S. Samoilenko, Master student
V. Yanovskiy, PhD in Eng., As. Prof., research advisor
L. Mohelnytska, PhD in Phil., As. Prof., language advisor
Zhytomyr Polytechnic State University

DESIGN AND TECHNOLOGICAL PREPARATION OF DRIVE STAR DETAIL MANUFACTURE

The article presents the overview of the bachelor's qualification work the purpose of which is development of the drive star part design and the technological process of its manufacture using metal cutting machines, cutting tools and control devices at optimal cutting modes, with the least loss of time and with the lowest cost of processing. The object of the work is a drive star detail.

The drive star detail is made of Steel 35L; its weight is 180 kg. The purpose of the part is to drive the plate chains, which are the traction elements of the plate conveyors. Plate conveyors are widely used in all industries, including mechanical engineering. In mechanical engineering such conveyors are used to transport a variety of products.

Analysis of the manufacturability detail design is carried out on the basis of two criteria:

- by qualitative indicators
- by quantitative indicators

This part refers to bodies of rotation and has a relatively simple configuration, medium strength and rigidity. All surfaces are available for processing with a standard cutting tool. The accuracy of the surfaces location indicated in the drawing is provided by processing on metal-cutting machines of normal accuracy. In general, the design of the part is considered technological.

Steel 35L workpiece for drive star part can be obtained by the following methods:

- shell molding
- chill casting

Criteria by which the method of obtaining the workpiece is selected, were calculated for a given part. Therefore, to obtain a given part, we use the method of shell molding. After that the necessary cutting modes and time norms were calculated, as well as the technological process of machining a given part was developed.