**Introduction to Mass Production**

This guide is to help the instructor set up a mass production section in their Principles of

Manufacturing course. All plans, drawings, patterns, jigs, and tooling are included. The instructor will

must produce the jigs and fixtures. This should be done before the start of this lesson or have the

students produce them as an activity. The instructor will have to provide storage containers to hold each

part. The teacher can select the students to complete each step in producing the project or the class can

set up a company. The lesson on “Manufacturing Companies” will have the forms and student activities

for the setting up of a mass production company in your lab if you choose to do the activity using a

“company” format.

The inclusion of mass production in your Principles of Manufacturing course will allow the

students to understand the industrial practices. They will explore the use of tooling, jigs, division of

work, quality control and basic assembly processes. Each student will do one step in processing the

part. The students should be assigned a maintenance activity for the end of the period to clean and reset

the lab for other classes.

The teacher may need to arrange the lab a little differently. This could be done by grouping like

machines together to make the flow of the process go smoother. This would give the students a feel of

work zones and the parts would be delivered to the zone as in a plant. As the part is finished in one

work area, it would move to the next area or storage until assembly. The parts will receive a visual

inspection when each process is concluded and before storage. When all parts are completed, a simple

assembly line will be set up to build the finished holder. The finish can be as simple as mineral oil

rubbed on or a paint finish.

The list of needed equipment and material is on page 3. The item numbers are listed for two to

four vendors so that you can purchase the needed tooling for the project. The material to make a single

holder is listed on page 3 also. Page 4 describes the jigs needed to produce each part. The plans on

page 6 show the layout of the base for the cutout and the cap. The full-size patterns are on two pages

and must be glued or taped together. These templates are on pages 7 & 8 for the rough template and

pages 9 & 10 for the finish template. These need to be cut out with a scroll saw and need to be very

precise. Any flaw in the two will be magnified when producing the parts. Pages 11– 14 explain how to

produce the jigs needed in the manufacturing of the parts. The “Steps in Mass Production” explains the

steps needed for making each part, and assembly of the holder is on pages 15 & 16. The flow chart

process is another list of steps. This shows the storage and transportation operations. The flow chart is

an operations breakdown and has more steps. Either list can be used as job assignments for the students

to perform. The last two pages are a sales ad and a sales chart. These can be used to advertise the sale

and promote your students’ mass production project.