

IMPLIMENTATION OF POKA YOKE IN PACKING LINE

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Abstract - On shop floor we address many problems caused by human mistakes and due to human error this are random in nature because they take place due to the negligence, ignorance, knowledge etc of the responsible persons Some of them become the reason of costumer complains. For prevent this type of human error we implement poka yoke into the system. In this case we discuss about the problem of underweight jar cartoon. This is the most normal problems facing by the industry's during this time because of the pressure of the production and the high demand of the goods this problem takes place. Same problem we address sin a FMCG industry during the packing of the 1 kg jar. Some time the number of jar into the carton is short and its leads to the costumer complain. For solving this problem a poka yoka is implement for proofing the problem. In this a weighing scale is placed data the end of the packing station at this stage a helper weigh the carton and write the weight of the carton on it. So that he can find out the underweight carton and packing leader also trace out the carton and find out the odd one.

1.INTRODUCTION

Poka-yoke [poka joke] is a Japanese term that means "mistake-proofing" or "inadvertent error prevention". A poka-yoke is any mechanism in a lean manufacturing process that helps an equipment operator avoid (yokeru) mistakes (poka). Its purpose is to eliminate product defects by preventing, correcting, constrain or drawing attention to human errors as they occur. The concept was formalized, and the term adopted, by Shigeo Shingo as part of the Toyota Production System it is the best production it gives many other tools for productivity improvement. It was originally described as baka-yoke, but as this means "fool-proofing" (or "idiot-proofing") the name was changed to the milder poka-yoke. It is so simple and inexpensive tool prevents the defects from being made or highlights a problem or a defect if any defect occurs it is not passed to the next operation as show in fig 3. It will stop or prevent by the way of proofing.

2. Research Methodology

In this we have to implement the poka yoke by PDCA (Plan, Do, Check, Act) method. In this method we find out the plan what we have to do for mistake proofing and then we implement the method into the system and the check the results. If the results are in acceptable limits the idea is fixed on it another wise the next plan is implemented on the system till we don't get the permanent solution for the problem.

In this case we are working on the problem of the underweight jar carton. In this case we addressed a problem of the underweight jar cartoon in this the carton packed at the end of the packing unit is under weight some time at it cause the costumer complaint. So that for preventing this human ,mistake we find out the poka yoke for solving this problem. In this a weighing scale of 30 KG is placed at the end of the packing unit and a helper weigh each carton and write the weight of the carton on it. So that he can easily trace out the weight of the carton and the packing leader and the quality executive and the loading leader also check the weight of each carton during the internal movement of the carton and the loading of the carton.

Implementation Procedure -

Date - 30/1/2017

Problem - Under Weight Carton

Unit - Jar Packing Unit

Responsibility - XYZ

PDCA Cycle -

Plan - In this a weighing scale of 30 KG is placed at the end of the packing unit and a helper weigh each carton after packing and write the weight of the carton on it by permanent marker.

Do - The weighing scale is installed and the helper is also placed at the end of the packing line

Check - After analyzing the data of the packing unit we find out that the process is working well and we get the proper and use full out comes from this.

Act - After analyzing all the results and the outcomes we finally place this poka yoke into the system successfully.

3. RESUTS & OUTCOMES

AREA - PACKING LINE

MACHINE - WEIGHTING MACHINE

PROBLEM - IMPROPER FILLING OF JAR INTO THE CARTON

Description of Problem - Jar was packed into a carton with definite quantity of 20 jar per cartoon but due to mistake some time quality team find less number of jar into the cartoon.



FIG 1 - Weighing scale & Helper

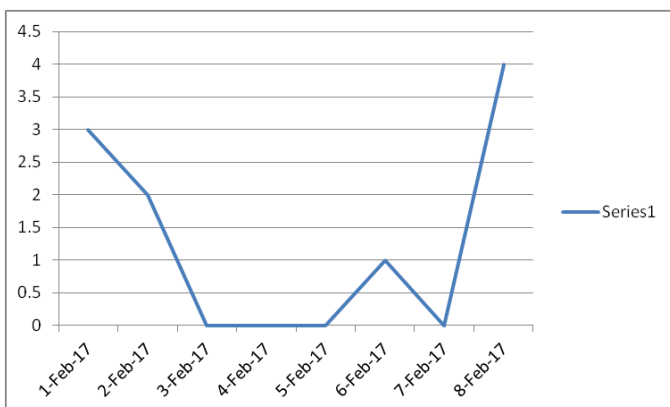
ROOT COUSE - Absence of Control Measures

CORRECTIVE ACTION - Provide Weighing machine as a Control Measure

WORKING - When a carton is strapped after filling of the jar it will go to the weighing machine for weight and a worker write its weight on the cartoon.

Table 1 -Before Implementation of Poka Yoke

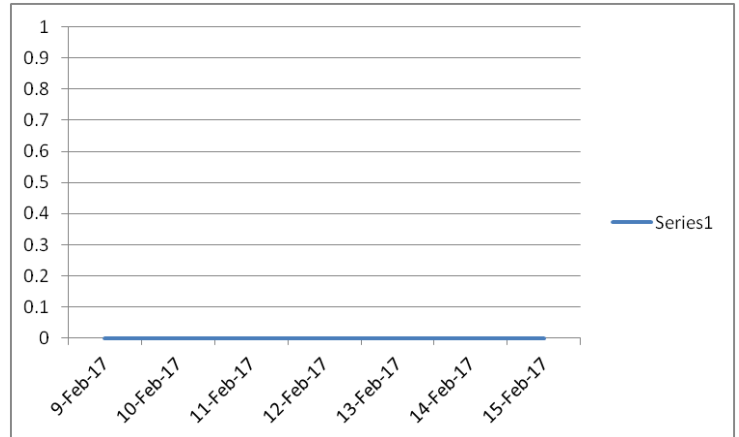
DATE	UNDER WEIGHT CARTONS
1-Feb-17	3
2-Feb-17	2
3-Feb-17	0
4-Feb-17	0
5-Feb-17	0
6-Feb-17	1
7-Feb-17	0
8-Feb-17	4



Graph 1 - Before Implementation of Poka Yoke

Table 2 - After Implementation of Poka Yoke

Date	Under Weight Cartons
9-Feb-17	0
10-Feb-17	0
11-Feb-17	0
12-Feb-17	0
13-Feb-17	0
14-Feb-17	0
15-Feb-17	0



Graph 2 - After Implementation of Poka Yoke

All the calculation are done on the outcomes to find out the actual results of the system. By this we get the proper values of the underweight jar cartons. This is the most important face of the research paper because on the basis of this result we finalize the process.

Calculations-

Average underweight cartoon before the poka yoke - 1.25
 After the installation of the poka yoke - 0
 The underweight carton defect reduce by - 125 %

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