World Academy of Science, Engineering and Technology
International Journal of Mechanical and Industrial Engineering
Vol:10, No:01, 2016

Fracture and Dynamic Behavior of Leaf Spring Suspension

Authors : S. Lecheb, A. Chellil, H. Mechakra, S. Attou, H. Kebir

Abstract : Although leaf springs are one of the oldest suspension components they are still frequently used, especially in commercial vehicles. Being able to capture the leaf spring characteristics is of significant importance for vehicle handling dynamics studies. The main function of leaf spring is not only to support vertical load but also to isolate road induced vibrations. It is subjected to millions of load cycles leading to fatigue failure. It needs to have excellent fatigue life. The objective of this work is its use of Abaqus software to locate the most stressed areas and predict the areas in which it occurs in fatigue and crack of leaf spring and calculate the stress and frequencies of this model.

Keywords : leaf spring, crack, stress, natural frequencies
Conference Title : ICAMME 2016 : International Conference on Applied Mechanics and Mechanical Engineering
Conference Location : Jeddah, Saudi Arabia
Conference Dates : January 26-27, 2016