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Geometric and mechanical parameters for the adjustment of the preload of differential bearings in gearboxes of automobile axles

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Abstract

This article discusses the construction of bearing units of different cars differentials and provides the analysis of technical requirements for the adjustment of the preload of bearings. There are four most commonly used methods for the adjustment of the preload. This paper defines a method for the adjustment of the preload based on deformation of bearing seats, which is the most acceptable in production and which is characterized by the least indirect adjustment and consequently the least number of failures. A formula is given for the calculation of the required preload force based on the failure in opening the joint in the unloaded bearing. A description of industrial equipment for the implementation of this method is presented.

Biography:

Anastasia Samoilova is a student at Moscow Polytechnic University, Russian Federation

Speaker Publications:

1. Shandrov B.V., Bulavin I.A., Samoilova A.S. IMPROVING QUALITY OF ASSEMBLY OF BEARING UNITS BASED ON ADAPTIVE MANAGEMENT OF ADJUSTMENT OF BEARINGS. Prom-engineering: International scientific and technical conference May 15-18, 2018, Moscow, Russia, South-Ural State University-Moscow Polytechnic
2. Bulavin I.A., Samoilova A.S., Brezhnev I.A. Technological provision of preload of bearings using deformable spacers, Moscow, Bauman MSTU. Student Spring 2018, engineering technology
3. Bulavin I.A., Samoilova A.S., Mochalova T.S., Bobyr A.S. , Technological provision of bearing preload using deformable spacer elements Moscow, October 19-20, 2017-Moscow Polytechnic University, 5th international scientific and technical seminar 2017-208c. with. 32-39.
4. Shandrov B.V. | Bulavin I.A. | Samoilova A.S. Factors determining the quality of gears of drive axles of vehicles. Scientific and technical journal "Automotive Industry" Issue No. 7, 2017 p.

2nd International Conference on Aerospace, Defense and Mechanical Engineering; Webinar- August 17-18, 2020.

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