

PROCESS ANALYSIS

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PROCESS ANALYSIS

- It is important to study the entire system or process of doing work before performing a detailed investigation of a specific operation in a process
- Analysis of process usually predicates a need to change processes or identify issues to be corrected.

PROCESS CHARTS

- The process chart is a tool for recording a process in a compact or summarized manner with the objective of improving the process.
- The separate steps or events that occur during the performance of a task are represented graphically.
- The process usually starts with the raw material entering the factory and the subsequent steps will then follow

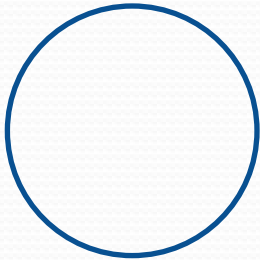
PROCESS CHARTS

- A careful study of the chart will almost certain suggest improvements. This can be done by combining some operations and eliminating other unnecessary operations
- The process chart will show any effects of the changes made to the process.
- The chart may be man type or material type. These two types should never be combined.
- Any one in the organization may develop and use the process chart.

SYMBOLS USED

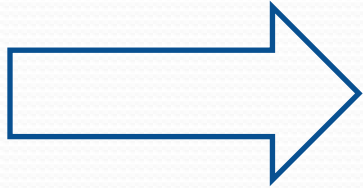
- The Gilbreths devised a set of 40 symbols used in making process charts. The American society of Mechanical Engineers has established as standard the five symbols (modification of the Gilbreths symbols) in making a process chart. These symbols are sufficient for many kinds of work.
- These five symbols are listed as follows:
 - Operation
 - Transport
 - Inspection
 - Delay
 - Storage

OPERATION



- Denoted by a circle. It occurs when an object is intentionally changed in one or more of its characteristics. It represents a major step in the process and usually happens at a machine or work station.

TRANSPORTATION



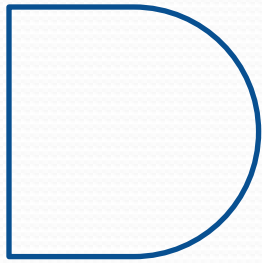
- Denoted by an outlined arrow. It occurs when an object is moved from one place to another, except when the movement is an integral part of an operation or an inspection

INSPECTION



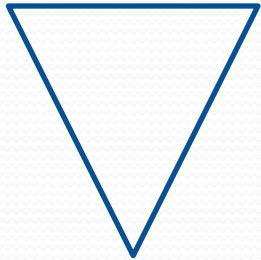
- Denoted by a square. It occurs when an object is examined for identification or is compared with a standard to quantity or quality

DELAY



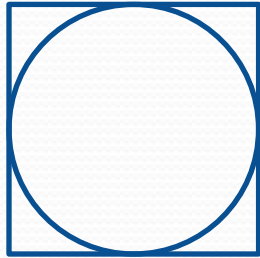
- Denoted by a big D. it occurs when the immediate performance of the next planned action does not take place

STORAGE




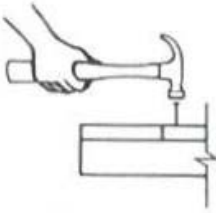
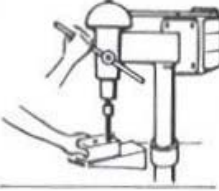
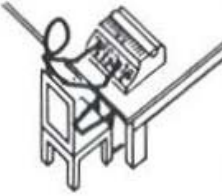

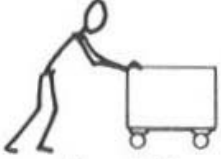




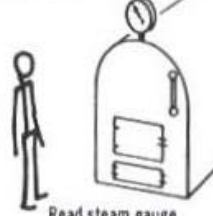
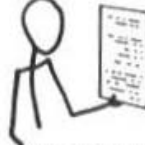








- Denoted by a triangle pointing to the bottom. It occurs when an object is kept under control such that its withdrawal requires authorization.

COMBINED SYMBOL



- Two symbols may be combined as when two activities are performed at the same work place or when they are performed at the same time. A large circle within a square represents a combined operation and inspection

Process chart symbols

<p>OPERATION</p>  <p>A large circle indicates an operation, such as →</p>	 <p>Drive nail</p>	 <p>Drill hole</p>	 <p>Type letter</p>
<p>TRANSPORTATION</p>  <p>An arrow indicates a transportation, such as →</p>	 <p>Move material by truck</p>	 <p>Move material by hoist or elevator</p>	 <p>Move material by carrying (Messenger)</p>
<p>INSPECTION</p>  <p>A square indicates an inspection, such as →</p>	 <p>Examine material for quality or quantity</p>	 <p>Read steam gauge on boiler</p>	 <p>Examine printed form for information</p>
<p>DELAY</p>  <p>The letter D indicates a delay such as →</p>	 <p>Material in truck or on floor at bench waiting to be processed</p>	 <p>Employee waiting for elevator</p>	 <p>Papers waiting to be filed</p>
<p>STORAGE</p>  <p>A triangle indicates a storage such as →</p>	 <p>Bulk storage of raw material</p>	 <p>Finished product in warehouse</p>	 <p>Documents and records in storage vault</p>

How to do it

1. Identify the process to be charted and the objective for charting it.
2. Identify the symbol set to be used.
3. Record the steps of the process as it happen, starting at the top of the page, with symbols on the left overlaying a vertical line with appropriate notes about what is happening to the right.
4. You can also make the diagram more useful by such tricks as numbering the different action types in sequence. You can also put the time taken in each activity to the left of the symbol.
5. If you are watching the process as it happens, you may want to repeat the analysis several times to ensure you have captured the normal chain of events.
6. Analyze the final chart, for example totaling times taken in non-value-adding activities such as storage, movement and inspection.

LAB EXERCISE

You can choose to do one of the work place listed below (see the list of example work places), or do one you think up on your own. Either
Examples of work places:

1. Engineering college canteen: process to get the breakfast or lunch from canteen
2. Dr. Cafe coffee shop – process to get coffee from the shop.
3. Central library – process to issue book to student from library.
4. Grocery store – process chart for local grocery stores.
5. Panda shop – process for purchasing any item form panda.
6. Jarir book store – process for purchasing book form jarir book store.

Format for Report

- Cover Page is Title page in any format.
- Introduction to process charting advantages – 5 to 7 lines.
- Process chart for Present Method.
- Discussion (5-7 lines) – analyze the present method and write recommendation
- Conclusion – what you concluded from after analysis



Last Date for Report

31st March 2010