

In the manufacturing process, tool life is an important parameter in milling operations. The main objective of this paper is to explain how difficult is it to assess how much work a tool has undertaken before it must be changed. A number of ways of expressing tool life are currently used, including the conventional method based upon one of several configurations of the Taylor Tool Life Equation. These usually express tool life in terms of known material properties together with primary machining variables like speed, feed and depth of cut. Other approaches are based upon the extrapolation of a tool wear curve and considerations of the volume of metal removed. This initial investigation adopts an approach that is based upon a series of experiments, which produce data indicating the changes in machined feature form and dimension. For this study, a new test piece was designed in order to allow the indirect assessment of the tool flank wear by utilising a Coordinate Measuring Machine to accurately measure the workpieces. This work is intended to indicate how difficult it is to actually apply the existing methods to manage tool wear. The aim is to engineer a better way and to establish a methodology of measuring what the tool is actually doing in real time using the machine controller.