

CNC MILLING MACHINE IN THE FIELD OF APPLIED MECHANICAL ENGINEERING AND HIS CURRENT IMPACT ON THE PRODUCTION OF METAL PARTS

J.I. Tipan Caisaguno, A. Glushko

National Technical University

«Kharkiv polytechnic institute»,

Kharkiv

The milling machine is represented as a machine tool used to perform machining work which functions as a rotary tool with several cutting edges and advances in a specific direction on the piece. One of the characteristics of the milling machine is the ability to cut with three or more axes for movement while in a traditional lathe only has two axes.

The first work in the area of computer numerical control (CNC) was carried out by the American inventor John T. Parsons in the 1940s and his work involved the use of data in a reference system to define the contour surfaces of the propellers of helicopters. One of the applications of the numerical control is to perform processes with machine tools. Then, little by little, this system incorporates other advances such as linear and circular interpolation functions or automatic tool changes, giving rise to a type of machine tools that became known as the "Machining Center".

CNC machines are now much faster and more reliable. They offer automation features with specifications to the requirements of each company. Even, the functions of administration of the tool have become more complex in their design, but easy for operation.

There are many computer programs that help us with the simulations of machining using a numerical language of machines. This language is called G code.

The G-Code is the name of an operation description language for computer numerical control (CNC) machines that can also be used as a programming language to control these devices to simplify operations, we write inside our software to perform the simulations. The most popular software is called Swan soft CNC Simulator which allows us to observe the trajectory of our work tool in the milling machine and its final product.

Currently, technology advances as fast as needs arise in the world. Not only in this industrial branch, but in all fields. The internet represents another incredible tool for communication between processors. The companies that are globally, for example, are highly benefited by the central programming that sends the order to different locations.

It is very important to study the parameters, characteristics, properties of milling machines. The use of milling machines is quite common and necessary for the industry of every developed country.