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STUDY OF PROBLEM SOLVING METHODS IN MANUFACTURING INDUSTRY BY USING 8D – ANALYSIS

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ABSTRACT:

Customer satisfaction is the main aim of every organization. In automobile industry, problem solving purpose 8d analysis is used. Continues improvement is the main aim of every organization. Permanent solution is required for the every organization. Then researcher studies the 8 analysis in manufacturing industry. 8D analysis is best part of quality control.

KEYWORDS: *8D, Cause & effect diagram, containment action, root cause, Permanent & corrective action.*

INTRODUCTION :

The 8d report or 8d corrective action is a problem solving technique for product & process improvement. 8 D report technique is firstly used in automotive industry. During World War II the method was used in team oriented problem solving in the United States under military standard 1520. It was later used and popularized by car manufacturer Ford. In the 1999 Ford Company continued study the 8 d process. Ford Company found out the origin of the 8 d analysis. The 8d method is also called as global 8d, Ford 8d or tops 8d.

8d helps the problems solving situation. Quality control staff finds out the root cause within the help of 8 methods. 8D methods develop the product & process. 8 D report has the eight disciplines. They have follows.

D1 – Create a team
D2 – Describe the problem
D3 – Interim containment action
D4 – Identify the root cause
D5 – Developing permanent corrective actions
D6 – Implementing permanent corrective actions
D7 – Preventive measures
D8 – Congratulate the team
D1 – Create a team

The team must preferably be multidisciplinary. Due to a varied combination of knowledge, skills and experience, one can look at a problem from different perspectives. Besides having an effective team leader, it is also advisable to record team structure, goals, different team roles, procedures and rules.

D2 – Describe the problem

Define the problem as objectively as possible.

D3 – Interim containment action

It may be necessary to implement temporary fixes. For example, to help or meet a customer quickly or when a deadline has to be met. It is about preventing a problem from getting worse until a permanent solution is implemented.

D4 – Identify the root cause

Before a permanent solution is found, it is important to identify all possible root causes that could explain why the problem occurred.

D5 – Developing permanent corrective actions

As soon as the root cause of the problem has been identified, it is possible to search for the best possible solution. Again various problem solving methods can be used such as value analysis and creative problem solving.

D6 – Implementing permanent corrective actions

As soon as the permanent corrective actions are identified, they can be implemented. By planning ongoing controls, possible underlying root causes are detected far in advance.

D7 – Preventive measures

Prevention is the best cure. This is why additional measures need to be taken to prevent similar problems. Preventative measures ensure that the possibility of recurrence is minimized.

D8 – Congratulate the team

By congratulating the team on the results realized, all members are rewarded for their joint efforts. This is the most important step within the 8D method; without the team the root cause of the problem would not have been found and fixed.

LITERATURE REVIEW

Some articles are studied on 8D analysis. Some research gap are found on these article.

Lalit Kumar Biban & Deepak Dhounchak in his article title “8 d methodologies & Its application” explain the 8 methodology applications. He explains the only theoretical background of 8D. Researcher not focuses on 8 methodology example.

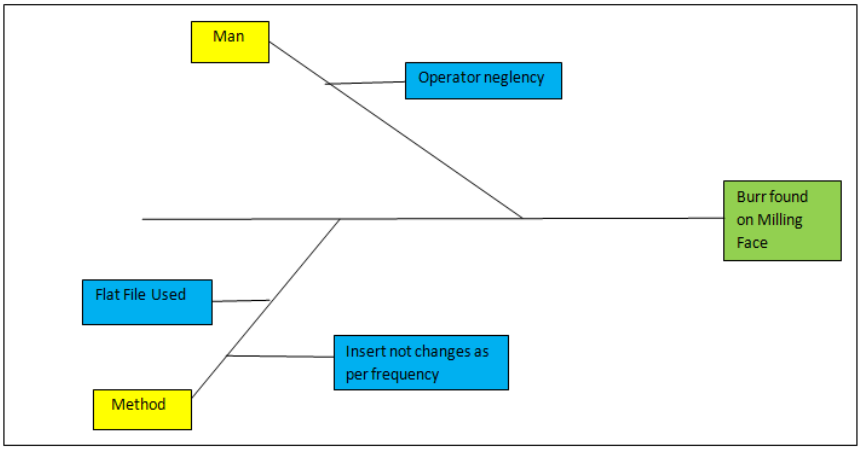
Shivani Barsoni Neha Bhalwankar varsha deshmukh in their article “a review on 8d problem solving process” explained only 8d without example. That is the main research gap.

TSM Kumar in his article application of 8d methodology for root cause analysis and reduction of valve spring rejection in valve spring manufacturing company a case study explained 8d methodology with example. Researcher found out corrective action for the same but could not clarify permanent or temporary action. Some parallel action, SOP, Process change note is not seen on this article.

OBSERVATION –

Arm machine tool is situated in Shiroli MIDC, Kolhapur. Arm machine tool is sending the drop box to the customer. Customer is faced the Burr problem. Arm machine tool is solving the burr problem with the help of 8D analysis.

D1 - Create a Team – Arm machine tool create a cross functional team. One quality head, one quality supervisor, one production head & one helper are involved in this team.
D2 – Describe the problem – Burr is found on the milling face of the drop box. Highlight this problem.
D3 – Interim containment action –100% segregation of defective part sort out & rework the job.
D4 – Identify the root cause – Potential causes find with the help of cause & effect diagram. Main root cause is operator neglency & flat file is used.

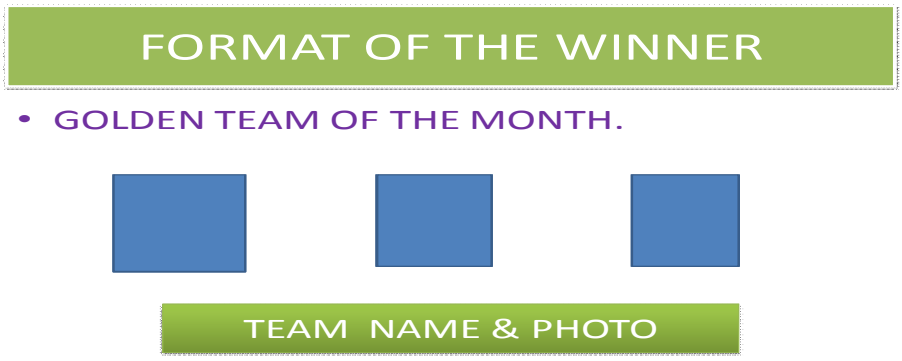


D5 – Developing permanent corrective actions – Provide operator training & put white dot for identification on drop box milling face. It is the short term action. Triangular file is used & make a standard operating procedure. It is the long term action.
D6 – Implementing permanent corrective actions –Triangular file is use & standard operating procedure is display on the machine. It is the permanent corrective actions.
D7 – Preventive measures – For the similar part parallel action will be done. Standard operating procedure will be display on the machine.

ARM MACHINE TOOL PVT LTD	
वर्क इंस्ट्रक्शन्स	
रेफ नं ः AM/ WI / 01	**REV. NO. :- 00**
मशिन ः CNC मशिन	**REV. DATE :- 01.07.2021**
अ .	**ऑपरेशन चालू करण्यापूर्वीचे चेक पॉईंट ः**
1	मशीनची ऑटो लुब्रीकेशन ऑईल लेवल व कुलंट लेवल चेक करणे .
2	एअर लुबीकेटर ऑईल लेवल चेक करणे .
3	मशिनच्या एअर कॉप्रेसर मधुन पाणी ड्रेन करून कॉप्रेसर चालु करणे .
4	मशिनला योग्य (4-6 kg/cm^2) एअर प्रेशर असलेची खात्री करणे .
5	गाइड वेज व गार्ड मधिल चिप्स साफ करा .
6	टॅक मधिल चिप्स व ग्रीस साफ करा .
7	मशिन आतुन साफ करताना कॉम्प्रेस्ड एअर वापरू नका .
8	सर्व लाइट्स व अलार्म दिवे व्यवस्थीत आहेत का ते चेक करा .
9	संपूर्ण स्टॅबिलायझर चालु केले नंतर योग्य लाईट व्होल्टेज असल्याची खात्री करणे .
10	दिवसाच्या सुरवातीला मशिन 15 मीनीटांसाठी आइडल रन करा .

ब .	**मशिन सेटिंगच्या सूचना ः**
1	ऑपरेशन होणा-या जॉबचा प्रोग्रॅम मशिनवर सिलेक्ट करून घेणे .
क .	**सुरक्षिततेच्या सूचना ः**
1	मशिन चालु असताना मशिनचे डोअर उघडु नये .
ड .	**कार्यपध्दती ः**
1	प्रत्येक लोडमधील पहीला जॉब सिंगल ब्लॉकमध्ये रन करून पहील्या जॉबचे पुव्हींग करून घेणे .
2	कंट्रोल प्लॅन प्रमाणे जॉबचे पॅरामीटर चेक करणे .
3	काम चालु असताना टुलची धार व कटरचे इन्सर्ट व्यवस्थित असलेची खात्री करणे . टेपर फाइल चा वापर करून मिलिग बाजु दिबरिग करा .
4	शिफ्ट संपल्यानंतर सुपरवायजरला कामाचा रिपोर्ट देणे .
इ .	**जॉब बरोबर होत नसेल तर ः**
1	जॉब रिजेक्ट असल्यास योग्य तो लाल मार्क करून बाजूला ठेवणे .
Prepared BY : ATUL PINGALE	**Approved By : SANDIP MAGDUM**

D 8 – Congratulates the team – The monthly achievement awards give to the team.



CONCLUSION -

8 D method is better tool for prevent the defect. It is the step wise process. 8D process is not creating the confusion. 8 D method improves the product & process quality. It is used at the time of customer complaint. Some customer does the 100% demand for the 8 d report of the customer complaint. This 8 report reduce rejection of drop box on milling face.

SUGGESTION –

8 d analysis purpose skill, technical knowledgeable employee required. Customer provides the 8d analysis training for the every supplier otherwise, every organization purchase the 8 D analysis training programmed.

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