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Introduction to the flow chart

Scope

This paper defines standard symbols used to create flow charts for use by industrial engineers to study the flow of people and material in a given process.

Safety precautions

There are no safety precautions.

Content

Process flow charts have been used by industrial engineers and efficiency experts for years to study the flow of persons and materials and to identify a need for change from old methods. In more recent years, other systems such as Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) have been introduced by the aerospace industry and the government to handle the more complex problems of today's business in better ways.

Although any of these systems can be used for this purpose, the process flow chart system has been selected because it is simple, widely accepted, and easy to apply to most boxplant studies. The greater use of flow charts should improve operations of all types, especially productivity from flexo folder gluer/rotary diecutters.

The standard symbols, recognized by all industrial engineers, are shown in Fig. 1. The purpose of each of these symbols in the flow process study is suggested by means of easily recognized shapes. This helps inexperienced people to understand the process flow chart.

These standard symbols are used on a process flow chart such as that shown in Fig. 2. The engineer studying the process fills out one of these charts in exact detail. This is done step-by-step for the present method of operation, using a stopwatch to measure elapsed time. The basic results obtained in this way are placed in the space provided and then studied for possible changes to improve the flow of materials or the use of employees.

After the operations or delays that need to be corrected have been identified, the engineer prepares a "proposed" flow chart showing the difference in time or number of stops/pieces. This new procedure is then put into effect; and, after it has been completely understood by all concerned, it is studied again to determine if the proposed changes and times are realistic. If these time and motion studies show that the changes are worthwhile, they are adopted and used until some other factor makes further study necessary.

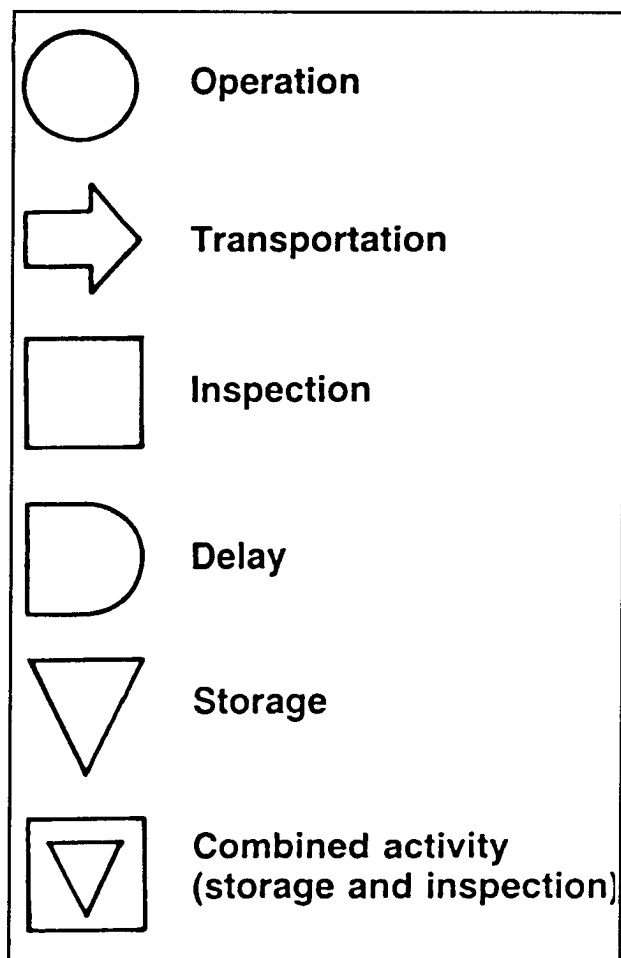


Fig. 1. Flow chart symbols.