Information sheet

Research

Reduction of mechanical tension during gear changing center distance in the transfer case Car-truck all-terrain

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Abstract

Development of automotive, tractor and other vehicles are in the direction of increasing velocity and acceleration, ie dynamic, which inevitably leads to an increase of dynamic impact loads on the details. But due to this can be achieved by the new techno-economic characteristics of the machines.

Traditionally it is considered that to ensure the reliability of the machines should be avoided dynamic loads. This thesis contradicts the above trends. Follows along with the increase of dynamic loads best use of the properties of existing materials and structures, as well as to search for materials with new properties for use in these conditions. In theoretical and computational scheme for solving identified problems need to define criteria for performance materials and components under shock loads.In the design plan should take a fresh look at the process of shifting gears in gear by gear with movable axes.

Keywords: All-wheel drive vehicle. Dynamics. Transmission. The new transfer case. Control algorithm. Mathematical model. The movable axle gears. Gearing. Strength calculation.

The most significant publications:

1. «The new transfer case». Magazine «Automotive Industry» № 7, 2010. Moscow, «Mashinostroenie Publishing».

2. «Switching gears changing center distance of axes of gears as a method of increasing the switching dynamics in transmissions of vehicles». International Congress of 06-09 October 2010, National Technical University, Minsk, Belarus.

3. «Improving the dynamics of switching gears with a variable center distance wheel-drive vehicles». 71-th International Scientific Conference, 12-13 October 2010, NSTU, Nizhny Novgorod, Russia.

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