

# Jigs, Fixtures, and Measurements

This module explains the use and importance of fixtures and jigs in machining as well as common measurement methods. When machining a part, it is necessary to properly locate and align the part and then keep the part in that location. Vises and milling fixture are reviewed along with an explanation of their proper use. In addition, examples of a drill jig and a tension test specimen jig are shown.

The module also provides a detailed procedure to machine a square, parallel block accurately. In addition, the presentation demonstrates examples of the correct and incorrect uses of the strap clamp.

The presentation then covers the correct use of commonly used measurement tools such as sine bars, gage blocks, calipers, and micrometers. The student is taught how to read both vernier scales and micrometer scales by example.

Finally, the presentation discusses the need to define and locate a part in machining. Both the 3-2-1 and the 4-2-1 principles are presented as recommended methods to define the surfaces of a part.

