

Oleksandr Sobol
V.E. Olishevskaya, V.O. Fedoskin, research supervisors
O.D. Shvets, language adviser
SHEI "National Mining University", Dnipropetrovsk

Developing the Device for Adjusting the Cars Steering Wheels Angles

Modern car should provide stability, easy handling and safety. One of the factors which has a significant effect on the parameters of the vehicle is the adjustment of the angles of the steering wheels. In addition, the adjustment of the angle of the steering wheels affects tires deterioration, durability and trouble-free exploitation of the vehicle. Therefore, the theme of the work is important and relevant.

The purpose of the work is the development of device work paper for adjusting the angles of the steering wheels of cars which was ordered by the research center of the department of automobiles and automobile economy of the State Higher Educational Institution «National Mining University».

This work has been done according to the curriculum for training specialists in "Automobiles and automobile economy".

In this work the device for adjusting the angles of the steering wheels during cars maintenance and operating repair was designed.

The device was designed taking into account the characteristics of an existing inspection pit, in compliance with the requirements for differences of heights (horizontal level) between platforms.

In the work the existing structures were analyzed and the basic version to be most similar to the existing inspection pit was adopted.

Due to the fact that the technical staff would work under a servicing car, special attention is focused on strength calculations of a crossbar: a platform for adjusting the angles of the steering wheels, the platform under the turntables and pathways under the traverse.

The calculations showed the conditions of strength.

The device designed allows to raise efficiency of using existing inspection pits, reduce the proportion of manual work, and reduce the cost of operations while maintaining a high quality of work.

In conclusion, the work presents the device for adjusting the angles of the steering wheels of cars which allows to qualitatively perform maintenance and operating repair with minimal economic costs.

The production project of the device has been reviewed and approved at the scientific and technical seminar of the department of automobiles and automobile economy.

Practical implementation of the project is scheduled for June 2014.

The designed device can be used at cars service stations.