

Acoustical Radiation Analysis of the Gearbox

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Abstract: *This paper presents a comprehensive procedure to find the vibrations and noise radiations generated from a gearbox. For this, a dynamic model of a gearbox is built by considering some parameters such as meshing of gear-pair, bearing, gear errors, casing. Now if there are any excitations then vibrations and noise radiations are generated. By considering excitations in bearing load, vibrations and noise radiations are calculated with the help of finite element analysis and boundary element method, and by this vibration response, noise spectrum and resonance frequency range along with various modes of deformations are obtained. At the last with the help of frequency response gearbox improving plans are researched.*

Keywords: Enclosure, Gearbox, Gear-pair, Noise Radiation, Response, Stiffness, Vibration, etc.

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