# Lecture 18

## Selecting a job for Method Study:

The main criteria for selecting the job is cost . To Carry out the M.s A job is selected such that the propsed method achieve one aoor more of the following results.

1. Improvement in quality with lesser scrap.
2. Increase production through better initialization of resources.
3. Elimination of unnecessary operation & movements.
4. Improved layout leading to smooth flow of material & a balanced production line.
5. Improved working conditons.

M.s based on the following consderations for selecting ajob.

1. Economical Apect 2. Technical Aspect 3. Human Consideration

1. The M.S involves cost & time .If sufficicent reurns are not attained the whoe exercisewill go waste .Thus the money spent shuld b justifies by the selling forrom it. Following guidelines can be used for selecting ajob
2. Operation’s involving accessive labour.
3. Operations producing lot of scrap or defecties
4. Operations gaving poor utilization of resources.
5. The M.s man shuld be careful enough to select ajob en which he has the technical know ledge & expertise. A person selecting a job in in has area of expertise is going to do full justice.
6. M.S means a change as tis i going to affect the way in which job is done & is not fully accepted by work man & the union. Human considerations play a vital role in M.S Following are some of the situations where human aspect should be givng due importance
7. Workers complaint about unnecessary & tiring work.
8. More frequency of accdnts
9. Inconsistant earnings.

# Lec 19- 20

## Recording technique:

The next step in basic procedure ist orecord all facts relatin to the existing method. Th activities selected for investigation may be visualized in order to improve them through sub sequent critical examination. It is essential to gave some means of planning on record all the necessary facts about the existin method. The Records are very much useful to make before & after comparison toa asses the effectiveness of the purposed methd.

The recording technique are designed to simplify and standardized the recording work.

Gilbreth introduce the graphical mthod of recording. In order to make the presentation of the facts clearly, it is useful to use symbols instead of written description.

## Method Study Symbols:

Operation

transportion

Delay

Storage

Inspection

## Recoudign Techniques:

According to the nature of the job being studied & purpose for which the record is required the techniques fall inot following categories:

1. Charts.
2. Diagrams
3. Models
4. Charts: This is the most popular method of recording the facts. The activitis comprising the jobare recorded using themethod study symbol.A great are is to be taken in preparing the cahart. So that the informaio it shows is easily understood & recognized. The following information shuld be given the charts.
5. Adequate Discription of thee activities
6. Wheater the chartin is for present or purposed method
7. Specific reference to whne the activities will begin & end
8. Time & distance secter use whenever necessary.
9. The date of charting & name of the person who does charting

**Operation Process Chart:**

It is also called out the process chart. In O.P chart gives the Birseye view (overall) of the whole process by recording only the major activities & inspection involves in the process. O.P chart uses only two symbols, operation & inspection. O.Pchat is help full to

1. Visualize the complete sequence of operation & inspection in the process.
2. To know where the operation selected for daily studyfits into entre process
3. In O.P Chart the graphical representation fo the points at which metarials are introduced into the process what operation & inspection are carried on them are shown clearly.

**Construction of Chart:**

A chart ismade by drawing arrows to show the entry of the main material to writing above the description of componenets & below the time the of conditions. As ech operation , inspection, takes place the symbol is eneterd & no in the sequence with abrief discipline on the right side & time required for operation on left hand side.During assembly process, the major process is charted toward the R.H side of t eh chart & subsiese process on the L.H Side. These are join to each other & to the main trunk (junction) at the place of entry of material are sub assmblyh. The chart doesnot show where the work takes place whoe perform this.

# Lec 22

## Two handed Process Chart

A two handed (the operotr process chart)is the most detailed type fo flow chart in which the activites of the workers hands will be recorded in relation to none another . The two handed process chart is normallyh confine to a work which is carried out at single work place. This also gives sychronised (same time conineously) & grapped representation of the sequence of normal acticites of the worker. Followin are thapplicaiton of this chart:

1. To visualized the complete sequence of activites in arepetive task
2. To study the work staion lay out.

Construction of Chart : The T.H.P chart consist of wo chart, one for LHS & other for RHS .Simultaneous activites are recorded opposite to each other on the job. This helps to analyse what L.H wil be doing when R.H is working at each pint of tiem. All the five symbols are used when touch or fealby hand is to be recorded, inspection , symbol is used,storage, symbol,is used when the hand is used as grip to hold the object.

## Task: Assmbly of nut & Bolt

Chart begins: Both hands fee before assembly.  
Chart Begins: B oth hands free after assembly.

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|  |  |  |  |
| --- | --- | --- | --- |
| Left hand | | Right Hand | |
| Discription | Symbol | Symbol | Description |
| Reach for bolt |  |  | Reach for nut |
| Grasp bolt head |  |  | Group nut head |
| Carry to central Position |  |  | Caryy to central Position |
| Hold bolt |  |  | Place nut on bolt |
| // // |  |  | Screw nut |
| // // |  |  | Grasp the assembly. |
| Transfer Assembly to Left hand |  |  | Transportation carry to box |
| Idle |  |  | Release assembly |
| Idle |  |  | Putting to central Position. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Symbol |  |  |  |  |
| Frequency of R.H | 5 | 4 | 0 | 0 |
| Frequency of L.H | 2 | 2 | 0 | 2 |