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Study on a test bench of a vehicle rear axle fatigue behavior

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Abstract

This paper presents a study with finite elements of the rear axle of a car. The virtual model of the rear axle assembly of a vehicle is made. Based on this model we made a study of the state of stresses and strains that occur in the components of the rear suspension. When constructing the analysis model, we considered the bearing conditions, as well as the loads from the real operation of the assembly. The purpose of this finite element analysis is to determine the most requested areas of the rear axle assembly, as well as to compare the results obtained for specific deformations and stresses experimentally with those obtained by finite element analysis. Also, through the analysis with finite elements, we obtained and presented in the paper results regarding the fatigue behavior of the elements of the ensemble.

Keywords: car rear axles, rear suspensions

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