MICROMOTION STUDY

IENG 301

FUNDAMENTALS OF WORK STUDY AND ERGONOMICS

Micromotion Study

- Micromotion study provides a technique for recording and timing an activity. It consists of taking motion pictures of the operation with a clock in the picture or with a motion picture camera or video camera operating at a constant and known speed. The film becomes a permanent record of both method and time and may be re-examined whenever desired

Purposes of Micromotion Study

- As an aid in studying the activities of two or more persons on group work,
- As an aid in studying the relationship of the activities of the operator and the machine,
- As a means of timing operations (instead of time study),
- As an aid in obtaining motion-time data for time standards,
- As a permanent record of the method and time of activities of the operator and the machine,
- For research in the field of motion and time study.

Purposes of Micromotion Study

However, its two most important uses are:

- To assist in finding the preferred method of doing work,
- To assist in training individuals to understand the meaning of motion study and, when the training is carried out with sufficient thoroughness, to enable them to become proficient in applying motion economy principles.

Micromotion Study as an Aid in Improving Methods

The procedure consists of:

1) filming the operation to be studied,
2) analyzing the film,
3) charting the results of the analysis, and
4) developing an improved method through the problem-solving process.

- Motion picture film for bolt & washer assembly

- Method improvement by Cyclegraphic Analysis
  1. Old method photocopying
  2. New method photocopying

  3. Old method wrapping rolls
  4. New method wrapping rolls

Micromotion Study

- **Note:** Micromotion study, although not prohibitive in cost, does require special motion picture equipment, film, and considerable time for the analysis. Therefore, it can be used when it is **economical** to do so.

- It might profitably be utilized in the investigation of short-cycle operations that are highly repetitive or largely manual in character, of work produced in large volume, or of operations performed by large numbers of workers.

- In fact, a micromotion study is often the last resort. Sometimes in a complex operation it is difficult to get the motions of the two hands balanced without the aid of the simo chart, which is a graphic picture of the motions on paper.