-345-1152	Press 5	Storage	3/2/2017	0:05	0:09
Driver Name: BT			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
111-345-1182	Press 3	Storage	3/6/2017	23:55	23:59
111-345-1184	Press 4	Storage	3/6/2017	0:00	0:04
111-345-1185	Press 5	Storage	3/6/2017	0:05	0:08
111-345-1182	Press 3	Storage	3/7/2017	23:55	0:01
111-345-1184	Press 4	Storage	3/7/2017	0:02	0:08
111-345-1185	Press 5	Storage	3/7/2017	0:09	0:15
111-345-1182	Press 3	Storage	3/8/2017	23:55	23:58
111-345-1184	Press 4	Storage	3/8/2017	23:59	0:03
111-345-1185	Press 5	Storage	3/8/2017	0:04	0:07
111-345-1165	Press 3	Storage	3/9/2017	23:55	23:58
111-345-1167	Press 4	Storage	3/9/2017	23:59	0:02
111-345-1168	Press 5	Storage	3/9/2017	0:03	0:06

Driver Name: BT			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
110-34-1106	Press 3	Storage	3/13/2017	23:55	23:59
110-34-1107	Press 4	Storage	3/13/2017	0:00	0:02
111-34578-1150	Press 5	Storage	3/13/2017	0:03	0:07
110-34-1106	Press 3	Storage	3/14/2017	23:55	23:57
110-34-1107	Press 4	Storage	3/14/2017	23:58	0:00
111-34578-1150	Press 5	Storage	3/14/2017	0:01	0:03
111-2345-1203	Press 3	Storage	3/15/2017	23:55	23:59
111-2345-1204	Press 4	Storage	3/15/2017	0:00	0:05
111-34578-1151	Press 5	Storage	3/15/2017	0:06	0:08
111-2345-1203	Press 3	Storage	3/16/2017	23:55	23:57
111-2345-1204	Press 4	Storage	3/16/2017	23:58	0:00
111-34578-1151	Press 5	Storage	3/16/2017	0:01	0:03
Driver Name: BT			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
111-34578-1150	Press 3	Storage	3/20/2017	23:55	23:56
119-345-1418	Press 4	Storage	3/20/2017	23:57	23:58
119-345-1419	Press 5	Storage	3/20/2017	23:59	0:00
111-34578-1150	Press 3	Storage	3/21/2017	23:55	23:58
119-345-1418	Press 4	Storage	3/21/2017	23:59	0:00
119-345-1419	Press 5	Storage	3/21/2017	0:01	0:02
111-34578-1151	Press 3	Storage	3/22/2017	23:55	23:56
119-345-1418	Press 4	Storage	3/22/2017	23:57	23:58
119-345-1419	Press 5	Storage	3/22/2017	23:59	0:00
111-34578-1151	Press 3	Storage	3/23/2017	23:55	23:58
119-345-1418	Press 4	Storage	3/23/2017	23:59	0:02
119-345-1419	Press 5	Storage	3/23/2017	0:03	0:05
Driver Name: BT			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
119-2345-1347	Press 3	Storage	3/27/2017	23:55	23:57
111-345-1167	Press 4	Storage	3/27/2017	23:58	23:59
120-45-1429	Press 5	Storage	3/27/2017	0:00	0:01
119-2345-1348	Press 3	Storage	3/28/2017	23:55	23:57
111-345-1167	Press 4	Storage	3/28/2017	23:58	0:00
120-45-1429	Press 5	Storage	3/28/2017	0:01	0:02
119-2345-1395	Press 3	Storage	3/29/2017	23:55	23:58
111-345-1168	Press 4	Storage	3/29/2017	23:59	0:00
120-45-1429	Press 5	Storage	3/29/2017	0:01	0:02
119-2345-1406	Press 3	Storage	3/30/2017	23:55	23:57
111-345-1168	Press 4	Storage	3/30/2017	23:58	23:59

Driver Name: RT			Week: 2/6/17-2/10/17		
Die Number	From	To	Date	Start Time	End Time
102-78-1015	Press 7	Storage	2/8/2017	23:55	23:58
102-78-1018	Press 8	Storage	2/8/2017	23:59	0:03
102-78-1015	Press 7	Storage	2/9/2017	17:32	17:35
000-78-9002	Storage	Press 7	2/9/2017	17:35	17:49
102-78-1018	Press 8	Storage	2/9/2017	17:50	17:53
000-78-9004	Storage	Press 8	2/9/2017	17:53	18:02
000-78-9002	Press 7	Storage	2/9/2017	23:55	23:57
000-78-9004	Press 8	Storage	2/9/2017	23:58	0:01
Driver Name: RT			Week: 2/13/17-2/17/17		
Die Number:	From	To	Date	Start Time	End Time
102-78-2008	Press 7	Storage	2/13/2017	23:55	0:00
102-78-2009	Press 8	Storage	2/13/2017	0:01	0:04
102-78-2008	Press 7	Storage	2/14/2017	16:45	16:48
102-78-1021	Storage	Press 7	2/14/2017	16:48	17:29
102-78-2009	Press 8	Storage	2/14/2017	17:30	17:33
102-78-1022	Storage	Press 8	2/14/2017	17:33	17:44
102-78-1021	Press 7	Storage	2/14/2017	23:55	23:59
102-78-1022	Press 8	Storage	2/14/2017	0:00	0:04
102-78-1023	Press 7	Storage	2/15/2017	23:55	23:58
102-78-1059	Press 8	Storage	2/15/2017	23:59	0:02
102-78-1059	Press 7	Storage	2/16/2017	23:55	23:59
102-78-1023	Press 8	Storage	2/16/2017	0:00	0:04
Driver Name: RT			Week:2/20/17-2/24/17		
Die Number	From	To	Date	Start Time	End Time
102-78-2009	Press 7	Storage	2/20/2017	23:55	23:59
102-78-2008	Press 8	Storage	2/20/2017	0:00	0:03
111-78-1120	Press 7	Storage	2/21/2017	23:55	23:59
111-78-1133	Press 8	Storage	2/21/2017	0:00	0:04
111-78-1133	Press 7	Storage	2/22/2017	23:55	23:58
111-78-1120	Press 8	Storage	2/22/2017	23:59	0:02
111-78-1234	Press 7	Storage	2/23/2017	23:55	0:00
111-78-1242	Press 8	Storage	2/23/2017	0:01	0:04

Driver Name: RT			Week: 2/27/17-3/3/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1242	Press 7	Storage	2/27/2017	23:55	23:59
111-78-1243	Press 8	Storage	2/27/2017	0:00	0:03
111-78-1242	Press 7	Storage	2/28/2017	23:55	23:58
111-78-1243	Press 8	Storage	2/28/2017	23:59	0:02
111-78-1243	Press 7	Storage	3/1/2017	23:55	23:58
111-78-1234	Press 8	Storage	3/1/2017	23:59	0:02
111-78-1243	Press 7	Storage	3/2/2017	23:55	23:58
111-78-1234	Press 8	Storage	3/2/2017	23:59	0:03
Driver Name: RT			Week: 3/6/17-3/10/17		
Die Number	From	To	Date	Start Time	End Time
119-78-1396	Press 7	Storage	3/6/2017	23:55	23:59
119-78-1398	Press 8	Storage	3/6/2017	0:00	0:09
119-78-1396	Press 7	Storage	3/7/2017	23:55	0:02
119-78-1398	Press 8	Storage	3/7/2017	0:03	0:09
119-78-1396	Press 7	Storage	3/8/2017	23:55	23:58
119-78-1398	Press 8	Storage	3/8/2017	23:59	0:03
111-78-1248	Press 7	Storage	3/9/2017	23:55	23:58
111-78-1276	Press 8	Storage	3/9/2017	23:59	0:02
Driver Name: RT			Week: 3/13/17-3/17/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1132	Press 7	Storage	3/13/2017	23:55	23:59
111-78-1134	Press 8	Storage	3/13/2017	0:00	0:03
111-78-1132	Press 7	Storage	3/14/2017	23:55	23:57
111-78-1134	Press 8	Storage	3/14/2017	23:58	0:00
111-78-1135	Press 7	Storage	3/15/2017	23:55	23:57
111-78-1139	Press 8	Storage	3/15/2017	23:58	0:00
111-78-1135	Press 7	Storage	3/16/2017	23:55	23:58
111-78-1139	Press 8	Storage	3/16/2017	23:59	0:01
Driver Name: RT			Week: 3/20/17-3/24/17		
Die Number	From	To	Date	Start Time	End Time
111-78-1239	Press 7	Storage	3/20/2017	23:55	23:56
111-78-1240	Press 8	Storage	3/20/2017	23:57	23:58
111-78-1239	Press 7	Storage	3/21/2017	23:55	23:56
111-78-1240	Press 8	Storage	3/21/2017	23:57	23:58
111-78-1239	Press 7	Storage	3/22/2017	23:55	23:56
111-78-1240	Press 8	Storage	3/22/2017	23:57	23:58
111-78-1239	Press 7	Storage	3/23/2017	23:55	23:56
111-78-1240	Press 8	Storage	3/23/2017	23:57	23:58

Driver Name: RT			Week: 3/27/17-3/31/17		
Die Number	From	To	Date	Start Time	End Time
119-78-1404	Press 7	Storage	3/27/2017	23:55	23:56
119-78-1405	Press 8	Storage	3/27/2017	23:57	23:58
119-78-1404	Press 7	Storage	3/28/2017	23:55	23:56
119-78-1405	Press 8	Storage	3/28/2017	23:57	23:58
119-78-1404	Press 7	Storage	3/29/2017	23:55	23:56
119-78-1405	Press 8	Storage	3/29/2017	23:57	23:58
119-78-1404	Press 7	Storage	3/30/2017	23:55	23:56
119-78-1405	Press 8	Storage	3/30/2017	23:57	23:58

Appendix C: Die Moving Durations

Die Code	From	To	Duration	Driver
103-16-1068	Storage	Press 1	0:15	OF
111-2-1166	Storage	Press 2	0:13	OF
103-16-1069	Storage	Press 6	0:12	OF
103-16-1068	Storage	Press 1	0:08	OF
111-2-1166	Storage	Press 2	0:11	OF
103-16-1069	Storage	Press 6	0:09	OF
103-16-1068	Storage	Press 1	0:14	OF
111-2-1166	Storage	Press 2	0:14	OF
101-6-1002	Storage	Press 6	0:42	OF
103-16-1068	Press 1	Storage	0:03	OF
111-2-1166	Press 2	Storage	0:03	OF
101-6-1002	Press 6	Storage	0:03	OF
102-345-1051	Storage	Press 3	0:17	HM
102-345-1052	Storage	Press 4	0:15	HM
103-345-1075	Storage	Press 5	0:13	HM
103-345-1052	Storage	Press 5	0:05	HM
103-345-1051	Storage	Press 4	0:11	HM
103-345-1075	Storage	Press 3	0:12	HM
102-345-1052	Storage	Press 3	0:12	HM
103-345-1075	Storage	Press 4	0:06	HM
102-345-1051	Storage	Press 5	0:07	HM
102-345-1052	Press 3	Storage	0:03	HM
103-345-1075	Press 4	Storage	0:04	HM
102-345-1051	Press 5	Storage	0:03	HM
102-78-1015	Storage	Press 7	0:13	CS
102-78-1018	Storage	Press 8	0:12	CS
102-78-1015	Storage	Press 7	0:08	CS
102-78-1018	Storage	Press 8	0:04	CS
102-78-1018	Storage	Press 7	0:13	CS
102-78-1015	Storage	Press 8	0:13	CS
102-78-1018	Press 7	Storage	0:03	CS
102-78-1015	Press 8	Storage	0:04	CS
111-2-1166	Press 2	Storage	0:04	AS
103-16-1068	Press 1	Storage	0:03	AS
103-16-1069	Press 6	Storage	0:05	AS
103-16-1068	Press 1	Storage	0:03	AS
111-2-1166	Press 2	Storage	0:02	AS
103-16-1069	Press 6	Storage	0:03	AS
102-345-1051	Press 3	Storage	0:03	BT
111-345-1147	Storage	Press 3	0:12	BT
102-345-1052	Press 4	Storage	0:02	BT
111-345-1179	Storage	Press 4	0:09	BT

103-345-1075	Press 5	Storage	0:02	BT
111-345-1181	Storage	Press 5	0:07	BT
111-345-1147	Press 3	Storage	0:03	BT
111-345-1179	Press 4	Storage	0:02	BT
111-345-1181	Press 5	Storage	0:02	BT
103-345-75	Press 3	Storage	0:03	BT
111-345-1181	Storage	Press 3	0:11	BT
102-345-1051	Press 4	Storage	0:03	BT
111-345-1147	Storage	Press 4	0:12	BT
102-345-1052	Press 5	Storage	0:03	BT
111-345-1179	Storage	Press 5	0:12	BT
111-345-1181	Press 3	Storage	0:03	BT
111-345-1147	Press 4	Storage	0:03	BT
111-345-1179	Press 5	Storage	0:03	BT
102-78-1015	Press 7	Storage	0:03	RT
102-78-1018	Press 8	Storage	0:04	RT
102-78-1015	Press 7	Storage	0:03	RT
000-78-9002	Storage	Press 7	0:14	RT
102-78-1018	Press 8	Storage	0:03	RT
000-78-9004	Storage	Press 8	0:09	RT
000-78-9002	Press 7	Storage	0:02	RT
000-78-9004	Press 8	Storage	0:03	RT
103-16-1069	Storage	Press 1	0:17	OF
111-2-1188	Storage	Press 2	0:36	OF
103-16-1068	Storage	Press 6	0:22	OF
103-16-1069	Storage	Press 1	0:30	OF
111-2-1188	Storage	Press 2	0:46	OF
103-16-1068	Storage	Press 6	0:57	OF
103-16-1069	Storage	Press 1	0:22	OF
111-2-1188	Storage	Press 2	0:25	OF
101-6-1002	Storage	Press 6	0:12	OF
103-16-1069	Storage	Press 1	0:16	OF
111-2-1166	Storage	Press 2	0:05	OF
101-6-1002	Storage	Press 6	0:12	OF
103-16-1068	Storage	Press 1	0:31	OF
111-2-1188	Storage	Press 2	0:24	OF
101-6-1002	Storage	Press 6	0:35	OF
103-16-1068	Press 1	Storage	0:03	OF
111-2-1188	Press 2	Storage	0:03	OF
101-6-1002	Press 6	Storage	0:07	OF
113-345-1301	Storage	Press 3	0:27	HM
113-345-1302	Storage	Press 4	0:13	HM

113-345-1305	Storage	Press 5	0:16	HM
113-345-1305	Storage	Press 3	0:32	HM
113-345-1301	Storage	Press 4	0:14	HM
113-345-1302	Storage	Press 5	0:29	HM
113-345-1302	Storage	Press 3	0:25	HM
113-345-1305	Storage	Press 4	0:22	HM
113-345-1301	Storage	Press 5	0:22	HM
111-345-1152	Storage	Press 3	0:32	HM
111-345-1160	Storage	Press 4	0:16	HM
119-345-2011	Storage	Press 5	0:21	HM
102-345-1052	Storage	Press 3	0:12	HM
103-345-1075	Storage	Press 4	0:11	HM
102-345-1051	Storage	Press 5	0:14	HM
102-345-1052	Press 6	Storage	0:03	HM
103-345-1075	Press 7	Storage	0:04	HM
102-345-1051	Press 8	Storage	0:06	HM
102-78-2008	Storage	Press 7	0:41	CS
102-78-2009	Storage	Press 8	0:12	CS
102-78-2008	Storage	Press 7	0:44	CS
102-78-2009	Storage	Press 8	0:16	CS
102-78-1023	Storage	Press 7	0:23	CS
102-78-1059	Storage	Press 8	0:24	CS
102-78-1059	Storage	Press 7	0:12	CS
102-78-1023	Storage	Press 8	0:08	CS
102-78-1018	Storage	Press 7	0:26	CS
102-78-1015	Storage	Press 8	0:16	CS
102-78-1018	Press 7	Storage	0:03	CS
102-78-1015	Press 8	Storage	0:04	CS
103-16-1069	Press 1	Storage	0:03	AS
111-2-1188	Press 2	Storage	0:03	AS
103-16-1068	Press 6	Storage	0:04	AS
103-16-1069	Press 1	Storage	0:03	AS
111-2-1188	Press 2	Storage	0:03	AS
103-16-1068	Press 6	Storage	0:06	AS
103-16-1069	Press 1	Storage	0:02	AS
111-2-1188	Press 2	Storage	0:02	AS
101-6-1002	Press 6	Storage	0:03	AS
103-16-1069	Press 1	Storage	0:03	AS
111-2-1166	Press 2	Storage	0:04	AS
101-6-1002	Press 6	Storage	0:03	AS
113-345-1301	Press 3	Storage	0:03	BT

120-345-1458	Storage	Press 3	0:15	BT
113-345-1302	Press 4	Storage	0:04	BT
120-345-1463	Storage	Press 4	0:15	BT
113-345-1305	Press 5	Storage	0:04	BT
120-345-2017	Storage	Press 5	0:24	BT
120-345-1458	Press 3	Storage	0:03	BT
120-345-1463	Press 4	Storage	0:04	BT
120-345-2017	Press 5	Storage	0:04	BT
113-345-1305	Press 3	Storage	0:03	BT
120-345-2017	Storage	Press 3	0:34	BT
113-345-1301	Press 4	Storage	0:03	BT
120-345-1458	Storage	Press 4	0:23	BT
113-345-1302	Press 5	Storage	0:03	BT
120-345-1463	Storage	Press 5	0:28	BT
120-345-2017	Press 3	Storage	0:03	BT
120-345-1458	Press 4	Storage	0:04	BT
120-345-1463	Press 5	Storage	0:03	BT
113-345-1302	Press 3	Storage	0:03	BT
120-345-1463	Storage	Press 3	0:13	BT
113-345-1305	Press 4	Storage	0:03	BT
120-345-2017	Storage	Press 4	0:13	BT
113-345-1301	Press 5	Storage	0:03	BT
120-345-1458	Storage	Press 5	0:15	BT
120-345-1463	Press 3	Storage	0:03	BT
120-345-2017	Press 4	Storage	0:03	BT
120-345-1458	Press 5	Storage	0:04	BT
111-345-1152	Press 3	Storage	0:03	BT
102-3-1033	Storage	Press 3	0:09	BT
111-345-1160	Press 4	Storage	0:04	BT
102-45-1030	Storage	Press 4	0:16	BT
119-345-2011	Press 5	Storage	0:04	BT
120-45-1434	Storage	Press 5	0:18	BT
102-3-1033	Press 3	Storage	0:03	BT
102-45-1030	Press 4	Storage	0:05	BT
120-45-1434	Press 5	Storage	0:05	BT
102-78-2008	Press 7	Storage	0:05	RT
102-78-2009	Press 8	Storage	0:03	RT
102-78-2008	Press 7	Storage	0:03	RT
102-78-1021	Storage	Press 7	0:41	RT
102-78-2009	Press 8	Storage	0:03	RT
102-78-1022	Storage	Press 8	0:11	RT

102-78-1021	Press 7	Storage	0:04	RT
102-78-1022	Press 8	Storage	0:04	RT
102-78-1023	Press 7	Storage	0:03	RT
102-78-1059	Press 8	Storage	0:03	RT
102-78-1059	Press 7	Storage	0:04	RT
102-78-1023	Press 8	Storage	0:04	RT
103-16-1071	Storage	Press 1	0:37	OF
111-2-1189	Storage	Press 2	0:24	OF
103-16-1072	Storage	Press 6	0:35	OF
103-16-1071	Storage	Press 1	0:17	OF
111-2-1189	Storage	Press 2	0:09	OF
103-16-1072	Storage	Press 6	0:15	OF
103-16-1071	Storage	Press 1	0:07	OF
111-2-1189	Storage	Press 2	0:13	OF
101-6-1006	Storage	Press 6	0:15	OF
103-16-1071	Storage	Press 1	0:08	OF
000-2345-9008	Storage	Press 2	0:27	OF
101-6-1002	Storage	Press 6	0:11	OF
103-16-1068	Storage	Press 1	0:23	OF
111-2-1189	Storage	Press 2	0:11	OF
101-6-1002	Storage	Press 6	0:10	OF
103-16-1068	Press 1	Storage	0:04	OF
111-2-1189	Press 2	Storage	0:03	OF
101-6-1002	Press 6	Storage	0:04	OF
102-3-1033	Storage	Press 3	0:35	HM
102-34-1035	Storage	Press 4	0:21	HM
102-2345-1012	Storage	Press 5	0:18	HM
102-3-1033	Storage	Press 3	0:13	HM
110-34-1106	Storage	Press 4	0:34	HM
102-2345-10121	Storage	Press 5	0:14	HM
102-3-1034	Storage	Press 3	0:29	HM
110-34-1107	Storage	Press 4	0:19	HM
102-2345-1014	Storage	Press 5	0:37	HM
102-3-1034	Storage	Press 3	0:13	HM
120-45-1429	Storage	Press 4	0:26	HM
102-2345-1017	Storage	Press 5	0:18	HM
000-2345-9008	Storage	Press 3	0:23	HM
102-2345-1012	Storage	Press 4	0:13	HM
102-45-1030	Storage	Press 5	0:18	HM
000-2345-9008	Press 3	Storage	0:04	HM
102-2345-1012	Press 4	Storage	0:03	HM

102-45-1030	Press 5	Storage	0:02	HM
102-78-2009	Storage	Press 7	0:20	CS
102-78-2008	Storage	Press 8	0:15	CS
111-78-1120	Storage	Press 7	0:27	CS
111-78-1133	Storage	Press 8	0:17	CS
111-78-1133	Storage	Press 7	0:23	CS
111-78-1120	Storage	Press 8	0:36	CS
111-78-1234	Storage	Press 7	0:19	CS
111-78-1242	Storage	Press 8	0:29	CS
000-78-9004	Storage	Press 7	0:51	CS
000-78-9002	Storage	Press 8	0:25	CS
000-78-9004	Press 7	Storage	0:03	CS
000-78-9002	Press 8	Storage	0:04	CS
103-16-1071	Press 1	Storage	0:03	AS
111-2-1189	Press 2	Storage	0:04	AS
103-16-1072	Press 6	Storage	0:04	AS
103-16-1071	Press 1	Storage	0:04	AS
111-2-1189	Press 2	Storage	0:04	AS
103-16-1072	Press 6	Storage	0:05	AS
103-16-1071	Press 1	Storage	0:03	AS
111-2-1189	Press 2	Storage	0:03	AS
101-6-1006	Press 6	Storage	0:02	AS
103-16-1071	Press 1	Storage	0:03	AS
000-2345-9008	Press 2	Storage	0:04	AS
101-6-1002	Press 6	Storage	0:03	AS
102-3-1033	Press 3	Storage	0:04	BT
102-34-1035	Press 4	Storage	0:03	BT
102-2345-1012	Press 5	Storage	0:04	BT
102-3-1033	Press 3	Storage	0:08	BT
110-34-1106	Press 4	Storage	0:03	BT
102-2345-10121	Press 5	Storage	0:04	BT
102-3-1034	Press 3	Storage	0:03	BT
110-34-1107	Press 4	Storage	0:03	BT
102-2345-1014	Press 5	Storage	0:04	BT
102-3-1034	Press 3	Storage	0:03	BT
120-45-1429	Press 4	Storage	0:04	BT
102-2345-1017	Press 5	Storage	0:03	BT
102-78-2009	Press 7	Storage	0:04	RT
102-78-2008	Press 8	Storage	0:03	RT
111-78-1120	Press 7	Storage	0:04	RT
111-78-1133	Press 8	Storage	0:04	RT

111-78-1133	Press 7	Storage	0:03	RT
111-78-1120	Press 8	Storage	0:03	RT
111-78-1234	Press 7	Storage	0:05	RT
111-78-1242	Press 8	Storage	0:03	RT
103-16-1072	Storage	Press 1	0:22	OF
119-2345-1347	Storage	Press 2	0:35	OF
103-16-1071	Storage	Press 6	0:17	OF
103-16-1072	Storage	Press 1	0:14	OF
119-2345-1348	Storage	Press 2	0:36	OF
103-16-1071	Storage	Press 6	0:09	OF
103-16-1072	Storage	Press 1	0:15	OF
119-2345-1345	Storage	Press 2	0:43	OF
101-6-1006	Storage	Press 6	0:20	OF
103-16-1072	Storage	Press 1	0:14	OF
119-2345-13451	Storage	Press 2	0:25	OF
101-6-1006	Storage	Press 6	0:11	OF
103-16-1068	Storage	Press 1	0:23	OF
120-2345-1442	Storage	Press 2	0:24	OF
101-6-1006	Storage	Press 6	0:23	OF
103-16-1068	Press 1	Storage	0:03	OF
120-2345-1442	Press 2	Storage	0:04	OF
101-6-1006	Press 6	Storage	0:03	OF
119-23-1350	Storage	Press 3	0:31	HM
119-4-1326	Storage	Press 4	0:24	HM
119-345-1421	Storage	Press 5	0:42	HM
120-23-1443	Storage	Press 3	0:41	HM
119-4-1326	Storage	Press 4	0:16	HM
119-345-1418	Storage	Press 5	0:24	HM
104-3-1099	Storage	Press 3	0:32	HM
120-345-1441	Storage	Press 4	0:17	HM
119-345-1419	Storage	Press 5	0:11	HM
104-3-1099	Storage	Press 3	0:12	HM
120-45-1429	Storage	Press 4	0:38	HM
111-345-1152	Storage	Press 5	0:31	HM
102-2345-1040	Storage	Press 3	0:41	HM
120-45-1429	Storage	Press 4	0:21	HM
111-34578-1183	Storage	Press 5	0:25	HM
102-2345-1040	Press 3	Storage	0:03	HM
120-45-1429	Press 4	Storage	0:03	HM
111-34578-1183	Press 5	Storage	0:03	HM
111-78-1242	Storage	Press 7	0:28	CS

111-78-1243	Storage	Press 8	0:26	CS
111-78-1242	Storage	Press 7	0:13	CS
111-78-1243	Storage	Press 8	0:08	CS
111-78-1243	Storage	Press 7	0:17	CS
111-78-1234	Storage	Press 8	0:31	CS
111-78-1243	Storage	Press 7	0:11	CS
111-78-1234	Storage	Press 8	0:12	CS
102-78-2009	Storage	Press 7	0:28	CS
102-78-2008	Storage	Press 8	0:23	CS
102-78-2009	Press 7	Storage	0:03	CS
102-78-2008	Press 8	Storage	0:06	CS
103-16-1072	Press 1	Storage	0:04	AS
119-2345-1347	Press 2	Storage	0:03	AS
103-16-1071	Press 6	Storage	0:02	AS
103-16-1072	Press 1	Storage	0:03	AS
119-2345-1348	Press 2	Storage	0:03	AS
103-16-1071	Press 6	Storage	0:03	AS
103-16-1072	Press 1	Storage	0:03	AS
119-2345-1345	Press 2	Storage	0:04	AS
101-6-1006	Press 6	Storage	0:04	AS
103-16-1072	Press 1	Storage	0:03	AS
119-2345-13451	Press 2	Storage	0:03	AS
101-6-1006	Press 6	Storage	0:05	AS
119-23-1350	Press 3	Storage	0:03	BT
119-4-1326	Press 4	Storage	0:04	BT
119-345-1421	Press 5	Storage	0:03	BT
120-23-1443	Press 3	Storage	0:03	BT
119-4-1326	Press 4	Storage	0:03	BT
119-345-1418	Press 5	Storage	0:03	BT
104-3-1099	Press 3	Storage	0:01	BT
120-345-1441	Press 4	Storage	0:03	BT
119-345-1419	Press 5	Storage	0:04	BT
104-3-1099	Press 3	Storage	0:03	BT
120-45-1429	Press 4	Storage	0:05	BT
111-345-1152	Press 5	Storage	0:04	BT
111-78-1242	Press 7	Storage	0:04	RT
111-78-1243	Press 8	Storage	0:03	RT
111-78-1242	Press 7	Storage	0:03	RT
111-78-1243	Press 8	Storage	0:03	RT
111-78-1243	Press 7	Storage	0:03	RT
111-78-1234	Press 8	Storage	0:03	RT

111-78-1243	Press 7	Storage	0:03	RT
111-78-1234	Press 8	Storage	0:04	RT
119-16-1331	Storage	Press 1	0:38	OF
119-2-1422	Storage	Press 2	0:20	OF
119-16-1332	Storage	Press 6	0:42	OF
119-16-1331	Storage	Press 1	0:22	OF
119-2-1422	Storage	Press 2	0:14	OF
119-16-1332	Storage	Press 6	0:19	OF
119-16-1331	Storage	Press 1	0:25	OF
119-2-1422	Storage	Press 2	0:14	OF
119-16-1332	Storage	Press 6	0:16	OF
119-16-1331	Storage	Press 1	0:20	OF
119-2-1422	Storage	Press 2	0:12	OF
119-16-1332	Storage	Press 6	0:09	OF
119-16-1331	Storage	Press 1	0:12	OF
119-2-1422	Storage	Press 2	0:16	OF
119-16-1332	Storage	Press 6	0:12	OF
119-16-1331	Press 1	Storage	0:06	OF
119-2-1422	Press 2	Storage	0:07	OF
119-16-1332	Press 6	Storage	0:15	OF
111-345-1182	Storage	Press 3	0:47	HM
111-345-1184	Storage	Press 4	0:25	HM
111-345-1185	Storage	Press 5	0:15	HM
111-345-1182	Storage	Press 3	0:12	HM
111-345-1184	Storage	Press 4	0:12	HM
111-345-1185	Storage	Press 5	0:07	HM
111-345-1182	Storage	Press 3	0:09	HM
111-345-1184	Storage	Press 4	0:11	HM
111-345-1185	Storage	Press 5	0:12	HM
111-345-1165	Storage	Press 3	0:33	HM
111-345-1167	Storage	Press 4	0:18	HM
111-345-1168	Storage	Press 5	0:26	HM
111-345-1165	Storage	Press 3	0:13	HM
111-345-1167	Storage	Press 4	0:14	HM
111-345-1168	Storage	Press 5	0:11	HM
111-345-1165	Press 3	Storage	0:06	HM
111-345-1167	Press 4	Storage	0:10	HM
111-345-1168	Press 5	Storage	0:06	HM
119-78-1396	Storage	Press 7	0:23	CS
119-78-1398	Storage	Press 8	0:25	CS
119-78-1396	Storage	Press 7	0:13	CS

119-78-1398	Storage	Press 8	0:12	CS
119-78-1396	Storage	Press 7	0:12	CS
119-78-1398	Storage	Press 8	0:10	CS
111-78-1248	Storage	Press 7	0:32	CS
111-78-1276	Storage	Press 8	0:18	CS
111-78-1248	Storage	Press 7	0:19	CS
111-78-1276	Storage	Press 8	0:13	CS
111-78-1248	Press 7	Storage	0:06	CS
111-78-1276	Press 8	Storage	0:07	CS
119-2-1422	Press 2	Storage	0:03	AS
110-12-1117	Storage	Press 2	0:04	AS
119-16-1331	Press 1	Storage	0:05	AS
110-12-1117	Press 2	Storage	0:09	AS
119-16-1332	Press 6	Storage	0:05	AS
119-2-1422	Press 2	Storage	0:03	AS
110-12-1117	Storage	Press 2	0:03	AS
119-16-1331	Press 1	Storage	0:03	AS
110-12-1117	Press 2	Storage	0:03	AS
119-16-1332	Press 6	Storage	0:04	AS
119-2-1422	Press 2	Storage	0:02	AS
119-26-1401	Storage	Press 2	0:03	AS
119-16-1331	Press 1	Storage	0:04	AS
119-26-1401	Press 2	Storage	0:03	AS
119-16-1332	Press 6	Storage	0:04	AS
119-2-1422	Press 2	Storage	0:03	AS
119-26-1401	Storage	Press 2	0:05	AS
119-16-1331	Press 1	Storage	0:03	AS
119-26-1401	Press 2	Storage	0:03	AS
119-16-1332	Press 6	Storage	0:04	AS
111-345-1182	Press 3	Storage	0:04	BT
111-345-1184	Press 4	Storage	0:04	BT
111-345-1185	Press 5	Storage	0:03	BT
111-345-1182	Press 3	Storage	0:06	BT
111-345-1184	Press 4	Storage	0:06	BT
111-345-1185	Press 5	Storage	0:06	BT
111-345-1182	Press 3	Storage	0:03	BT
111-345-1184	Press 4	Storage	0:04	BT
111-345-1185	Press 5	Storage	0:03	BT
111-345-1165	Press 3	Storage	0:03	BT
111-345-1167	Press 4	Storage	0:03	BT
111-345-1168	Press 5	Storage	0:03	BT

119-78-1396	Press 7	Storage	0:04	RT
119-78-1398	Press 8	Storage	0:09	RT
119-78-1396	Press 7	Storage	0:07	RT
119-78-1398	Press 8	Storage	0:06	RT
119-78-1396	Press 7	Storage	0:03	RT
119-78-1398	Press 8	Storage	0:04	RT
111-78-1248	Press 7	Storage	0:03	RT
111-78-1276	Press 8	Storage	0:03	RT
111-16-1180	Storage	Press 1	0:05	OF
102-2345-1012	Storage	Press 2	0:06	OF
114-6-2001	Storage	Press 6	0:05	OF
111-16-1180	Storage	Press 1	0:03	OF
102-2345-1012	Storage	Press 2	0:03	OF
114-6-2001	Storage	Press 6	0:03	OF
111-16-1180	Storage	Press 1	0:03	OF
102-2345-10121	Storage	Press 2	0:05	OF
114-6-2001	Storage	Press 6	0:03	OF
111-16-1180	Storage	Press 1	0:02	OF
102-2345-10121	Storage	Press 2	0:03	OF
114-6-2001	Storage	Press 6	0:03	OF
111-16-1180	Storage	Press 1	0:03	OF
102-2345-1014	Storage	Press 2	0:04	OF
111-6-2001	Storage	Press 6	0:03	OF
102-2345-1014	Press 2	Storage	0:03	OF
102-2345-1017	Storage	Press 2	0:04	OF
111-16-1180	Press 1	Storage	0:02	OF
102-2345-1017	Press 2	Storage	0:02	OF
114-6-2001	Press 6	Storage	0:02	OF
110-34-1106	Storage	Press 3	0:07	HM
110-34-1107	Storage	Press 4	0:07	HM
111-34578-1150	Storage	Press 5	0:06	HM
110-34-1106	Storage	Press 3	0:04	HM
110-34-1107	Storage	Press 4	0:05	HM
111-34578-1150	Storage	Press 5	0:04	HM
111-2345-1203	Storage	Press 3	0:06	HM
111-2345-1204	Storage	Press 4	0:02	HM
111-34578-1151	Storage	Press 5	0:05	HM
111-2345-1203	Storage	Press 3	0:03	HM
111-2345-1204	Storage	Press 4	0:03	HM
111-34578-1151	Storage	Press 5	0:03	HM
120-23-1443	Storage	Press 3	0:06	HM

120-2345-1442	Storage	Press 4	0:04	HM
120-345-1441	Storage	Press 5	0:04	HM
120-23-1443	Press 3	Storage	0:02	HM
120-2345-1442	Press 4	Storage	0:02	HM
120-345-1441	Press 5	Storage	0:03	HM
111-78-1132	Storage	Press 7	0:07	CS
111-78-1134	Storage	Press 8	0:03	CS
111-78-1132	Storage	Press 7	0:03	CS
111-78-1134	Storage	Press 8	0:03	CS
111-78-1135	Storage	Press 7	0:03	CS
111-78-1139	Storage	Press 8	0:04	CS
111-78-1135	Storage	Press 7	0:03	CS
111-78-1139	Storage	Press 8	0:03	CS
119-78-1398	Storage	Press 7	0:05	CS
119-78-1396	Storage	Press 8	0:04	CS
119-78-1398	Press 7	Storage	0:02	CS
119-78-1396	Press 8	Storage	0:02	CS
111-16-1180	Press 1	Storage	0:04	AS
102-2345-1012	Press 2	Storage	0:03	AS
114-6-2001	Press 6	Storage	0:03	AS
111-16-1180	Press 1	Storage	0:02	AS
102-2345-1012	Press 2	Storage	0:02	AS
114-6-2001	Press 6	Storage	0:02	AS
111-16-1180	Press 1	Storage	0:02	AS
102-2345-10121	Press 2	Storage	0:02	AS
114-6-2001	Press 6	Storage	0:02	AS
111-16-1180	Press 1	Storage	0:02	AS
102-2345-10121	Press 2	Storage	0:02	AS
114-6-2001	Press 6	Storage	0:02	AS
110-34-1106	Press 3	Storage	0:04	BT
110-34-1107	Press 4	Storage	0:02	BT
111-34578-1150	Press 5	Storage	0:04	BT
110-34-1106	Press 3	Storage	0:02	BT
110-34-1107	Press 4	Storage	0:02	BT
111-34578-1150	Press 5	Storage	0:02	BT
111-2345-1203	Press 3	Storage	0:04	BT
111-2345-1204	Press 4	Storage	0:05	BT
111-34578-1151	Press 5	Storage	0:02	BT
111-2345-1203	Press 3	Storage	0:02	BT
111-2345-1204	Press 4	Storage	0:02	BT
111-34578-1151	Press 5	Storage	0:02	BT

111-78-1132	Press 7	Storage	0:04	RT
111-78-1134	Press 8	Storage	0:03	RT
111-78-1132	Press 7	Storage	0:02	RT
111-78-1134	Press 8	Storage	0:02	RT
111-78-1135	Press 7	Storage	0:02	RT
111-78-1139	Press 8	Storage	0:02	RT
111-78-1135	Press 7	Storage	0:03	RT
111-78-1139	Press 8	Storage	0:02	RT
110-12-1117	Storage	Press 1	0:03	OF
119-23-1350	Storage	Press 2	0:03	OF
114-6-2002	Storage	Press 6	0:02	OF
110-12-1117	Storage	Press 1	0:02	OF
119-23-1350	Storage	Press 2	0:02	OF
114-6-2002	Storage	Press 6	0:02	OF
110-12-1117	Storage	Press 1	0:02	OF
103-23-1077	Storage	Press 2	0:03	OF
114-6-2002	Storage	Press 6	0:02	OF
110-12-1117	Storage	Press 1	0:02	OF
103-23-1077	Storage	Press 2	0:02	OF
114-6-2002	Storage	Press 6	0:02	OF
110-12-1117	Storage	Press 1	0:02	OF
103-23-1077	Storage	Press 2	0:02	OF
114-6-2002	Storage	Press 6	0:02	OF
110-12-1117	Press 1	Storage	0:02	OF
103-23-1077	Press 2	Storage	0:02	OF
114-6-2002	Press 6	Storage	0:03	OF
111-34578-1150	Storage	Press 3	0:03	HM
119-345-1418	Storage	Press 4	0:03	HM
119-345-1419	Storage	Press 5	0:02	HM
111-34578-1150	Storage	Press 3	0:02	HM
119-345-1418	Storage	Press 4	0:02	HM
119-345-1419	Storage	Press 5	0:02	HM
111-34578-1151	Storage	Press 3	0:03	HM
119-345-1418	Storage	Press 4	0:02	HM
119-345-1419	Storage	Press 5	0:02	HM
111-34578-1151	Storage	Press 3	0:02	HM
119-345-1418	Storage	Press 4	0:02	HM
119-345-1419	Storage	Press 5	0:02	HM
119-34578-1353	Storage	Press 3	0:03	HM
119-2345-1347	Storage	Press 4	0:03	HM
119-2345-1348	Storage	Press 5	0:02	HM

119-34578-1353	Press 3	Storage	0:02	HM
119-2345-1347	Press 4	Storage	0:03	HM
119-2345-1348	Press 5	Storage	0:02	HM
111-78-1239	Storage	Press 7	0:04	CS
111-78-1240	Storage	Press 8	0:02	CS
111-78-1239	Storage	Press 7	0:02	CS
111-78-1240	Storage	Press 8	0:02	CS
111-78-1239	Storage	Press 7	0:02	CS
111-78-1240	Storage	Press 8	0:02	CS
111-78-1239	Storage	Press 7	0:02	CS
111-78-1240	Storage	Press 8	0:02	CS
111-78-1239	Storage	Press 7	0:02	CS
111-78-1240	Storage	Press 8	0:02	CS
111-78-1239	Press 7	Storage	0:02	CS
111-78-1240	Press 8	Storage	0:02	CS
110-12-1117	Press 1	Storage	0:01	AS
119-23-1350	Press 2	Storage	0:01	AS
114-6-2002	Press 6	Storage	0:01	AS
110-12-1117	Press 1	Storage	0:01	AS
119-23-1350	Press 2	Storage	0:03	AS
114-6-2002	Press 6	Storage	0:01	AS
110-12-1117	Press 1	Storage	0:01	AS
103-23-1077	Press 2	Storage	0:01	AS
114-6-2002	Press 6	Storage	0:01	AS
110-12-1117	Press 1	Storage	0:01	AS
103-23-1077	Press 2	Storage	0:01	AS
114-6-2002	Press 6	Storage	0:01	AS
111-34578-1150	Press 3	Storage	0:01	BT
119-345-1418	Press 4	Storage	0:01	BT
119-345-1419	Press 5	Storage	0:01	BT
111-34578-1150	Press 3	Storage	0:03	BT
119-345-1418	Press 4	Storage	0:01	BT
119-345-1419	Press 5	Storage	0:01	BT
111-34578-1151	Press 3	Storage	0:01	BT
119-345-1418	Press 4	Storage	0:01	BT
119-345-1419	Press 5	Storage	0:01	BT
111-34578-1151	Press 3	Storage	0:03	BT
119-345-1418	Press 4	Storage	0:03	BT
119-345-1419	Press 5	Storage	0:02	BT
111-78-1239	Press 7	Storage	0:01	RT
111-78-1240	Press 8	Storage	0:01	RT

111-78-1239	Press 7	Storage	0:01	RT
111-78-1240	Press 8	Storage	0:01	RT
111-78-1239	Press 7	Storage	0:01	RT
111-78-1240	Press 8	Storage	0:01	RT
111-78-1239	Press 7	Storage	0:01	RT
111-78-1240	Press 8	Storage	0:01	RT
111-16-1175	Storage	Press 1	0:02	OF
120-23-1443	Storage	Press 2	0:02	OF
114-6-1313	Storage	Press 6	0:02	OF
111-16-1175	Storage	Press 1	0:02	OF
120-23-1443	Storage	Press 2	0:02	OF
114-6-1313	Storage	Press 6	0:02	OF
111-16-1175	Storage	Press 1	0:02	OF
120-23-1443	Storage	Press 2	0:02	OF
114-6-1313	Storage	Press 6	0:02	OF
111-16-1175	Storage	Press 1	0:02	OF
102-2345-1040	Storage	Press 2	0:03	OF
114-6-1313	Storage	Press 6	0:02	OF
111-16-1175	Storage	Press 1	0:02	OF
102-2345-1040	Storage	Press 2	0:02	OF
114-6-1313	Storage	Press 6	0:02	OF
111-16-1175	Press 1	Storage	0:03	OF
102-2345-1040	Press 2	Storage	0:03	OF
114-6-1313	Press 6	Storage	0:03	OF
119-2345-1347	Storage	Press 3	0:03	HM
111-345-1167	Storage	Press 4	0:03	HM
120-45-1429	Storage	Press 5	0:02	HM
119-2345-1348	Storage	Press 3	0:03	HM
111-345-1167	Storage	Press 4	0:02	HM
120-45-1429	Storage	Press 5	0:02	HM
119-2345-1395	Storage	Press 3	0:03	HM
111-345-1168	Storage	Press 4	0:03	HM
120-45-1429	Storage	Press 5	0:02	HM
119-2345-1406	Storage	Press 3	0:03	HM
111-345-1168	Storage	Press 4	0:02	HM
120-45-1429	Storage	Press 5	0:03	HM
111-34578-1183	Storage	Press 3	0:03	HM
111-345-1168	Storage	Press 4	0:02	HM
120-45-1429	Storage	Press 5	0:02	HM
111-34578-1183	Press 3	Storage	0:03	HM
111-345-1168	Press 4	Storage	0:02	HM

120-45-1429	Press 5	Storage	0:02	HM
119-78-1404	Storage	Press 7	0:03	CS
119-78-1405	Storage	Press 8	0:02	CS
119-78-1404	Storage	Press 7	0:02	CS
119-78-1405	Storage	Press 8	0:02	CS
119-78-1404	Storage	Press 7	0:02	CS
119-78-1405	Storage	Press 8	0:02	CS
119-78-1404	Storage	Press 7	0:02	CS
119-78-1405	Storage	Press 8	0:02	CS
119-78-1404	Storage	Press 7	0:01	CS
119-78-1405	Storage	Press 8	0:02	CS
119-78-1404	Press 7	Storage	0:03	CS
119-78-1405	Press 8	Storage	0:03	CS
111-16-1175	Press 1	Storage	0:01	AS
120-23-1443	Press 2	Storage	0:01	AS
114-6-1313	Press 6	Storage	0:01	AS
111-16-1175	Press 1	Storage	0:01	AS
120-23-1443	Press 2	Storage	0:01	AS
114-6-1313	Press 6	Storage	0:01	AS
111-16-1175	Press 1	Storage	0:01	AS
120-23-1443	Press 2	Storage	0:03	AS
114-6-1313	Press 6	Storage	0:01	AS
111-16-1175	Press 1	Storage	0:01	AS
102-2345-1040	Press 2	Storage	0:01	AS
114-6-1313	Press 6	Storage	0:01	AS
119-2345-1347	Press 3	Storage	0:02	BT
111-345-1167	Press 4	Storage	0:01	BT
120-45-1429	Press 5	Storage	0:01	BT
119-2345-1348	Press 3	Storage	0:02	BT
111-345-1167	Press 4	Storage	0:02	BT
120-45-1429	Press 5	Storage	0:01	BT
119-2345-1395	Press 3	Storage	0:03	BT
111-345-1168	Press 4	Storage	0:01	BT
120-45-1429	Press 5	Storage	0:01	BT
119-2345-1406	Press 3	Storage	0:02	BT
111-345-1168	Press 4	Storage	0:01	BT
120-45-1429	Press 5	Storage	0:01	BT
119-78-1404	Press 7	Storage	0:01	RT
119-78-1405	Press 8	Storage	0:01	RT
119-78-1404	Press 7	Storage	0:01	RT
119-78-1405	Press 8	Storage	0:01	RT

Appendix D: Die Information Sheets

Die Code: 102-3-1033				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-3-1034				
Date	Time	Move to	From	BY
10-Mar	-	Storage	-	-
Die Code: 102-34-1035				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-345-1051				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-345-1052				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-1015				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-1018				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-1023				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-1059				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-2008				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-78-2009				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 103-16-1068				
Date	Time	Move to	From	BY
3/10/2017	12:05	Tooling Room	Storage	PS
3/17/2017	11:30	Storage	Tooling Room	KB
Die Code: 103-16-1069				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 103-16-1071				
Date	Time	Move to	From	BY
3/7/2017	11:35:00 PM	Tooling Room	Storage	PS
3/14/2017	10:20:00 AM	Storage	Tooling Room	KB

Die Code: 103-16-1072				
Date	Time	Move to	From	BY
3/9/2017	9:20:00 PM	Tooling Room	Storage	PS
3/16/2017	7:25:00 AM	Storage	Tooling Room	KB

Die Code: 103-23-1077				
Date	Time	Move to	From	BY
3/22/2017	6:10:00 AM	Press 2	Storage	OF
3/23/2017	12:00:00 AM	Storage	Press 2	AS
3/23/2017	6:05:00 AM	Press 2	Storage	OF
3/24/2017	12:00:00 AM	Storage	Press 2	AS
3/24/2017	6:05:00 AM	Press 2	Storage	OF
3/24/2017	2:30:00 PM	Storage	Press 2	AS
3/28/2017	10:15:00 PM	Tooling Room	Storage	PS

Die Code: 103-345-1075				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 104-3-1099				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 110-12-1117				
Date	Time	Move to	From	BY
3/6/2017	6:05:00 PM	Press 2	Storage	AS
3/7/2017	12:10:00 AM	Storage	Press 2	AS
3/7/2017	6:05:00 PM	Press 2	Storage	AS
3/8/2017	12:05:00 AM	Storage	Press 2	AS
3/20/2017	6:05:00 AM	Press 1	Storage	OF
3/21/2017	12:00:00 AM	Storage	Press 1	AS
3/21/2017	6:05:00 AM	Press 1	Storage	OF
3/22/2017	12:00:00 AM	Storage	Press 2	AS
3/22/2017	6:05:00 AM	Press 1	Storage	OF
3/23/2017	12:00:00 AM	Storage	Press 3	AS
3/23/2017	6:05:00 AM	Press 1	Storage	OF
3/24/2017	12:00:00 AM	Storage	Press 4	AS
3/24/2017	6:05:00 AM	Press 1	Storage	OF
3/24/2017	2:30:00 PM	Storage	Press 5	OF
3/29/2017	11:35:00 PM	Tooling Room	Storage	PS

Die Code: 110-34-1106				
Date	Time	Move to	From	BY
3/13/2017	6:10:00 AM	Press 3	Storage	HM
3/14/2017	12:00:00 AM	Storage	Press 3	BT
3/14/2017	6:05:00 AM	Press 3	Storage	HM
3/15/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 110-34-1107				
Date	Time	Move to	From	BY
3/13/2017	6:15:00 AM	Press 4	Storage	HM
3/14/2017	12:05:00 AM	Storage	Press 4	BT
3/14/2017	6:10:00 AM	Press 4	Storage	HM
3/15/2017	12:00:00 AM	Storage	Press 4	BT
Die Code: 111-16-1175				
Date	Time	Move to	From	BY
3/27/2017	6:05:00 AM	Press 1	Storage	OF
3/28/2017	12:00:00 AM	Storage	Press 1	AS
3/28/2017	6:05:00 AM	Press 1	Storage	OF
3/29/2017	12:00:00 AM	Storage	Press 1	AS
3/29/2017	6:05:00 AM	Press 1	Storage	OF
3/30/2017	12:00:00 AM	Storage	Press 1	AS
3/30/2017	6:05:00 AM	Press 1	Storage	OF
3/31/2017	12:00:00 AM	Storage	Press 1	AS
3/31/2017	6:05:00 AM	Press 1	Storage	OF
3/31/2017	2:30:00 PM	Storage	Press 1	OF
Die Code: 111-16-1180				
Date	Time	Move to	From	BY
3/13/2017	6:05:00 AM	Press 1	Storage	OF
3/14/2017	12:00:00 AM	Storage	Press 1	AS
3/14/2017	6:05:00 AM	Press 1	Storage	OF
3/15/2017	12:00:00 AM	Storage	Press 1	AS
3/15/2017	6:05:00 AM	Press 1	Storage	OF
3/16/2017	12:00:00 AM	Storage	Press 1	AS
3/16/2017	6:05:00 AM	Press 1	Storage	OF
3/17/2017	12:00:00 AM	Storage	Press 1	AS
3/17/2017	6:05:00 AM	Press 1	Storage	OF
3/17/2017	2:30:00 PM	Storage	Press 1	OF
3/23/2017	9:10:00 PM	Tooling Room	Storage	PS
3/30/2017	9:25:00 AM	Storage	Tooling Room	KB
Die Code: 111-2-1166				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 111-2-1188				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-2-1189				
Date	Time	Move to	From	BY
3/10/2017	9:25:00 AM	Storage	Tooling room	KB

Die Code: 111-2345-1203				
Date	Time	Move to	From	BY
3/15/2017	6:10:00 AM	Press 3	Storage	HM
3/16/2017	12:00:00 AM	Storage	Press 3	BT
3/16/2017	6:05:00 AM	Press 3	Storage	HM
3/17/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 111-2345-1204				
Date	Time	Move to	From	BY
3/15/2017	6:10:00 AM	Press 4	Storage	HM
3/16/2017	12:05:00 AM	Storage	Press 4	BT
3/16/2017	6:10:00 AM	Press 4	Storage	HM
3/17/2017	12:00:00 AM	Storage	Press 4	BT
Die Code: 111-345-1152				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-345-1160				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-345-1165				
Date	Time	Move to	From	BY
3/9/2017	6:35:00 AM	Press 3	Storage	HM
3/10/2017	12:00:00 AM	Storage	Press 3	BT
3/10/2017	6:15:00 AM	Press 3	Storage	HM
3/10/2017	2:35:00 PM	Storage	Press 3	HM
Die Code: 111-345-1167				
Date	Time	Move to	From	BY
3/9/2017	6:55:00 AM	Press 4	Storage	HM
3/10/2017	12:05:00 AM	Storage	Press 4	BT
3/10/2017	6:30:00 AM	Press 4	Storage	HM
3/10/2017	2:45:00 PM	Storage	Press 4	HM
3/27/2017	6:10:00 AM	Press 4	Storage	HM
3/28/2017	12:00:00 AM	Storage	Press 4	BT
3/28/2017	6:10:00 AM	Press 4	Storage	HM
3/29/2017	12:00:00 AM	Storage	Press 4	BT

Die Code: 111-345-1168				
Date	Time	Move to	From	BY
3/9/2017	7:20:00 AM	Press 5	Storage	HM
3/10/2017	12:10:00 AM	Storage	Press 5	BT
3/10/2017	6:45:00 AM	Press 5	Storage	HM
3/10/2017	2:50:00 PM	Storage	Press 5	HM
3/29/2017	6:10:00 AM	Press 4	Storage	HM
3/30/2017	12:00:00 AM	Storage	Press 4	BT
3/30/2017	6:10:00 AM	Press 4	Storage	HM
3/31/2017	12:00:00 AM	Storage	Press 4	BT
3/31/2017	6:10:00 AM	Press 4	Storage	HM
3/31/2017	2:35:00 PM	Storage	Press 4	HM
Die Code: 111-345-1182				
Date	Time	Move to	From	BY
3/6/2017	6:50:00 AM	Press 3	Storage	HM
3/7/2017	12:00:00 AM	Storage	Press 3	BT
3/7/2017	6:15:00 AM	Press 3	Storage	HM
3/8/2017	12:05:00 AM	Storage	Press 3	BT
3/8/2017	6:10:00 AM	Press 3	Storage	HM
3/9/2017	12:00:00 AM	Storage	Press 3	BT
3/15/2017	11:10:00 PM	Tooling Room	Storage	PS
3/22/2017	8:45:00 AM	Storage	Tooling Room	KB
Die Code: 111-345-1184				
Date	Time	Move to	From	BY
3/6/2017	7:15:00 AM	Press 4	Storage	HM
3/7/2017	12:05:00 AM	Storage	Press 4	BT
3/7/2017	6:25:00 AM	Press 4	Storage	HM
3/8/2017	12:10:00 AM	Storage	Press 4	BT
3/8/2017	6:25:00 AM	Press 4	Storage	HM
3/9/2017	12:05:00 AM	Storage	Press 4	BT
3/14/2017	9:25:00 PM	Tooling Room	Storage	PS
3/21/2017	11:15:00 AM	Storage	Tooling Room	KB
Die Code: 111-345-1185				
Date	Time	Move to	From	BY
3/6/2017	7:30:00 AM	Press 5	Storage	HM
3/7/2017	12:10:00 AM	Storage	Press 5	BT
3/7/2017	6:35:00 AM	Press 5	Storage	HM
3/8/2017	12:15:00 AM	Storage	Press 5	BT
3/8/2017	6:35:00 AM	Press 5	Storage	HM
3/9/2017	12:10:00 AM	Storage	Press 5	BT

Die Code: 111-34578-1150				
Date	Time	Move to	From	BY
3/13/2017	6:25:00 AM	Press 5	Storage	HM
3/14/2017	12:10:00 AM	Storage	Press 5	BT
3/14/2017	6:15:00 AM	Press 5	Storage	HM
3/15/2017	12:05:00 AM	Storage	Press 5	BT
3/20/2017	6:05:00 AM	Press 3	Storage	HM
3/21/2017	12:00:00 AM	Storage	Press 3	BT
3/21/2017	6:05:00 AM	Press 3	Storage	HM
3/22/2017	12:00:00 AM	Storage	Press 3	BT
3/27/2017	10:45:00 PM	Tooling Room	Storage	PS
Die Code: 111-34578-1151				
Date	Time	Move to	From	BY
3/15/2017	6:15:00 AM	Press 5	Storage	HM
3/16/2017	12:10:00 AM	Storage	Press 5	BT
3/16/2017	6:15:00 AM	Press 5	Storage	HM
3/17/2017	12:05:00 AM	Storage	Press 5	BT
3/22/2017	6:05:00 AM	Press 3	Storage	HM
3/23/2017	12:00:00 AM	Storage	Press 3	BT
3/23/2017	6:05:00 AM	Press 3	Storage	HM
3/24/2017	12:00:00 AM	Storage	Press 3	BT
3/31/2017	11:30:00 AM	Tooling Room	Storage	KB
Die Code: 111-34578-1183				
Date	Time	Move to	From	BY
3/31/2017	6:05:00 AM	Press 3	Storage	HM
3/31/2017	2:30:00 PM	Storage	Press 3	HM
Die Code: 111-78-1120				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1133				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1234				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1242				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1243				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 111-78-1248				
Date	Time	Move to	From	BY
3/9/2017	6:35:00 AM	Press 7	Storage	CS
3/10/2017	12:00:00 AM	Storage	Press 7	RT
3/10/2017	6:20:00 AM	Press 7	Storage	CS
3/10/2017	2:35:00 PM	Storage	Press 7	CS
Die Code: 111-78-1276				
Date	Time	Move to	From	BY
3/9/2017	6:55:00 AM	Press 8	Storage	CS
3/10/2017	12:05:00 AM	Storage	Press 8	RT
3/10/2017	6:35:00 AM	Press 8	Storage	CS
3/10/2017	2:40:00 PM	Storage	Press 8	CS
Die Code: 113-345-1301				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 113-345-1302				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 113-345-1305				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 114-2345-1311				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 114-2345-1312				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 114-6-1313				
Date	Time	Move to	From	BY
3/27/2017	6:10:00 AM	Press 6	Storage	OF
3/28/2017	12:00:00 AM	Storage	Press 6	AS
3/28/2017	6:10:00 AM	Press 6	Storage	OF
3/29/2017	12:00:00 AM	Storage	Press 6	AS
3/29/2017	6:10:00 AM	Press 6	Storage	OF
3/30/2017	12:05:00 AM	Storage	Press 6	AS
3/30/2017	6:10:00 AM	Press 6	Storage	OF
3/31/2017	12:00:00 AM	Storage	Press 6	AS
3/31/2017	6:10:00 AM	Press 6	Storage	OF
3/31/2017	2:40:00 PM	Storage	Press 6	OF

Die Code: 114-6-2001				
Date	Time	Move to	From	BY
3/13/2017	6:20:00 AM	Press 6	Storage	OF
3/14/2017	12:10:00 AM	Storage	Press 6	AS
3/14/2017	6:15:00 AM	Press 6	Storage	OF
3/15/2017	12:05:00 AM	Storage	Press 6	AS
3/15/2017	6:15:00 AM	Press 6	Storage	OF
3/16/2017	12:05:00 AM	Storage	Press 6	AS
3/16/2017	6:10:00 AM	Press 6	Storage	OF
3/17/2017	12:05:00 AM	Storage	Press 6	AS
3/17/2017	6:15:00 AM	Press 6	Storage	OF
3/17/2017	2:35:00 PM	Storage	Press 6	OF
3/24/2017	9:20:00 AM	Tooling Room	Storage	KB
3/31/2017	7:20:00 AM	Storage	Tooling Room	KB
Die Code: 114-6-2002				
Date	Time	Move to	From	BY
3/20/2017	6:10:00 AM	Press 6	Storage	OF
3/21/2017	12:00:00 AM	Storage	Press 6	AS
3/21/2017	6:10:00 AM	Press 6	Storage	OF
3/22/2017	12:05:00 AM	Storage	Press 6	AS
3/22/2017	6:10:00 AM	Press 6	Storage	OF
3/23/2017	12:00:00 AM	Storage	Press 6	AS
3/23/2017	6:10:00 AM	Press 6	Storage	OF
3/24/2017	12:00:00 AM	Storage	Press 6	AS
3/24/2017	6:10:00 AM	Press 6	Storage	OF
3/24/2017	2:35:00 PM	Storage	Press 6	OF
3/30/2017	11:10:00 PM	Tooling Room	Storage	PS
Die Code: 119-16-1331				
Date	Time	Move to	From	BY
3/6/2017	6:40:00 AM	Press 1	Storage	OF
3/7/2017	12:00:00 AM	Storage	Press 1	AS
3/7/2017	6:25:00 AM	Press 1	Storage	OF
3/8/2017	12:00:00 AM	Storage	Press 1	AS
3/8/2017	6:25:00 AM	Press 1	Storage	OF
3/9/2017	12:00:00 AM	Storage	Press 1	AS
3/9/2017	6:20:00 AM	Press 1	Storage	OF
3/10/2017	12:00:00 AM	Storage	Press 1	AS
3/10/2017	6:15:00 AM	Press 1	Storage	OF
3/10/2017	2:35:00 PM	Storage	Press 1	OF
3/15/2017	8:15:00 PM	Tooling Room	Storage	PS
3/23/2017	7:15:00 AM	Storage	Tooling Room	KB

Die Code: 119-16-1332				
Date	Time	Move to	From	BY
3/6/2017	7:45:00 AM	Press 6	Storage	OF
3/7/2017	12:20:00 AM	Storage	Press 6	AS
3/7/2017	7:00:00 AM	Press 6	Storage	OF
3/8/2017	12:10:00 AM	Storage	Press 6	AS
3/8/2017	7:00:00 AM	Press 6	Storage	OF
3/9/2017	12:10:00 AM	Storage	Press 6	AS
3/9/2017	6:45:00 AM	Press 6	Storage	OF
3/10/2017	12:10:00 AM	Storage	Press 6	AS
3/10/2017	6:45:00 AM	Press 6	Storage	OF
3/10/2017	3:00:00 PM	Storage	Press 6	OF
3/14/2017	11:00:00 PM	Tooling Room	Storage	PS
3/21/2017	9:25:00 AM	Storage	Tooling Room	KB
Die Code: 119-2-1422				
Date	Time	Move to	From	BY
3/6/2017	7:00:00 AM	Press 2	Storage	OF
3/6/2017	6:00:00 PM	Storage	Press 2	AS
3/7/2017	6:40:00 AM	Press 2	Storage	OF
3/7/2017	6:00:00 PM	Storage	Press 2	AS
3/8/2017	6:30:00 AM	Press 2	Storage	OF
3/8/2017	6:00:00 PM	Storage	Press 2	AS
3/9/2017	6:35:00 AM	Press 2	Storage	OF
3/9/2017	6:00:00 PM	Storage	Press 2	AS
3/10/2017	6:30:00 AM	Press 2	Storage	OF
3/10/2017	2:40:00 PM	Storage	Press 2	OF
3/17/2017	11:15:00 AM	Tooling Room	Storage	KB
3/24/2017	10:25:00 AM	Storage	Tooling Room	KB
Die Code: 119-23-1350				
Date	Time	Move to	From	BY
3/20/2017	6:10:00 AM	Press 2	Storage	OF
3/21/2017	12:00:00 AM	Storage	Press 2	AS
3/21/2017	6:05:00 AM	Press 2	Storage	OF
3/22/2017	12:00:00 AM	Storage	Press 2	AS
3/29/2017	10:45:00 PM	Tooling Room	Storage	PS
Die Code: 119-2345-1345				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-2345-13451				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 119-2345-1347				
Date	Time	Move to	From	BY
3/24/2017	6:10:00 AM	Press 4	Storage	HM
3/24/2017	2:35:00 PM	Storage	Press 4	HM
3/27/2017	6:05:00 AM	Press 3	Storage	HM
3/28/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 119-2345-1348				
Date	Time	Move to	From	BY
3/24/2017	6:10:00 AM	Press 5	Storage	HM
3/24/2017	2:35:00 PM	Storage	Press 5	HM
3/28/2017	6:05:00 AM	Press 3	Storage	HM
3/29/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 119-2345-1395				
Date	Time	Move to	From	BY
3/29/2017	6:05:00 AM	Press 3	Storage	HM
3/30/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 119-2345-1406				
Date	Time	Move to	From	BY
3/30/2017	6:05:00 AM	Press 3	Storage	HM
3/31/2017	12:00:00 AM	Storage	Press 3	BT
Die Code: 119-26-1401				
Date	Time	Move to	From	BY
3/8/2017	6:05:00 PM	Press 2	Storage	AS
3/9/2017	12:05:00 AM	Storage	Press 2	AS
3/9/2017	6:05:00 PM	Press 2	Storage	AS
3/10/2017	12:05:00 AM	Storage	Press 2	AS
Die Code: 119-345-1418				
Date	Time	Move to	From	BY
3/20/2017	6:10:00 AM	Press 4	Storage	HM
3/21/2017	12:00:00 AM	Storage	Press 4	BT
3/21/2017	6:05:00 AM	Press 4	Storage	HM
3/22/2017	12:00:00 AM	Storage	Press 4	BT
3/22/2017	6:10:00 AM	Press 4	Storage	HM
3/23/2017	12:00:00 AM	Storage	Press 4	BT
3/23/2017	6:05:00 AM	Press 4	Storage	HM
3/24/2017	12:05:00 AM	Storage	Press 4	BT
3/31/2017	8:20:00 AM	Tooling Room	Storage	KB

Die Code: 119-345-1419				
Date	Time	Move to	From	BY
3/20/2017	6:10:00 AM	Press 5	Storage	HM
3/21/2017	12:00:00 AM	Storage	Press 5	BT
3/21/2017	6:10:00 AM	Press 5	Storage	HM
3/22/2017	12:05:00 AM	Storage	Press 5	BT
3/22/2017	6:10:00 AM	Press 5	Storage	HM
3/23/2017	12:00:00 AM	Storage	Press 5	BT
3/23/2017	6:10:00 AM	Press 5	Storage	HM
3/24/2017	12:05:00 AM	Storage	Press 5	BT
3/31/2017	9:20:00 AM	Tooling Room	Storage	KB
Die Code: 119-345-2011				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-34578-1353				
Date	Time	Move to	From	BY
3/24/2017	6:05:00 AM	Press 3	Storage	HM
3/24/2017	2:30:00 PM	Storage	Press 3	HM
Die Code: 119-34578-1400				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-4-1326				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-4578-1337				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-78-1396				
Date	Time	Move to	From	BY
3/6/2017	6:25:00 AM	Press 7	Storage	CS
3/7/2017	12:00:00 AM	Storage	Press 7	RT
3/7/2017	6:15:00 AM	Press 7	Storage	CS
3/8/2017	12:05:00 AM	Storage	Press 7	RT
3/8/2017	6:15:00 AM	Press 7	Storage	CS
3/9/2017	12:00:00 AM	Storage	Press 7	RT
3/17/2017	6:10:00 AM	Press 8	Storage	CS
3/17/2017	2:30:00 PM	Storage	Press 8	CS
3/23/2017	8:45:00 PM	Tooling Room	Storage	PS
3/30/2017	11:30:00 AM	Storage	Tooling Room	KB

Die Code: 119-78-1398				
Date	Time	Move to	From	BY
3/6/2017	6:50:00 AM	Press 8	Storage	CS
3/7/2017	12:10:00 AM	Storage	Press 8	RT
3/7/2017	6:30:00 AM	Press 8	Storage	CS
3/8/2017	12:10:00 AM	Storage	Press 8	RT
3/8/2017	6:25:00 AM	Press 8	Storage	CS
3/9/2017	12:05:00 AM	Storage	Press 8	RT
3/17/2017	6:05:00 AM	Press 7	Storage	CS
3/17/2017	2:30:00 PM	Storage	Press 7	CS
3/22/2017	7:55:00 PM	Tooling Room	Storage	PS
3/28/2017	7:30:00 AM	Storage	Tooling Room	KB
Die Code: 119-78-1402				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 119-78-1404				
Date	Time	Move to	From	BY
3/27/2017	6:05:00 AM	Press 7	Storage	CS
3/28/2017	12:00:00 AM	Storage	Press 7	RT
3/28/2017	6:05:00 AM	Press 7	Storage	CS
3/29/2017	12:00:00 AM	Storage	Press 7	RT
3/29/2017	6:05:00 AM	Press 7	Storage	CS
3/30/2017	12:00:00 AM	Storage	Press 7	RT
3/30/2017	6:05:00 AM	Press 7	Storage	CS
3/31/2017	12:00:00 AM	Storage	Press 7	RT
3/31/2017	6:05:00 AM	Press 7	Storage	CS
3/31/2017	2:30:00 PM	Storage	Press 7	CS
Die Code: 119-78-1405				
Date	Time	Move to	From	BY
3/27/2017	6:10:00 AM	Press 8	Storage	CS
3/28/2017	12:00:00 AM	Storage	Press 8	RT
3/28/2017	6:05:00 AM	Press 8	Storage	CS
3/29/2017	12:00:00 AM	Storage	Press 8	RT
3/29/2017	6:05:00 AM	Press 8	Storage	CS
3/30/2017	12:00:00 AM	Storage	Press 8	RT
3/30/2017	6:10:00 AM	Press 8	Storage	CS
3/31/2017	12:00:00 AM	Storage	Press 8	RT
3/31/2017	6:05:00 AM	Press 8	Storage	CS
3/31/2017	2:35:00 PM	Storage	Press 8	CS

Die Code: 120-23-1443				
Date	Time	Move to	From	BY
3/17/2017	6:10:00 AM	Press 3	Storage	HM
3/17/2017	2:30:00 PM	Storage	Press 3	HM
3/27/2017	6:05:00 AM	Press 2	Storage	OF
3/28/2017	12:00:00 AM	Storage	Press 2	AS
3/28/2017	6:05:00 AM	Press 2	Storage	OF
3/29/2017	12:00:00 AM	Storage	Press 3	AS
3/29/2017	6:05:00 AM	Press 2	Storage	OF
3/30/2017	12:00:00 AM	Storage	Press 4	AS
Die Code: 120-2345-1442				
Date	Time	Move to	From	BY
3/17/2017	6:15:00 AM	Press 4	Storage	HM
3/17/2017	2:30:00 PM	Storage	Press 4	HM
Die Code: 120-345-1441				
Date	Time	Move to	From	BY
3/17/2017	6:20:00 AM	Press 5	Storage	HM
3/17/2017	2:35:00 PM	Storage	Press 5	HM
Die Code: 120-45-1429				
Date	Time	Move to	From	BY
3/27/2017	6:10	Press 5	Storage	HM
3/28/2017	12:05:00 AM	Storage	Press 5	BT
3/28/2017	6:10	Press 5	Storage	HM
3/29/2017	12:05:00 AM	Storage	Press 5	BT
3/29/2017	6:10	Press 5	Storage	HM
3/30/2017	12:05:00 AM	Storage	Press 5	BT
3/30/2017	6:10	Press 5	Storage	HM
3/31/2017	12:05:00 AM	Storage	Press 5	BT
3/31/2017	6:10	Press 5	Storage	HM
3/31/2017	2:35:00 PM	Storage	Press 5	HM
Die Code: 000-78-9002				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 000-78-9004				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 102-45-1030				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 102-78-1022				
Date	Time	Move to	From	BY
3/1/2000	-	Storage	-	-
Die Code: 110-34-2007				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-345-1147				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-345-1179				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-345-1181				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1132				
Date	Time	Move to	From	BY
3/13/2017	6:10:00 AM	Press 7	Storage	CS
3/14/2017	12:00:00 AM	Storage	Press 7	RT
3/14/2017	6:05:00 AM	Press 7	Storage	CS
3/15/2017	12:00:00 AM	Storage	Press 7	RT
Die Code: 111-78-1134				
Date	Time	Move to	From	BY
3/13/2017	6:15:00 AM	Press 8	Storage	CS
3/14/2017	12:05:00 AM	Storage	Press 8	RT
3/14/2017	6:10:00 AM	Press 8	Storage	CS
3/15/2017	12:00:00 AM	Storage	Press 8	RT
Die Code: 111-78-1135				
Date	Time	Move to	From	BY
3/15/2017	6:05:00 AM	Press 7	Storage	CS
3/16/2017	12:00:00 AM	Storage	Press 7	RT
3/16/2017	6:05:00 AM	Press 7	Storage	CS
3/17/2017	12:00:00 AM	Storage	Press 7	RT
Die Code: 111-78-1139				
Date	Time	Move to	From	BY
3/15/2017	6:10:00 AM	Press 8	Storage	CS
3/16/2017	12:00:00 AM	Storage	Press 8	RT
3/16/2017	6:10:00 AM	Press 8	Storage	CS
3/17/2017	12:05:00 AM	Storage	Press 8	RT

Die Code: 111-78-1215				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1235				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1239				
Date	Time	Move to	From	BY
3/20/2017	6:05:00 AM	Press 7	Storage	CS
3/21/2017	12:00:00 AM	Storage	Press 7	RT
3/21/2017	6:05:00 AM	Press 7	Storage	CS
3/22/2017	12:00:00 AM	Storage	Press 7	RT
3/22/2017	6:05:00 AM	Press 7	Storage	CS
3/23/2017	12:00:00 AM	Storage	Press 7	RT
3/23/2017	6:05:00 AM	Press 7	Storage	CS
3/24/2017	12:00:00 AM	Storage	Press 7	RT
3/24/2017	6:05:00 AM	Press 7	Storage	CS
3/24/2017	2:30:00 PM	Storage	Press 7	CS
3/30/2017	10:15:00 PM	Tooling Room	Storage	PS
Die Code: 111-78-1240				
Date	Time	Move to	From	BY
3/20/2017	6:10:00 AM	Press 8	Storage	CS
3/21/2017	12:00:00 AM	Storage	Press 8	RT
3/21/2017	6:05:00 AM	Press 8	Storage	CS
3/22/2017	12:00:00 AM	Storage	Press 8	RT
3/22/2017	6:05:00 AM	Press 8	Storage	CS
3/23/2017	12:00:00 AM	Storage	Press 8	RT
3/23/2017	6:05:00 AM	Press 8	Storage	CS
3/24/2017	12:00:00 AM	Storage	Press 8	RT
3/24/2017	6:05:00 AM	Press 8	Storage	CS
3/24/2017	2:30:00 PM	Storage	Press 8	CS
3/30/2017	9:00:00 PM	Tooling Room	Storage	PS
Die Code: 111-78-1257				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-1266				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 111-78-2014				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-

Die Code: 119-78-1397				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 120-345-1458				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 120-345-1463				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 120-345-2017				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 120-45-1434				
Date	Time	Move to	From	BY
3/10/2017	-	Storage	-	-
Die Code: 000-0-9005				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9006				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9007				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9009				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9010				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9011				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 000-0-9012				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 101-0-1007				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-

Die Code: 102-0-1061				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 103-0-1073				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 103-0-1079				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 103-0-1081				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 103-0-2016				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1119				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1149				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1162				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1163				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1164				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1191				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1192				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1193				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-

Die Code: 111-0-1195				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1201				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1204				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1222				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1231				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 111-0-1233				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 115-0-1314				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-1321				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-13221				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-13221				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-1323				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-13231				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-1325				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-

Die Code: 119-0-1339				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-1388				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-1391				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 119-0-2010				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 120-0-1433				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-
Die Code: 120-0-1466				
Date	Time	Move to	From	BY
3/10/2017	-	OUT	-	-

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