

## ■ What is MOST?

MOST (Maynard Operation Sequence Technique) is a work measurement technique developed by H. B. Maynard and Company, Inc. in the United States. MOST has been already introduced into the wide varieties of industries, such as aerospace, automotive, electronics, etc., in EU, US, and Asia.

Although the work measurements are the basics for the business management, companies tend to hesitate to maintain the measurement system due to its cumbersome procedure.

MOST is a work measurement system which can be easily implemented and practically maintained.

\*MOST is a registered trademark of H. B. Maynard and Company, Inc.

## ■ Background

MOST, including the Basic, Mini, and Maxi versions, makes the measurement of work a practical, efficient, and inexpensive task for the industrial engineer.

A powerful analytical tool that helps increase productivity, improve methods, facilitate planning, establish work loads, estimate labor costs, improve safety, and maximize resources, MOST can be applied to any type of work for which a method can be defined and described. Because of its universal applicability, MOST has become the standard for thousands of companies in a broad range of industries. In fact, there are now approximately 25,000 certified MOST applicators in the United States, Japan, and at least 30 other countries. User-friendly and easy to learn, MOST has been accepted by countless industries as one of the most efficient work measurement techniques available. In addition, a majority of the colleges and universities that teach industrial engineering now include an appreciation of MOST in their curricula.

1. **Reduces the costs and paperwork and improves productivity.**
2. **Streamlines operations and quickly identifies inefficient methods.**
3. **Provides consistent standards and accuracy to within  $\pm 5\%$  with a 95% confidence level.**
4. **Can be applied to any method-defined manual work.**
5. **Reduces the time required for data development and standard setting.**
6. **Is easy to learn and use; even non-Industrial Engineers require little training.**
7. **Can be applied largely from memory.**

## ■ MOST work measurement techniques

The basis for each of the three versions of the MOST Work Measurement Technique is – not surprisingly – BasicMOST. In turn, BasicMOST is built on a concept that is, well, basic. Put simply, work is defined as the product of force times distance. So if “work is the displacement of a mass or object”, then all basic units of work are organized for the sole purpose of accomplishing some useful result (i.e., “moving object(s)”). Within MOST, however, the primary work units are no longer basic motions. They are fundamental activities dealing with the entire event of “moving one or several objects from one location to another.” These activities are described in terms of basic parameters (or sub-activities) that are fixed in “activities sequence.” As a result, the basic “move object” pattern is described by a universal sequence model instead of detailed and independent basic motions.

Analysis of extensive work measurement data indicates that certain sequences of motions repeat consistently. Through research and experimentation, these sequences were verified and organized to form the basics of MOST. The most common activity sequence represents the spatial movement of objects. For BasicMOST, three sequence models have been established; General Move, Controlled Move, and Tool Use.

# ***MOST (Maynard Operation Sequence Technique)***

## ***Standard Time Setting Method***

Standard time setting using MOST

GL-PD007



### **General Move**

This covers the movement of none or more objects from one location to another freely through the air. This activity is represented by the following sequence of sub-activities or parameters:

ABGABPA

in which:

A = Action Distance (mainly horizontal)

B = Body Motion (mainly vertical)

G = Gain Control

P = Placement

Meanwhile the variation for each sub-activity based on workplace conditions and the method used is indicated by an index value. For example:

A6, B6, G1, A1, B0, P3, A0,

in which:

A6 = Walk three or four steps

B6 = Bend and rise

G1 = Simply grasp of an object

A1 = Move within reach

B0 = No body motion

P3 = Place object with adjustment

A0 = No return move

In addition, the sub-activities within each activity sequence are “slotted” into fixed time ranges represented by an index value corresponding to the median of each range. The time intervals for each of these index values are calculated using standard statistical principles based on predetermined accuracy requirements.

The common scale of index numbers for all MOST sequence models is 0, 1, 3, 6, 16, 24, 32, 42, etc. The time value for a sequence model in BasicMOST is obtained by simply adding the index numbers for each individual sub-activity (or parameter) and multiplying the sum by 10. For instance, the standard time in TMUs (time measurement units) for the sequence in the above example is:

$$6+6+1+1+0+3+0=17 \times 10=170$$

Since one TMU equals 1/100,000 of an hour, 170 TMUs are equal to approximately 6 seconds.

Note, however, that the sequence model with index values provides more than just the total time value (normal time) for the activities. It also describes the method used. In ComputerMOST, all index values are automatically assigned to a sequence model by entering workplace data and a method description based on “keywords.” Allowances are also automatically added to yield the allowed or standard time.

### **Controlled Move**

This sequence model is applicable when the object retains contact with another object during the move (i.e. a lever, crank, or push-button). The Controlled Move sequence model is similar to the General Move:

ABGMXIA

with three different parameters:

M = Move Controlled

X = Process Time

I = Alignment

### **Tool Use**

This covers more than just conventional hand tools like wrenches, screwdrivers, gauges, writing tools, etc. It also covers fingers and mental processes. However, the Tool Use sequence model does not define a third basic activity --normally it is a combination of General Move and Controlled Move activities.