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VIBRATION ANALYSIS OF ANTIFRICTION BEARING TO DETECT OUTER RACE DEFECT

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Abstract

Antifriction bearings are the most vulnerable components in a machine because it is mostly used under high load and high speed running condition. Bearing failure is a major factor in failure of rotating machinery. As a fatal detected, it is common to shut down the machinery as soon as possible to avoid catastrophic damages. Performing such an action, typically results in substantial time and economical loses. Therefore it is important to monitor the conditions of rolling element bearings and to know the details of the severity of defects before they cause serious catastrophic consequences. The vibration monitoring techniques is suitable to analyse the various defects in the bearing. This paper describes suitability of vibration monitoring and analysis techniques to detect the outer race defect in antifriction bearing. Time domain and frequency domain analysis have been employed to identify the defect in bearings. The results have demonstrated that these techniques are useful to detect problems in rolling element bearing.

Keywords : Antifriction bearing, Frequency domain, defects, Vibration signal