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Title

QUALITY IMPROVEMENT THROUGH SPC TECHNIQUES: A CASE STUDY

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ABSTRACT:

Statistical process Control (SPC) can be applied most frequently to controlling manufacturing lines but it may be equally applied to any process with a measurable output. Key tools in SPC are control charts and cause & effect diagrams focused on continuous improvement. In this paper, an attempt has been made to implement the some SPC techniques in the industry, producing the Tractor's parts in India. The power of SPC lies in the ability to examine a process and the sources of variation in that process, using tools that give weightage to objective analysis over subjective opinions and that allow the strength of each source to be determined numerically. Only two main tools i.e. cause and effect diagram and control charts are implemented in this industry out of seven SPC tools. The present work deals with the study of defects in Foot Board assembly, Foot step assembly, Fuel tank assembly and Fender of Radiator. After implementing the required suggestions/recommendations for radiator assembly, it is found that process capability is improved and it is greater than required for 400 numbers of observations.

Key Words: Cause and effect diagram, $\overline{X}$ and R charts, Process Capability, Process Capability Index and Percentage rejection

INTRODUCTION:

Variations in the process that may affect the quality of the end product or service can be detected and corrected, thus reducing waste as well as the likelihood that problems will be passed on to the customer. With its emphasis on early detection and prevention of problems, SPC has a distinct advantage over other quality methods. Process capability index is one of the measures for certifying a supplier based on quality performance. Process capability analysis is defined as an engineering study to estimate the ability of a process to meet engineering specifications. Process capability measures; compare the stable output distribution for a particular product characteristic to the specification limits for that characteristic. Capability measures significantly diminish the level of uncertainty in making business decisions by helping managers and reduce process variation. Process improvement has become one of the major concerns in manufacturing industries. A process capability study also provides valuable insight on what needs to be done to improve performance of the process and after these changes are made, how much of an improvement has actually occurred. Moreover, process capability studies offer product development engineers valuable information on whether or not current manufacturing equipment has the ability to accurately produce their proposed designs. This knowledge helps to choose between alternate methods of production. In addition, capability studies help to plan for efficient equipment usage, communicate information concerning product quality to customers, track capability improvement over time, benchmark processes in other industries, decide the inspection methods, prioritize areas in the need of quality improvement, decide on acceptance of new or reconditioned equipment etc. Process capability studies should be performed due to many sources of variations that may affect the process.

There are two kinds of variation, variation due to special cause such as tool breakage etc. and variation due to common cause such as vibration etc. Process capability analysis is used to analyze the variation due to common causes. Hence there should be no assignable variation in the process for the process to be analyzed for its capability (the process should be in stable condition). The process stability is ensured using the control charts like X-bar and R charts. The steps in process capability studies include verifying process stability, estimating process parameters, measuring process etc.

Capability index value and comparing the calculated capability index to the desired index value, making a decision concerning process changes, and recommending any suggestions to reach the desired goal. The popularity of capability measures continues to increase because of the mentioned benefits. Terminology associated with this subject must be relatively easy and provide a common language for discussing quality on the shop floor, with suppliers as well as with customers.

Under SPC, a process behaves predictably to produce as much conforming product as possible with the least possible waste. Key tools in SPC are control charts and cause & effect diagrams, focused on continuous improvement. In mass-manufacturing, the quality of the finished article was traditionally achieved through post-manufacturing inspection of the product; accepting or rejecting each article (or samples from a production lot) based on how well it met its design specifications. In contrast, Statistical Process Control uses statistical tools to observe the performance of the production process in order to predict significant deviations that may later result in rejected product.

SPC indicates when an action should be taken in a process, but it also indicates when NO action should be taken. An example is a person who would like to maintain a constant body weight and takes weight measurements weekly. A person who does not understand SPC concepts might start dieting every time his or her weight increased, or eat more every time his or her weight decreased. This type of action could be harmful and possibly generate even more variation in body weight. SPC would account for normal weight variation and better indicate when the person is in fact gaining or losing weight.

The preparatory phases of SPC involve several steps using a number of different tools. Seven quality tools are available to help organizations to better understand and improve their processes. The essential tools for the discovery process are: Check Sheet, Cause-and-Effect Sheet, Flow Charting, Pareto Chart, Scatter Diagram, Histogram or probability plot and Control Charts.

Check sheets are simply charts for gathering data. When check sheets are designed clearly and cleanly, they assist in gathering accurate and pertinent data, and allow the data to be easily read and used. Cause-and-Effect or Fishbone diagram are also called Ishikawa diagrams because Kaoru Ishikawa developed them. The fishbone chart organizes and displays the relationships between different causes for the effect that is being examined. This chart helps organize the brainstorming process. The major categories of causes are put on major branches connecting to the backbone and various sub-causes are attached to the branches. Flowcharting breaks the process down into its many sub-processes. Analyzing each of these separately minimizes the number of factors that contribute to the variation in the process. The Pareto chart can be used to display categories of problems graphically, so they can be properly prioritized. The Pareto chart is named for a 19th century Italian economist who postulated that a small minority (20%) of the people owned a great proportion (80%) of the wealth in the land. The Scatter plot is another problem analysis tool. Scatter plots are also called correlation charts. A Scatter plot is used to uncover possible cause-and-effect relationships. It is constructed by plotting two variables against one another on a pair of axes. A Scatter plot cannot prove that one variable causes another, but it does show how a pair of variables is related and the strength of that relationship.

The probability plot is a graph of the cumulative relative frequencies of the data, plotted on a normal probability scale. The purpose of this plot is to show whether the data approximates a normal distribution. A histogram is a snapshot of the variation of a product or the results of a process. It often forms the bell shaped curve which is characteristic of a normal process. Control charts are an essential tool of continuous quality control. Control charts monitor processes to show how the process is performing and how the process and capabilities are affected by changes to the process. This information is then used to make quality improvements. Control charts are also used to determine the capability of the process. They can help to identify special or assignable cause for factors that impede peak performance.

A typical control chart is a graphical display of a quality characteristic that has been measured or computed from samples. The chart contains a centerline that represents the average value of the quality characteristic corresponding to the in-control state. Two other horizontal lines, called the upper control limit (UCL) and the lower control limit (LCL) are also drawn. These control limits are chosen so that if the process is in control, nearly all of the sample points will fall between them. As long as the points plot within the control limits, the process is assumed to be in control, and no action is necessary. Typical control charts for variables are:

- Control charts for monitoring the process means (averages)
- Control charts for monitoring the process dispersion
- Combined control charts
- Control charts for monitoring auto correlated data

On the basis of quality characteristics, the control charts may be classified: (i) control charts for variables and (ii) control charts for attribute. The control charts based on variable data that can be measured on a continuous scale i.e. weight, volume, temperature etc. are known as control charts for 'Variables'. The control charts based on discrete data i.e. counted as 'present' or 'not' are called control charts for 'Attributes'. When constructing attribute control charts, a subgroup is the group of units that were inspected to obtain the number of defects or the number of defective items. The Theory of $\overline{X}$ and R charts is discussed in the following section.

1.1 Theory of $\overline{X}$ Charts

In $\overline{X}$ chart, means of small samples (3-5) are taken at regular intervals, plotted on a chart, and compared against two limits. The limits are known as upper control limit (UCL) and lower control limit (LCL). These limits are defined as under:

LCL = $\overline{X}$ - A_2 R and UCL = $\overline{X}$ + A_2R

Where,

$\overline{X}$ is the target mean and factor A_2 depends on sample size. The process is assumed to be out of control when the sample average falls beyond these limits.

1.2 Theory of Range (R) charts

In these charts, the sample ranges are plotted in order to control the variability of a variable. The centreline of the R chart is known as average range. The range of a sample is simply the difference between the largest and smallest observation.

If R_1, R_2, ..., R_k, be the range of k samples, then the average range (R bar) is given by:-

$$\bar{R} = \frac{R_1 + R_2 + \dots + R_k}{k}$$

The upper and lower control limits of R chart are:

Upper control limit: $UCL_R = D_4 * \bar{R}$ Lower control limit: $LCL_R = D_3 * \bar{R}$

Where,

Factors, D_3 and D_4 depend only on sample size (n)

LITERATURE REVIEW:

Because of human nature, 100% inspection can not be relied upon to judge the quality of product. It will only add to cost of inspection without any assurance on quality. The only other alternative is to use appropriate tools of Statistical Process Control (SPC) for process monitoring. Control charts have been used to control production process and generate some sort of signal when there are indications to the effect that the process has gone out of control. From the past literature survey, it is evident that some research on statistical process control have been carried by previous researchers but still a lot of applied research in this field is required so as to explore the utilization of SPC technique in the area of production, manufacturing and design.

The first to apply the newly discovered statistical methods to the problem of quality control was W. A. Shewhart of the Bell telephone laboratories. He issued a memorandum on May 16, 1924 that featured a sketch of a modern control chart. Shewhart kept improving and working on this scheme and in 1931, he published a book entitled "Economic control of quality of manufacturing product", published by Van Nostrand in New York. Ishikawa (1985), known as the father of Quality Circles, added the cause-and-effect chart as an aid to brainstorming, but all the rest of the methods were the same as those recommended by Juran (1999). Shewhart (1941) proposed three run rules for finding the out of control signals. Page (1955) was one of the first to suggest the use of a separate set of control limits, called warning limits that lie within control limits. It was proposed that if two consecutive points fell outside of the warning lines it would be sufficient cause for an out of control signal. Three run rules suggested by Shewhart (1941) are also described in Western Electric handbook (1956), Nelson (1984) and Montgomery (1997). All of them described an out-of-control condition if k_1 of n_1 successive points fall beyond one, two, or three-sigma limits, where, $2 \leq k_1 \leq n_1$. While these simultaneous tests achieve reduced ARL at out of control condition, they do so at the expense of significant increases in false alarm rate, as shown in important study by Champ and Woodall (1987).

Montgomery (1997) also suggested that for continuous processes, it would generally be advisable to monitor and maintain control; both process mean and variability simultaneously. More specifically, Ryan (1989) recommended an R chart prior to $\overline{X}$ chart to investigate the status of manufacturing process.

Prabhu et al. (1994), Costa (1997, 1999) have suggested procedures to incorporate these features into Shewhart chart. Their research showed that incorporation of these features significantly reduces the Average time to signal (ATS). These charts are based on the principle that when an observation falls near the target, control may be relaxed by increasing the sampling interval and decreasing the sample size .When an observation falls far of the target but not beyond control limits, control should be tightened by increasing the sample size and decreasing the sampling interval. Jagadeesh and Subash Babu (1994) stated that Tool wear is one such dominant and inseparable component in many of the machining processes, and hence it constitutes a systematic assignable cause. Process capability assessment in such cases becomes tricky as the usual procedure will not give accurate results. They considered a real life case study for detailed analysis. They used various approaches of process capability assessment and analysed the results obtained.

Klein (2000) has considered variations of simpler traditional methods, which may be more acceptable to practitioners. For pedagogical purposes, Derman and Ross (1997) considered two additional schemes, each of which used specially designated (lower than three sigma) control limits. Chen and Ding (2001) reviewed Cp, Cpk, Cpm and Cpmk, and their generalizations, and then proposed a new index Spmk for any underlying distribution, which takes into account the process variability, departure of the process mean from the target value, and proportion of non-conformity. They claimed that proportion of nonconformity can be exactly reflected by Spmk. Motorcu and Kadir (2004) conducted a study where some statistical analysis had been made to eliminate quality problems such as undesirable tolerance limits and out of circularity of spheroid cast iron parts during machining.

Chang and Gan (2004) proposed the Shewhart charts for monitoring the variance component of the process. They provided the simple procedures for designing Shewhart charts for monitoring variance components. Khoo (2005) proposed a semicircle control chart that can be used in detecting both increases and decreases in the mean and/or variance. In his work, he proposed two modified semicircle charts for detecting a reduction in the process variance, a.k.a. process improvement. Each of these modified semicircle charts, namely, SC1 and SC2 has two limits, defined by the inner and outer semicircles. A process improvement is detected by the SC1 scheme if a point is plotted inside the smallest semicircle, or if two successive points are plotted between the inner and outer semicircles and by the SC2 scheme if a point plots inside the smallest semicircle or if two of three successive points plot between the inner and outer semicircles. It is shown that the two modified semicircle charts have superior average run length (ARL) performances to the basic semicircle chart in the detection of process improvement.

Prajapati and Mahapatra (2006) proposed the new design approach of $\overline{X}$ control chart for detecting the process shift by introducing two more limits known as warning limits. The concept of proposed $\overline{X}$ chart is based upon chi-square ($\chi 2$) distribution. They compared the performance of proposed chart with Shewhart $\overline{X}$ control chart, Dermon-Ross: two of two, Derman-Ross: two of three schemes. They found that ARLs of proposed $\overline{X}$ chart are lower than Shewhart $\overline{X}$ and Dermon-Ross and Klein's schemes at feasible range. Puga-Leal and Pereira (2007) developed an index for assessing service capability when the customer considers satisfactory a certain range of service performance, the so-called zone of tolerance. They used SPC to develop a conceptual approach that is later worked out for implementation. They used some of the quality function deployment principles in the approach to articulate customer perceptions and expectations with parameters of service performance.

Wei-Wu (2007) developed a capability testing procedure with one-sided specifications, using a Bayesian approach based on sub-samples collected over time from an in-control process. He claimed that by applying the proposed testing procedure, the practitioners can make reliable decisions to determine whether their processes meet the pre-set capability requirement when a daily based or weekly based production control plan is implemented for monitoring process stability. Prajapati and Mahapatra (2007) proposed a joint $\overline{X}$ and R chart to monitor the process mean and variance simultaneously. They have suggested a very simple and effective design of new joint $\overline{X}$ and R chart to monitor the process mean and standard deviation. Sultana et al. (2009) intended to combine the Hourly Data System (HDS) and Statistical Process Control (SPC) practices to improve manufacturing performances in manufacturing companies. The focus of their work is to find out the frequencies and time duration of machine breakdowns as well as the major causes of breakdowns affecting productivity. In this research SPC is used to increase total output identifying major loss times from various machine breakdowns using HDS. The obtained result shows that any breakdown can cause a huge cost and the best approach to address any breakdown is the preventive measure.

Wu and Yu (2010) proposed a neural network-based identification model for both mean and variance shifts in correlated processes. The proposed model used a selective network ensemble approach named Discrete Particle Swarm Optimization (DPSOEN) to obtain the improved generalization performance, which outperforms those of single neural network. The model was capable of on-line monitoring mean and variance shifts, and classifying the types of shifts without considering the occurrence of both mean and variance shifts in one time. The result was significant since it provided additional useful information about the process changes, which could greatly aid identification of assignable causes. The simulation results demonstrated that the model outperformed the conventional control charts in terms of average run length (ARL) and could classify the types of shifts in a real-mode.

Abdolshah et al. (2011) stated that process capability indices (PCIs) are appropriate tools to measure the inherent capability of a process, but most of them do not consider the losses of a process, while in today's competitive business environment, it is becoming more and more important for companies to evaluate and minimise their losses. They presented a review of loss-based PCIs such as C_{pm}, C_{pmk}, PCI_{θ}, C_{pc}, L_e and L''_e. They also discussed characteristics of loss-based PCIs such as reject based, asymmetric, bounded, loss based and target based. Finally, they made some recommendations for developing a new loss-based process capability index with more excellent specifications.

INTRODUCTION OF INDUSTRY AND PRODUCTS:

Indian Tractor Industry took birth in 1959-60 when the first tractor manufacturing unit was established in north India. However, this industry found a firm footing only after the turbulent period of 1968-74, during which the acceleration which should have emerged from the upsurge in demand generated by the Green Revolution, was navigated by large-scale imports of fully built tractors. By 1973-74 when imports were banned, 22 manufacturers remained. It is in an environment of intense competition between 22 manufacturers that our tractor industry has grown during the last 30 years. During this period, it has become not only a major segment of our engineering industry but with a population of 1, 30,000 tractors in 1990, our country became the second largest tractor producer in the world.

Various parts of tractors are manufactured by sheet metal working. Sheet metal is simply metal formed into thin and flat pieces. It is one of the fundamental forms used in metalworking, and can be cut and bent into a variety of different shapes. The gauge of sheet metal ranges from 30 gauge to about 8 gauge. The higher the gauge, the thinner the metal is.

BRIEF DESCRIPTION OF THE CASE STUDIES:

There are four main sub-assemblies in this industry which needed more attention to be paid because of their higher rejection. These are: (i) Foot Board assembly (ii) Foot step assembly (iii) Fuel tank assembly and (iv) Fender of Radiator

Foot Board Assembly

The level of rejection of Foot Board Assembly in year, 2009-10= 5.1 %

The following main root causes are found in higher rejection of Foot Board Assembly:

(i) Reasons for M6 threading over size

- Use of over sized drill.
- Pitch of the hole is not calculated.
- Minor diameter is not checked properly.

(ii)Reason for defective Angle plate material

- Material source is not appropriate.
- Testing of material is improper.

(iii) Reason for improper dimensioning of backside

- Improper reference in welding fixtures.
- In-appropriate Receiver gauge.
- Worn-out of fixture pin.

Ishikawa (cause & Effect) diagram is shown for Foot Board Assembly in Figure 1.

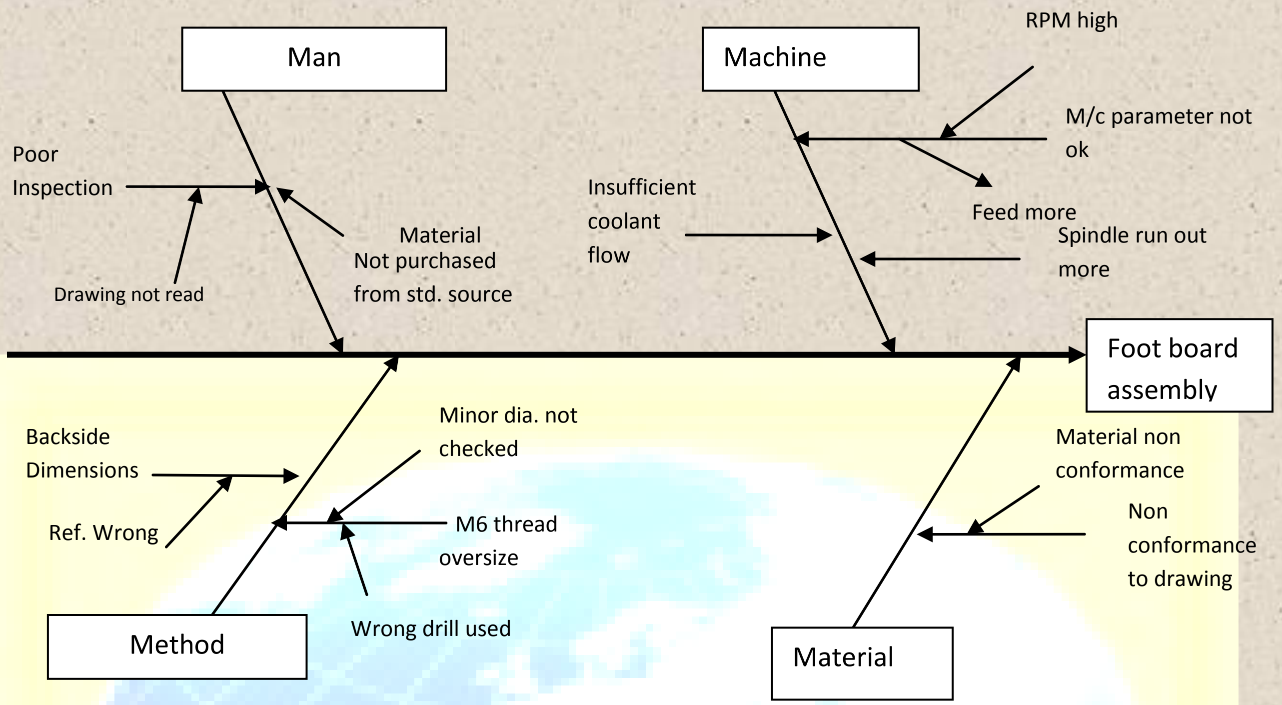

Figure 1 Cause and effect diagram for Foot Board Assembly

Foot Step assembly

Following are main reasons for the rejection of Foot Step assembly:

(i) Slot 19X9 offset from centre line

- Improper Stopper in Punching die.
- Wrong Reference.
- Angle plate width not measured properly.
- Inadequate inspection.

Ishikawa (cause & Effect) diagram is shown for Foot Board Assembly in Figure 2.

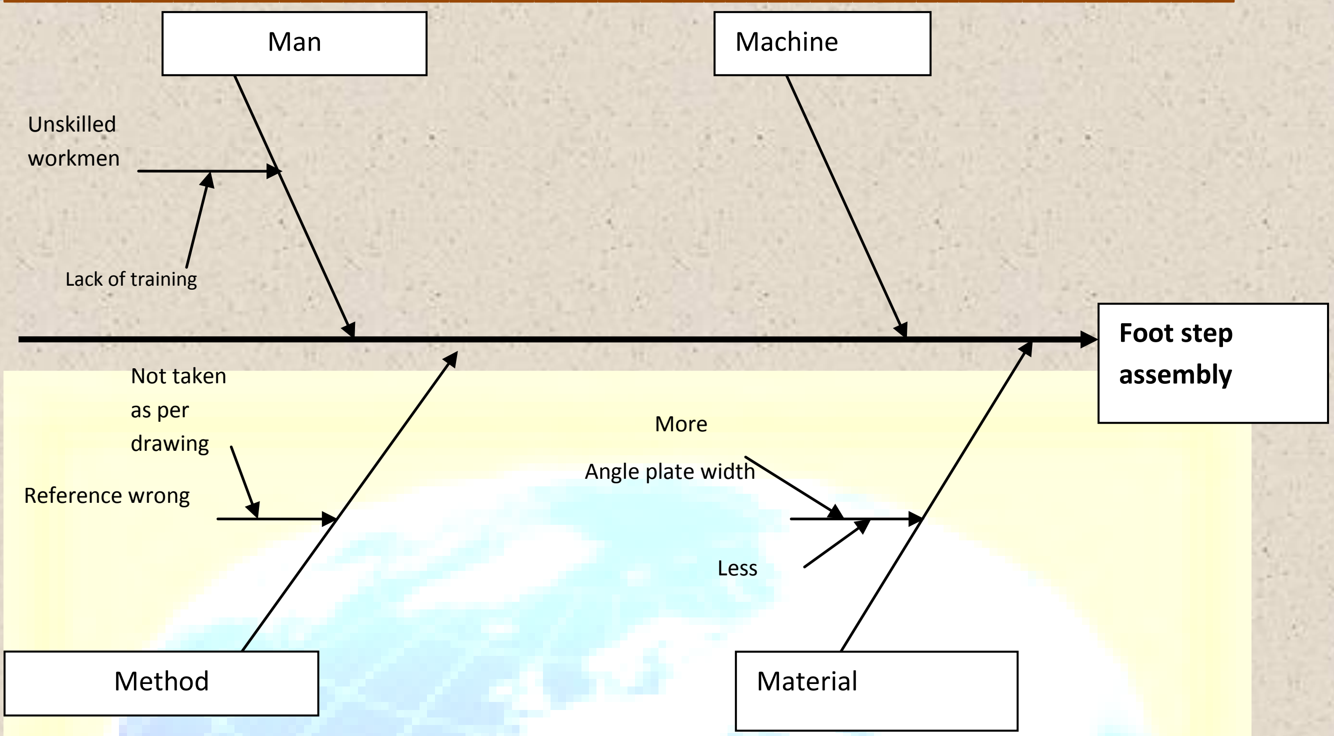

Figure 2 Cause and effect diagram for Foot step Assembly

Leakage in Fuel tank assembly

The main possible root causes of the leakage in Fuel tank assembly are:

- Improper Seam welding.
- Insufficient Sheet bending.
- Flatness may not be maintained after bending.
- Improper voltage during welding.
- Improper welding at bushes.
- Presence of welding blow holes.
- Welding wheel may not be dressed properly.
- Improper gap between wheels.
- Inadequate pressure on seam welding.
- Unskilled workers.

Ishikawa (cause & Effect) diagram is shown for Fender of radiator in Figure 3.

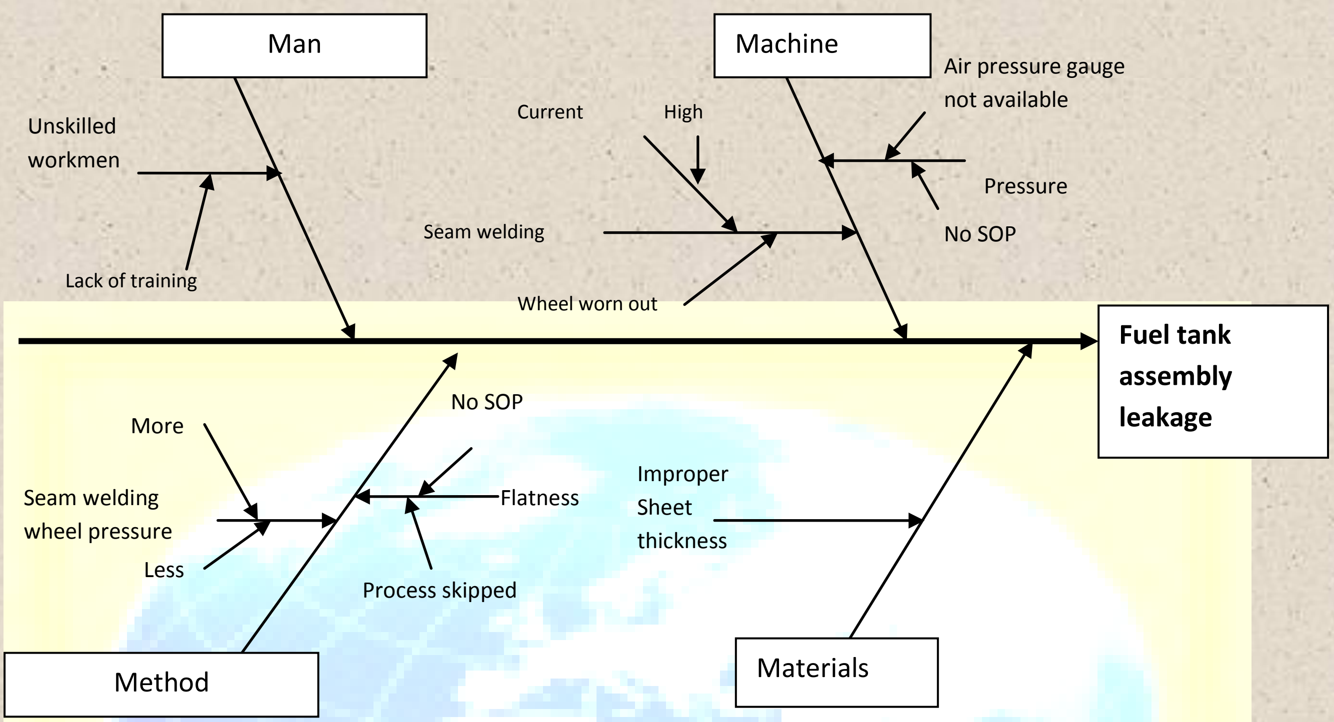

Figure 3 Cause and effect diagram of Leakage in Fuel tank assembly

Recommendations to prevent leakage in fuel tank assembly

- Soap solution should be used for leakage testing.
- Air pressure gauge should be installed.
- Wheel should be replaced.
- 100% flatness should be maintained after bending.

Fender of Radiator

A radiator is a heat exchanger that removes heat from coolant passing through it and maintains the engine temperature. The level of rejection of Foot Board Assembly in year, 2009-10= 9.9 %

The main possible root causes of the problem in Fender of radiator are:

- Insufficient Fender support thickness

- Improper inspection during receipt of materials and processing.
- Mixing of materials from source/in house store.
- Unskilled workers
- Incapable measuring instrument.

Ishikawa (cause & Effect) diagram is shown for Fender of radiator in Figure 4.

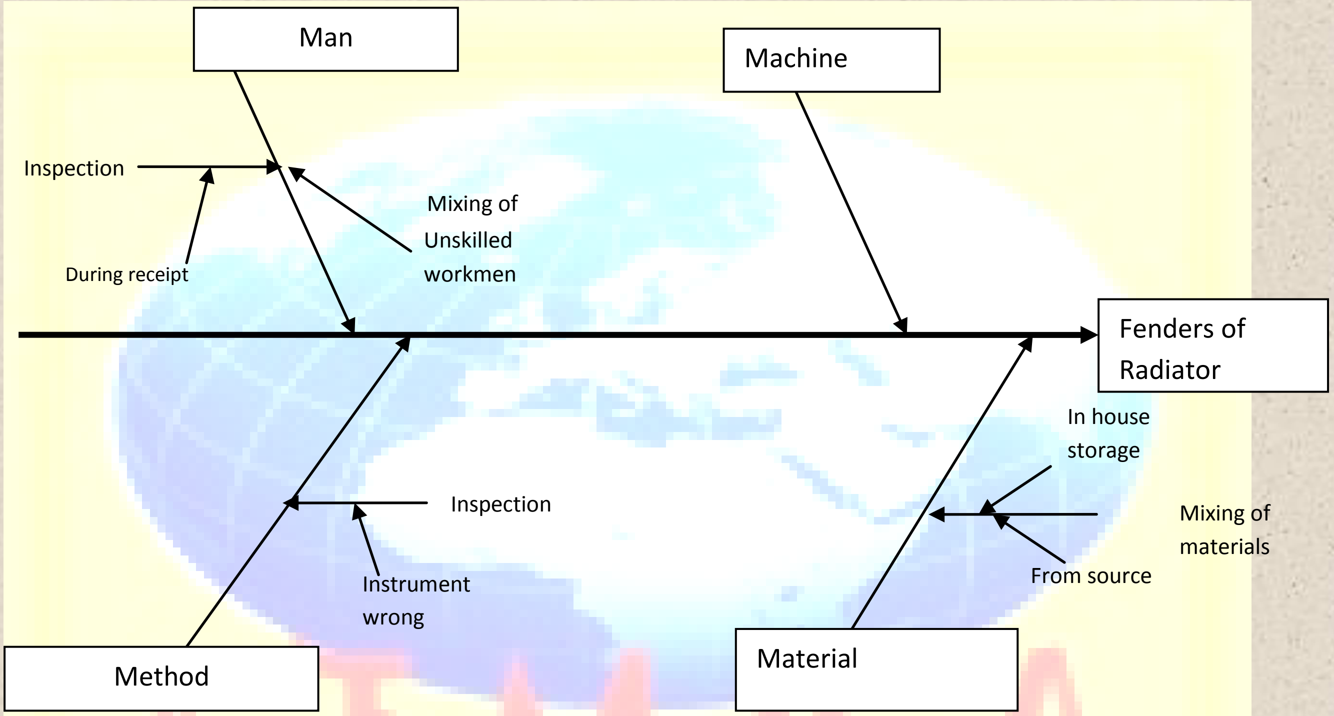

Figure 4 Cause and effect diagram of Fender of radiator

<u>Recommendations to reduce the rejection level of Fender of radiator</u>

- Thickness of Fender should be increased 6.0 mm from 5.1 mm.
- Proper inspection of raw materials should be done.
- Record of raw material should be maintained.
- In-process inspection should be started.

Implementation of $\overline{X}$ and range (R) charts to monitor the fender thickness

Fender target thickness = 6 mm ± 0.2mm

So, upper and lower specification limits can be calculated as:

Upper specification Limit (USL) = 6.2 mm

Lower specification Limit (LSL) = 5.8 mm

The sample size (n) of 4 is considered and 400 observations of Fender thickness are taken in random manner. These observations are taken after removing the root causes as suggested in section 4.4. The concept of sub-grouping is followed when observations are taken. These observations are shown in Table 1A (Appendix A).

Mean ($\overline{X}$) Chart

Mean or Average of one sample can be calculated as:

$$\overline{X} = \frac{\sum (X_1 \ldots X_n)}{n}$$

Or $\overline{X}$ = $(X_1 + X_2 + X_3 + X_4) \div 4$

Where,

n is the sample size = 4 (for this case)

Mean or Average of 400 samples can be calculated as

$$\overline{\overline{X}} = \frac{\sum (\overline{X}_1 \ldots \overline{X}_k)}{k}$$

Where,

k is the number of subgroups = 400 (for this case)

$\overline{\overline{X}}$ = 2400.86/400 = 6.0022

For the subgroup size (n) of 4, the factor,

$A_2 = 0.738$, $D_4 = 2.28$, $D_3 = 0$ (values of these factor, corresponding to sample size, are available in all the books of Quality control)

Upper control limit:

$$UCL_x = \overline{\overline{X}} + A_2 * \overline{R}$$

Lower control limit:

$$LCL_x = \overline{\overline{X}} - A_2 * \overline{R}$$

6.0022+ 0.738*0.2258= 6.161 6.0022- 0.738*0.2258=5.849

Range (R) Chart

$$\text{Range} = X_{max} - X_{min}$$

$$\bar{R} = \frac{\sum (R_1 \ldots R_k)}{k}$$

k is the number of subgroups.

= 90.31/400 = 0.2258

Upper control limit Lower control limit

$UCL_R = D_4 * \bar{R}$ $LCL_R = D_3 * \bar{R}$

2.28* 0.2258=0.4886 0*0.2258= 0

Calculation of Process capability (C_p)

Population standard deviation =σ'

Sample standard deviation (σ_x) = σ'/√n = 0.1097/2 = 0.05485

So Process capability (Cp) = $6\sigma_x$ = 6×0.05485= 0.329

To be process under control,

$(USL – LSL) \geq 6\sigma_x$

(6.2-5.8) ≥ 6×0.054850

0.40 ≥ 0.329

So process is under control and rejection level has been reduced after removing the root causes of rejection.

Calculation of Process capability Index (C_{pk})

Process capability Index (C_{pk}) can be calculated as:

$$C_{pk} = \text{Minimum}\left[\left(\bar{X} - LSL)/3\sigma_x,\ (UL - \bar{X}\right)/ 3\sigma_x\right]$$

Where, sample standard deviation (σ_x) = σ'/√n = 0.1097/2 = 0.05485

= Min.[(6.0022 – 5.849)/ 3* 0.05485 , (6.161 – 6.0022)/ 3* 0.05485]

= Min. [0.928, 0.963] = 0.928

So, Process capability Index (C_{pk}) of the process is 0.928.

Although 400 observations are of the Fender of radiator are taken, only plots of 100 observations for $\overline{X}$ and are R charts are shown in Figures 5 and 6 respectively. These observations are taken after removing the root causes of rejection.

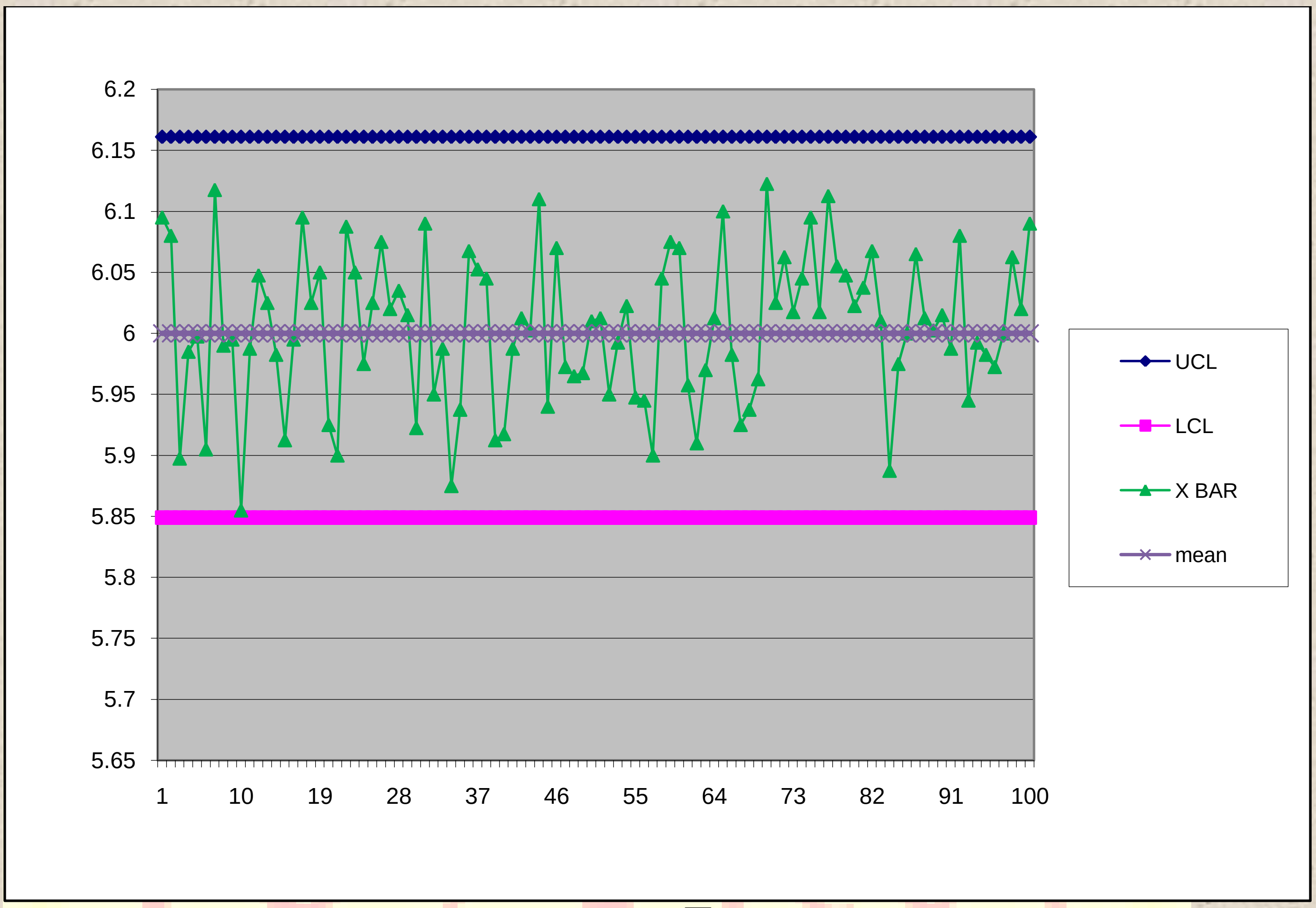

Figure 5 Graphical representation of $\overline{X}$ chart

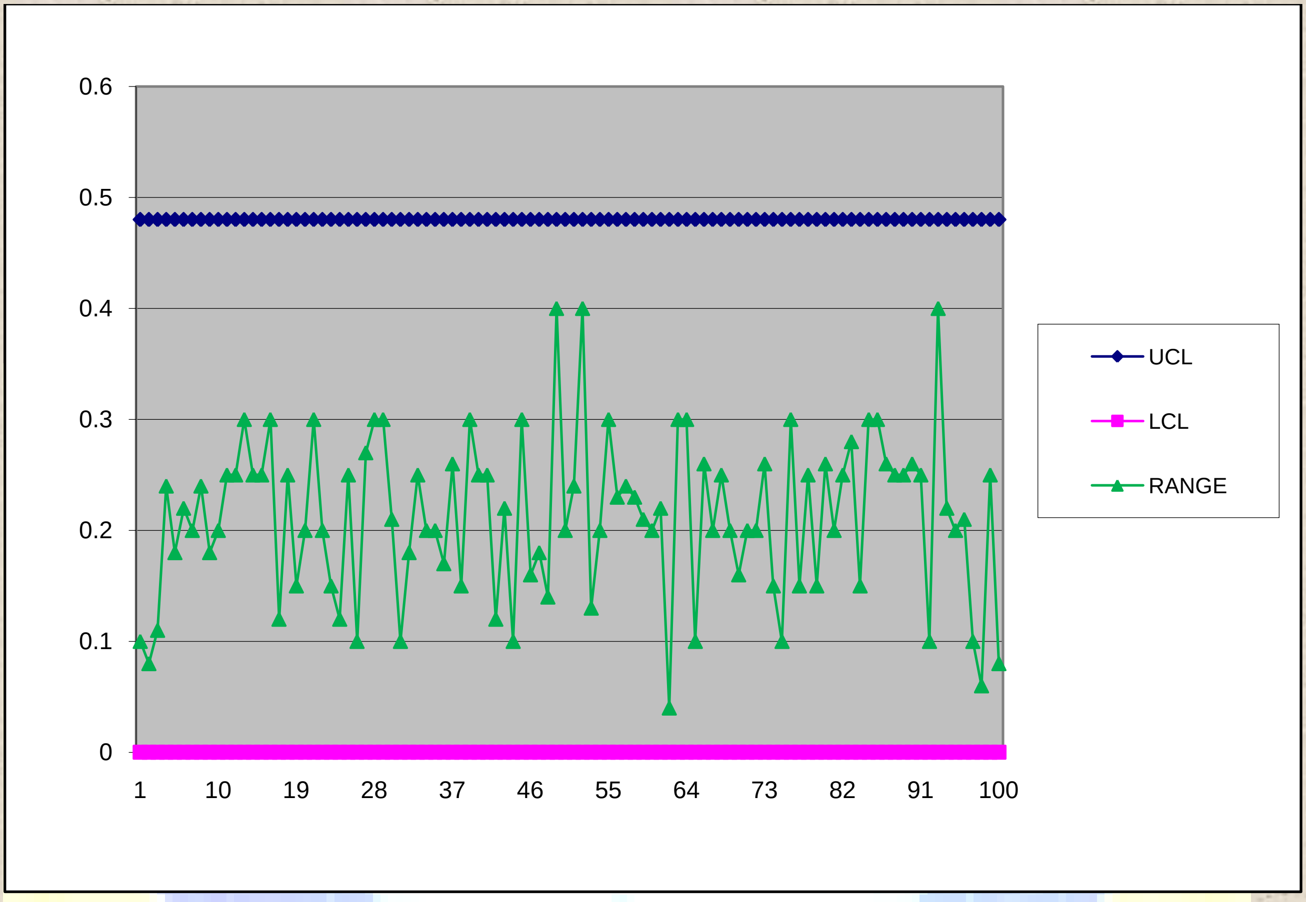

Figure 6 Graphical representation of R chart

It is clear from the Figures 5 and 6 that all the observations are falling within the control limits on both $\overline{X}$ and R charts.

CONCLUSION:

Intelligent systems emulate the human ability to learn from past experience and to make reasoned decisions and take action based on those experiences. Expert systems rely on a knowledge base to build models to diagnose, advise and act on real-world problems. Intelligent and expert systems are already deployed in control technology for manufacturing processes. It is not a great leap to believe that these technologies will profoundly change the nature of SPC. The present work deals with the study of different products i.e. foot step assembly, foot board assembly, Fuel tank assembly and radiator assembly. The basic requirements of the manufacturing/assembly processes are studied and then the statistical process control of the specific process is found out. After that the cause and effects of the problem are noted with SPC analysis that may easily help in improving the efficiency of the manufacturing process thus decreasing the number of defective products, thus saving a lot of re-work cost and valuable time.

For each specific product the suggested preventions can considerably decrease the loss to the industry in terms of both money and time. Although, improvement in rejection level of all the four products of the industry is noticed, fender of radiator was the main concern because the rejection level of this product was 9.9%. After implementing the required suggestions/recommendations for radiator assembly, it is found that process capability is improved and it is greater than required. Out of 400 observations of Fender's thickness, no any observation is falling outside of control limits on both $\overline{X}$ and R charts.

The impact of intelligent and expert systems would perhaps be greatest when it comes to interpreting process statistics and acting on that analysis. There is not enough time in the day for the quality practitioner to thoroughly analyze the mountain of information generated from each production run. There are many ways in which intelligent and expert SPC systems would enhance the effectiveness and simplify the work of quality practitioners. On the most superficial level, these systems would learn from previous SPC configuration to logically reorder the system to make future administration easier.

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APPENDIX - A

Table 1A Observations of thickness of Fender of radiator after Implementing the Recommendations

S. No.	X_1	X_2	X_3	X_4	Mean ($\overline{X}$)	Range (R)
1	6.1	6.15	6.05	6.08	6.095	0.1
2	6.04	6.06	6.1	6.12	6.08	0.08
3	5.85	5.9	5.88	5.96	5.8975	0.11
4	5.86	5.92	6.06	6.1	5.985	0.24
5	6.06	6.08	5.9	5.95	5.9975	0.18
6	5.8	5.84	5.96	6.02	5.905	0.22
7	6.12	6.15	6	6.2	6.1175	0.2
8	5.88	5.92	6.04	6.12	5.99	0.24
9	5.9	6.05	5.95	6.08	5.995	0.18
10	5.8	5.75	5.92	5.95	5.855	0.2
11	5.85	5.95	6.1	6.05	5.9875	0.25
12	6.1	6.04	6.15	5.9	6.0475	0.25
13	5.9	6.05	6.2	5.95	6.025	0.3

14	5.85	6.08	6.1	5.9	5.9825	0.25
15	5.9	5.8	6.05	5.9	5.9125	0.25
16	5.85	5.92	6.06	6.15	5.995	0.3
17	6.1	6.04	6.08	6.16	6.095	0.12
18	5.9	6.15	6.1	5.95	6.025	0.25
19	6.05	5.95	6.1	6.1	6.05	0.15
20	5.85	5.9	6.05	5.9	5.925	0.2
21	5.8	5.9	5.8	6.1	5.9	0.3
22	5.95	6.15	6.1	6.15	6.0875	0.2
23	6.1	6.05	5.95	6.1	6.05	0.15
24	5.8	5.95	6.05	6.1	5.975	0.12
25	6.1	5.85	6.05	6.1	6.025	0.25
26	6.06	6.1	6.02	6.12	6.075	0.1
27	5.9	6.15	6.15	5.88	6.02	0.27
28	5.92	6.2	6.12	5.9	6.035	0.3
29	6.08	6.1	6.08	5.8	6.015	0.3
30	5.84	6.05	5.95	5.85	5.9225	0.21
31	6.15	6.06	6.05	6.1	6.09	0.1
32	5.92	6.08	5.9	5.9	5.95	0.18
33	6.05	6.1	5.95	5.85	5.9875	0.25
34	5.75	5.95	5.9	5.9	5.875	0.2
35	5.95	6.05	5.9	5.85	5.9375	0.2
36	6.04	5.98	6.15	6.1	6.0675	0.17
37	6.05	6.1	6.16	5.9	6.0525	0.26
38	6.08	6.1	5.95	6.05	6.045	0.15
39	5.8	5.9	6.1	5.85	5.9125	0.3
40	5.92	6.05	5.9	5.8	5.9175	0.25
41	6.05	5.85	6.1	5.95	5.9875	0.25
42	6.1	5.8	6.05	6.1	6.0125	0.12
43	5.88	5.95	6.1	6.08	6.0025	0.22
44	6.06	6.1	6.16	6.12	6.11	0.1
45	5.9	5.8	6.1	5.96	5.94	0.3
46	5.96	6.1	6.12	6.1	6.07	0.16
47	6	6.06	5.88	5.95	5.9725	0.18
48	6.04	5.9	5.9	6.02	5.965	0.14
49	5.95	5.92	5.8	6.2	5.9675	0.4
50	5.92	6.08	5.92	6.12	6.01	0.2
51	6.08	5.84	6.05	6.08	6.0125	0.24
52	5.95	6.15	5.75	5.95	5.95	0.4
53	6.05	5.92	5.95	6.05	5.9925	0.13
54	5.9	6.05	6.04	6.1	6.0225	0.2
55	5.95	5.75	6.05	6.04	5.9475	0.3
56	5.9	5.95	6.08	5.85	5.945	0.23
57	5.9	6.04	5.8	5.86	5.9	0.24
58	6.15	6.05	5.92	6.06	6.045	0.23
59	6.16	6.15	6.04	5.95	6.075	0.21
60	5.95	6.06	6.15	6.12	6.07	0.2
61	6.1	5.9	5.95	5.88	5.9575	0.22
62	5.9	5.94	5.9	5.9	5.91	0.04
63	6.1	6.08	5.9	5.8	5.97	0.3
64	6.15	5.9	6.15	5.85	6.0125	0.3
65	6.1	6.15	6.05	6.1	6.1	0.1
66	6.16	5.92	5.95	5.9	5.9825	0.26

67	5.95	6.05	5.85	5.85	5.925	0.2
68	5.9	5.85	6.1	5.9	5.9375	0.25
69	5.9	5.95	6.15	5.85	5.9625	0.2
70	6.15	6.04	6.2	6.1	6.1225	0.16
71	6.05	6.05	6.1	5.9	6.025	0.2
72	5.95	6.1	6.05	6.15	6.0625	0.2
73	5.9	5.95	6.06	6.16	6.0175	0.26
74	6.1	6.05	6.08	5.95	6.045	0.15
75	6.15	6.05	6.08	6.1	6.095	0.1
76	6.2	6.02	5.95	5.9	6.0175	0.3
77	6.1	6.2	6.05	6.1	6.1125	0.15
78	6.05	6.12	5.9	6.15	6.055	0.25
79	6.06	6.08	5.95	6.1	6.0475	0.15
80	6.08	5.95	5.9	6.16	6.0225	0.26
81	6.1	6.05	5.9	6.1	6.0375	0.2
82	6.1	5.9	6.15	6.12	6.0675	0.25
83	6.05	5.95	6.16	5.88	6.01	0.28
84	5.8	5.9	5.95	5.9	5.8875	0.15
85	6.1	5.9	6.1	5.8	5.975	0.3
86	6.1	6.15	5.9	5.85	6	0.3
87	5.9	6.16	6.1	6.1	6.065	0.26
88	6.05	5.95	6.15	5.9	6.0125	0.25
89	5.96	6.1	6.1	5.85	6.0025	0.25
90	6.1	5.9	6.16	5.9	6.015	0.26
91	5.95	6.05	6.1	5.85	5.9875	0.25
92	6.02	6.08	6.12	6.1	6.08	0.1
93	6.2	5.8	5.88	5.9	5.945	0.4
94	6.12	5.9	5.9	6.05	5.9925	0.22
95	6.08	6.15	5.85	5.85	5.9825	0.2
96	5.95	6.16	5.98	5.8	5.9725	0.21
97	6.05	5.95	6.05	5.95	6	0.1
98	6.1	6.1	5.95	6.1	6.0625	0.06
99	6.15	5.9	5.95	6.08	6.02	0.25
100	6.1	6.1	6.04	6.12	6.09	0.08
101	5.96	6.1	5.92	6.12	6.025	0.2
102	6	5.9	6.08	5.88	5.965	0.2
103	6.04	6.05	5.84	5.9	5.9575	0.21
104	5.95	5.85	6.05	5.8	5.9125	0.25
105	5.92	5.8	5.92	5.85	5.8725	0.12
106	6.1	5.95	6.05	6.1	6.05	0.15
107	6.15	6.1	5.75	5.9	5.975	0.4
108	6.06	6.08	5.95	5.85	5.985	0.23
109	6.1	6.12	6.04	5.9	6.04	0.22
110	6.05	5.96	6.05	5.85	5.9775	0.2
111	6.06	6.1	6.08	6.1	6.085	0.04
112	6.08	5.95	5.8	5.9	5.9325	0.28
113	6.1	6.02	5.92	6.05	6.0225	0.18
114	6.1	6.15	6.04	5.85	6.035	0.3
115	6.05	6.12	6.1	5.85	6.03	0.27
116	5.8	6.08	5.95	5.95	5.945	0.28
117	6.1	5.95	5.9	6.1	6.0125	0.2
118	5.95	6.05	5.9	5.8	5.925	0.25
119	6.05	6.1	6.15	6.1	6.1	0.1

120	6.05	6.04	6.05	6.06	6.05	0.02
121	6.02	5.85	5.95	5.9	5.93	0.17
122	6.15	5.86	5.85	5.92	5.945	0.3
123	6.12	6.06	6.1	6.08	6.09	0.06
124	6.08	5.95	6.15	5.9	6.02	0.25
125	5.95	6.12	6.2	6.15	6.105	0.25
126	6.05	5.88	6.1	5.92	5.9875	0.22
127	5.9	5.9	6.05	6.05	5.975	0.15
128	5.95	5.8	6.06	5.85	5.915	0.26
129	5.9	5.85	6.08	5.95	5.945	0.23
130	5.9	6.1	6.1	6.04	6.035	0.2
131	6.15	5.9	5.95	6.05	6.0125	0.25
132	6.1	5.85	6.05	6.08	6.02	0.25
133	5.95	5.9	5.98	5.8	5.9075	0.18
134	6.1	5.85	6.1	5.92	5.9925	0.25
135	5.9	6.1	6.1	6.05	6.0375	0.2
136	6.1	5.9	5.9	6.1	6	0.2
137	6.05	6.15	6.05	5.88	6.0325	0.27
138	6.1	6.16	6.1	6.06	6.105	0.1
139	6.16	5.95	6.15	5.9	6.04	0.26
140	6.1	6.1	6.1	5.96	6.065	0.14
141	6.12	5.9	6.16	6	6.045	0.26
142	5.88	6.1	5.95	6.04	5.9925	0.22
143	5.9	6.15	5.9	5.95	5.975	0.25
144	5.8	5.85	5.9	5.92	5.8675	0.12
145	5.92	5.86	6.15	6.08	6.0025	0.29
146	6.05	6.06	6.05	5.95	6.0275	0.11
147	5.75	5.95	5.95	6.05	5.925	0.3
148	5.95	6.12	5.9	5.9	5.9675	0.22
149	6.04	5.88	6.1	5.95	5.9925	0.22
150	6.05	5.9	6.15	5.9	6	0.25
151	6.08	5.8	6.2	5.9	5.995	0.4
152	5.95	5.85	6.1	6.15	6.0125	0.3
153	5.92	6.1	6.05	6.16	6.0575	0.24
154	6.04	5.9	6.06	5.95	5.9875	0.16
155	6.15	5.85	6.08	6.1	6.045	0.3
156	5.95	5.9	6.1	5.9	5.9625	0.2
157	5.9	5.85	6.1	6.1	5.9875	0.25
158	5.9	6.1	6.05	6.15	6.05	0.25
159	6.15	5.9	5.95	6.1	6.025	0.25
160	6.05	6.15	6.1	6.16	6.115	0.11
161	5.95	6.16	6.1	5.95	6.04	0.21
162	5.85	5.95	5.9	5.9	5.9	0.1
163	6.1	6.1	6.05	5.9	6.0375	0.2
164	6.15	5.9	5.96	6.15	6.04	0.25
165	6.2	6.1	6.1	6.05	6.1125	0.15
166	6.1	6.15	5.95	5.95	6.0375	0.2
167	6.05	6.1	6.02	5.9	6.0175	0.2
168	6.06	6.16	6.2	6.1	6.13	0.14
169	6.08	6.1	6.12	6.15	6.1125	0.07
170	6.08	6.12	6.08	6.2	6.12	0.12
171	5.95	5.88	5.95	6.1	5.97	0.22
172	6.05	5.9	6.05	6.05	6.0125	0.15

173	5.9	5.8	6.1	6.06	5.965	0.3
174	5.95	5.85	6.15	6.08	6.0075	0.3
175	5.9	6.1	6.1	6.1	6.05	0.2
176	5.9	5.9	5.96	6.1	5.965	0.2
177	6.15	5.85	6	6.05	6.0125	0.3
178	6.1	5.9	6.04	5.8	5.96	0.3
179	5.95	5.85	5.95	6.1	5.9625	0.25
180	6.1	6.1	5.92	6.05	6.0425	0.18
181	5.92	5.9	6.1	5.85	5.9425	0.25
182	6.05	6.05	6.15	5.96	6.0525	0.19
183	6.1	5.85	6.1	5.95	6	0.25
184	5.88	5.8	6.1	6.1	5.97	0.3
185	6.06	5.95	6.05	5.8	5.965	0.26
186	5.9	6.1	5.95	6.1	6.0125	0.2
187	5.96	6.08	6.1	6.06	6.05	0.14
188	6	6.12	5.9	5.9	5.98	0.22
189	6.04	6.12	6.1	5.92	6.045	0.2
190	5.95	5.88	6.15	6.08	6.015	0.27
191	5.92	5.9	6.1	5.84	5.94	0.26
192	6.08	5.9	6.16	6.15	6.0725	0.26
193	5.95	5.85	6.1	5.92	5.955	0.25
194	6.05	6.1	5.95	6.05	6.0375	0.15
195	5.9	5.9	6.02	5.75	5.8925	0.27
196	5.95	5.85	6.1	5.95	5.9625	0.25
197	5.9	5.9	6.12	6.04	5.99	0.22
198	5.9	5.85	6.08	6.05	5.97	0.23
199	6.15	6.1	5.95	6.08	6.07	0.2
200	6.16	5.9	6.05	5.9	6.0025	0.26
201	5.9	5.9	5.9	6.1	5.95	0.2
202	5.8	6.1	5.85	5.95	5.925	0.3
203	5.85	6.15	5.9	6.02	5.98	0.3
204	6.1	6.2	5.85	6.2	6.0875	0.35
205	5.9	6.1	6.1	6.12	6.055	0.22
206	5.85	6.05	5.9	6.08	5.97	0.23
207	5.9	6.06	6.15	5.95	6.015	0.25
208	5.85	6.08	6.16	6.05	6.035	0.31
209	6.1	6.1	5.95	6.1	6.0625	0.15
210	5.9	6.1	6.1	6.15	6.0625	0.25
211	6.05	6.05	5.9	6.1	6.025	0.2
212	5.85	5.8	6.1	5.96	5.9275	0.3
213	5.85	6.1	6.15	6	6.025	0.3
214	5.95	6.1	6.1	6.04	6.0475	0.15
215	6.1	5.9	6.16	5.95	6.0275	0.26
216	5.8	6.05	6.1	5.92	5.9675	0.3
217	6.1	5.96	6.12	6.1	6.07	0.16
218	6.06	6.1	5.88	6.15	6.0475	0.27
219	5.9	5.95	5.9	6.1	5.9625	0.2
220	5.92	6.02	5.8	6.1	5.96	0.3
221	6.08	6.2	5.9	6.05	6.0575	0.3
222	5.9	6.12	5.85	5.95	5.955	0.27
223	6.15	6.08	5.9	6.1	6.0575	0.25
224	5.92	5.95	5.85	5.9	5.905	0.1
225	6.05	6.05	6.1	6.1	6.075	0.05

226	5.85	6.1	5.9	6.15	6	0.3
227	5.95	6.15	6.05	6.1	6.0625	0.2
228	6.04	6.1	5.85	6.16	6.0375	0.31
229	6.05	5.96	5.8	6.1	5.9775	0.3
230	6.08	6	5.95	5.95	5.995	0.13
231	5.8	6.04	6.1	6.02	5.99	0.3
232	5.92	5.95	5.8	5.9	5.8925	0.15
233	6.05	5.92	6.1	5.8	5.9675	0.3
234	6.1	6.1	6.06	5.85	6.0275	0.25
235	5.88	6.15	5.9	6.1	6.0075	0.27
236	6.06	6.06	5.92	5.9	5.985	0.16
237	5.9	6.1	6.08	5.85	5.9825	0.25
238	5.96	6.05	5.84	5.9	5.9375	0.21
239	6	6.06	6.15	5.85	6.015	0.3
240	6.04	6.08	5.92	6.1	6.035	0.18
241	5.95	6.1	6.05	5.9	6	0.2
242	5.92	6.1	5.75	6.05	5.955	0.35
243	6.08	6.05	5.95	5.85	5.9825	0.23
244	5.95	5.8	6.04	5.8	5.8975	0.24
245	6.05	6.1	6.05	5.95	6.0375	0.15
246	5.9	5.95	6.08	6.1	6.0075	0.2
247	5.95	6.05	5.8	6.08	5.97	0.28
248	5.9	6.05	5.92	6.12	5.9975	0.22
249	6.05	6.02	6.05	5.96	6.02	0.09
250	5.85	6.15	6.1	6.1	6.05	0.3
251	5.8	6.12	5.88	5.95	5.9375	0.32
252	5.95	6.08	6.06	6.02	6.0275	0.13
253	6.1	5.95	5.9	6.2	6.0375	0.3
254	6.08	6.05	5.96	6.12	6.0525	0.16
255	6.12	5.9	6	6.08	6.025	0.22
256	5.96	5.95	6.04	5.95	5.975	0.09
257	6.1	5.9	5.95	6.05	6	0.2
258	5.95	5.9	5.92	6.1	5.9675	0.2
259	6.02	6.15	6.08	6.04	6.0725	0.13
260	6.15	6.1	5.95	5.85	6.0125	0.3
261	6.12	5.95	6.05	5.86	5.995	0.26
262	6.08	6.1	5.9	6.06	6.035	0.2
263	5.95	5.9	5.95	5.95	5.9375	0.05
264	6.05	6.1	5.9	6.12	6.0425	0.22
265	6.1	6.05	5.9	5.88	5.9825	0.22
266	6.04	6.1	6.15	5.9	6.0475	0.25
267	5.85	6.16	6.16	5.8	5.9925	0.36
268	5.86	6.1	5.95	5.85	5.94	0.25
269	6.06	6.12	6.1	6.1	6.095	0.06
270	5.95	5.88	5.9	5.9	5.9075	0.07
271	6.12	5.9	6.1	5.85	5.9925	0.27
272	5.88	5.8	6.15	5.9	5.9325	0.35
273	5.9	5.92	6.1	5.85	5.9425	0.25
274	5.8	6.05	6.16	6.1	6.0275	0.36
275	5.85	5.75	5.95	5.9	5.8625	0.2
276	6.1	5.95	5.9	6.15	6.025	0.25
277	5.9	6.04	5.9	6.16	6	0.26
278	5.85	6.05	6.15	5.95	6	0.3

279	5.9	6.08	6.05	6.1	6.0325	0.2
280	5.85	6.1	5.95	5.9	5.95	0.25
281	6.1	6.16	5.9	6.1	6.065	0.26
282	5.9	5.95	6.1	6.15	6.025	0.25
283	6.15	5.9	6.15	6.1	6.075	0.25
284	6.16	5.9	6.2	6.16	6.105	0.3
285	5.95	6.15	6.1	6.1	6.075	0.2
286	6.1	6.05	6.05	6.12	6.08	0.07
287	5.9	5.95	6.06	5.88	5.9475	0.18
288	6.1	5.9	6.08	5.9	5.995	0.2
289	6.15	6.1	6.1	5.8	6.0375	0.35
290	5.85	6.15	6.1	5.85	5.9875	0.3
291	5.86	6.2	6.05	6.1	6.0525	0.34
292	6.06	6.1	5.8	5.9	5.965	0.3
293	5.95	6.05	6.1	5.85	5.9875	0.25
294	6.12	6.06	6.1	5.9	6.045	0.22
295	5.88	6.08	5.9	5.85	5.9275	0.23
296	5.9	6.1	6.05	6.1	6.0375	0.2
297	5.8	6.1	5.96	5.9	5.94	0.3
298	5.85	6.05	6.1	6.05	6.0125	0.25
299	6.1	5.95	5.95	5.85	5.9625	0.25
300	5.9	6.1	6.02	5.8	5.955	0.3
301	5.85	6.1	6.2	5.95	6.025	0.35
302	5.9	5.9	6.12	6.1	6.005	0.22
303	5.85	6.05	6.08	6.08	6.015	0.23
304	6.1	5.96	5.95	6.12	6.0325	0.17
305	5.9	6.1	6.05	6.12	6.0425	0.22
306	6.15	5.95	6.1	5.88	6.02	0.27
307	6.16	6.02	6.15	5.9	6.0575	0.26
308	5.95	6.2	6.1	5.8	6.0125	0.4
309	6.1	6.12	5.96	5.85	6.0075	0.27
310	5.9	6.08	6	6.1	6.02	0.2
311	6.1	5.95	6.04	5.9	5.9975	0.2
312	6.15	6.05	5.95	5.85	6	0.3
313	6.1	6.1	5.92	5.9	6.005	0.2
314	6.16	6.15	6.1	5.85	6.065	0.31
315	6.1	6.1	6.15	6.1	6.1125	0.05
316	6.12	5.96	6.06	5.9	6.01	0.22
317	5.88	6	6.1	6.05	6.0075	0.22
318	5.9	6.04	6.05	5.85	5.96	0.2
319	5.8	5.95	6.06	5.85	5.915	0.26
320	5.85	5.92	6.08	5.95	5.95	0.23
321	6.1	6.1	6.1	6.1	6.1	0
322	5.9	6.15	6.1	5.8	5.9875	0.35
323	5.85	6.1	6.05	6.1	6.025	0.25
324	5.9	6.1	5.8	6.06	5.965	0.3
325	5.85	6.05	6.1	5.9	5.975	0.25
326	6.1	5.95	5.95	5.92	5.98	0.18
327	5.9	6.1	6.05	5.96	6.0025	0.2
328	6.05	5.9	6.05	5.95	5.9875	0.15
329	5.85	6.1	6.02	6.1	6.0175	0.25
330	5.8	6.15	6.15	5.8	5.975	0.35
331	5.95	6.1	6.12	6.1	6.0675	0.17

332	6.1	6.16	6.08	6.06	6.1	0.1
333	6.08	6.1	5.95	5.9	6.0075	0.2
334	6.12	5.95	6.05	5.92	6.01	0.2
335	6.12	6.02	5.9	6.08	6.03	0.22
336	5.88	6.1	5.95	5.84	5.9425	0.26
337	5.9	6.12	5.9	6.15	6.0175	0.25
338	5.9	6.08	5.9	5.92	5.95	0.18
339	5.85	5.95	6.15	6.05	6	0.3
340	6.1	6.05	6.1	5.75	6	0.35
341	5.9	5.9	5.95	5.95	5.925	0.05
342	5.85	5.85	6.12	6.04	5.965	0.27
343	5.9	5.9	5.88	6.05	5.9325	0.17
344	5.85	5.85	5.9	6.08	5.92	0.23
345	6.1	6.1	5.8	5.9	5.975	0.3
346	5.9	5.9	5.85	6.1	5.9375	0.25
347	5.9	6.15	6.1	5.95	6.025	0.25
348	6.1	6.16	5.9	6.02	6.045	0.26
349	6.15	5.95	5.85	6.2	6.0375	0.35
350	6.2	6.1	5.9	6.12	6.08	0.3
351	6.1	5.9	5.85	6.08	5.9825	0.25
352	6.05	6.1	6.1	5.95	6.05	0.15
353	6.06	6.15	5.9	6.05	6.04	0.25
354	6.08	6.1	6.05	6.1	6.0825	0.05
355	6.1	6.16	5.85	6.15	6.065	0.31
356	6.1	6.1	5.8	6.1	6.025	0.3
357	6.05	6.12	5.95	5.96	6.02	0.17
358	5.8	5.88	6.1	6.06	5.96	0.3
359	6.1	5.9	6.08	5.95	6.0075	0.2
360	6	5.8	6.12	6.12	6.01	0.32
361	6.04	5.9	6.12	5.88	5.985	0.24
362	5.95	5.85	5.88	5.9	5.895	0.1
363	5.92	5.9	5.9	5.8	5.88	0.12
364	6.08	5.85	5.8	5.85	5.895	0.28
365	5.95	6.1	5.85	6.1	6	0.25
366	6.05	6.15	6.1	5.9	6.05	0.25
367	5.9	6.1	5.9	5.85	5.9375	0.25
368	5.95	6.16	5.85	5.9	5.965	0.31
369	5.9	6.1	5.9	5.85	5.9375	0.25
370	5.9	6.12	5.85	6.1	5.9925	0.27
371	6.15	5.88	6.1	5.9	6.0075	0.27
372	6.16	5.9	5.9	6.15	6.0275	0.26
373	5.95	5.8	6.05	6.16	5.99	0.36
374	6.1	5.85	5.85	5.95	5.9375	0.25
375	5.9	6.1	5.85	6.1	5.9875	0.25
376	6.1	5.9	5.95	5.9	5.9625	0.2
377	6.15	5.85	6.1	6.1	6.05	0.3
378	6.1	5.9	5.8	6.15	5.9875	0.35
379	6.16	5.85	6.1	5.85	5.99	0.31
380	5.95	6.1	6.06	5.86	5.9925	0.24
381	5.9	5.9	5.9	6.06	5.94	0.16
382	5.9	6.05	5.92	5.95	5.955	0.15
383	6.15	5.85	6.08	6.12	6.05	0.3
384	6.05	5.8	5.9	5.88	5.9075	0.25

385	5.95	5.95	6.15	5.9	5.9875	0.25
386	5.9	6.1	5.92	5.8	5.93	0.3
387	6.1	6.08	6.05	5.85	6.02	0.25
388	6.15	6.12	5.85	6.1	6.055	0.3
389	6.2	6.12	5.95	5.9	6.0425	0.3
390	6.1	5.88	6.04	5.85	5.9675	0.25
391	6.05	5.9	6.05	5.9	5.975	0.15
392	6.06	5.9	6.08	5.85	5.9725	0.23
393	6.08	5.85	5.8	6.1	5.9575	0.3
394	6.1	6.1	5.92	5.9	6.005	0.2
395	6.1	5.9	6.05	6.15	6.05	0.25
396	6.05	5.85	6.1	6.16	6.04	0.31
397	5.8	5.9	5.88	5.95	5.8825	0.15
398	6.1	5.85	6.06	6.1	6.0275	0.25
399	6.05	6.1	5.9	5.9	5.9875	0.2
400	5.85	5.9	5.96	6.1	5.9525	0.25
Total					**2400.86**	**90.31**