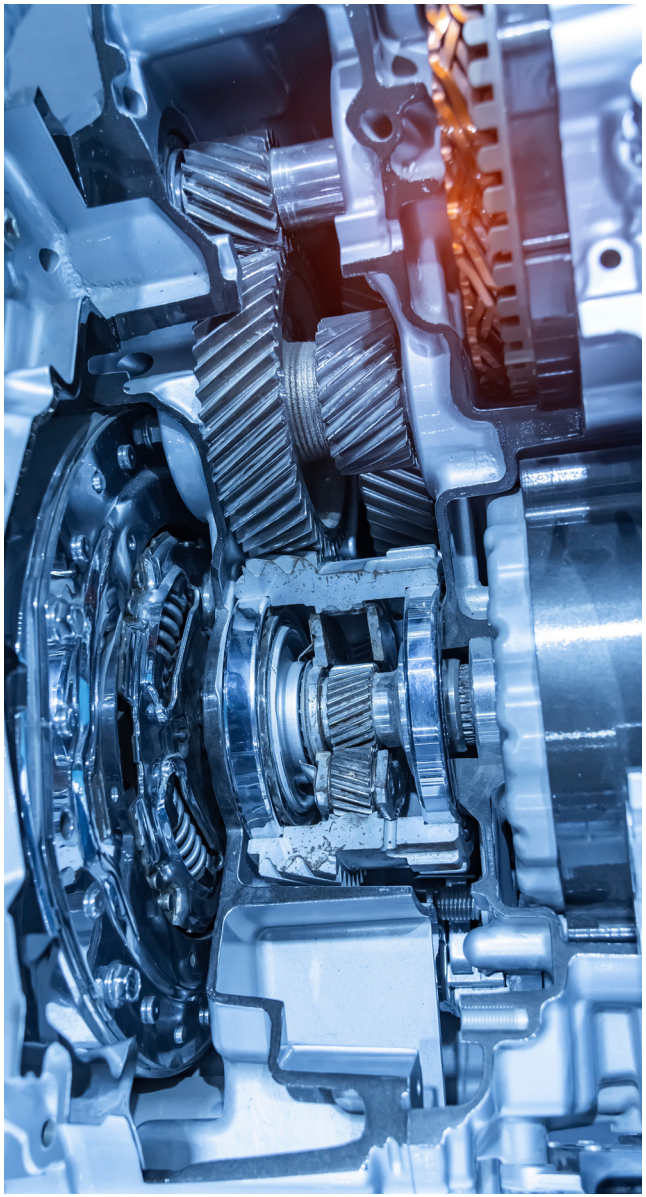
Machinery Diagnostics Institute

Mini Case Study: Gearbox Defects



Introduction

Vibration analysis is a powerful tool for detecting issues like broken teeth in gearboxes. By monitoring vibration patterns, irregularities can be detected early, preventing costly failures and ensuring smooth operations.

Analysis

A gearbox defect was detected by MDI while on route in Queensland, Australia.

MDI utilized CTC's **AC133**, an accelerometer commonly used for gearbox monitoring applications.

- Low Frequency Accelerometer
- Top Exit, Two Pin Connector
- 500 mV/g, ±10%
- 6-600,000 CPM Frequency Response (±3 dB)
- -58 to 250 °F (-50 to 121 °C) Temperature Range

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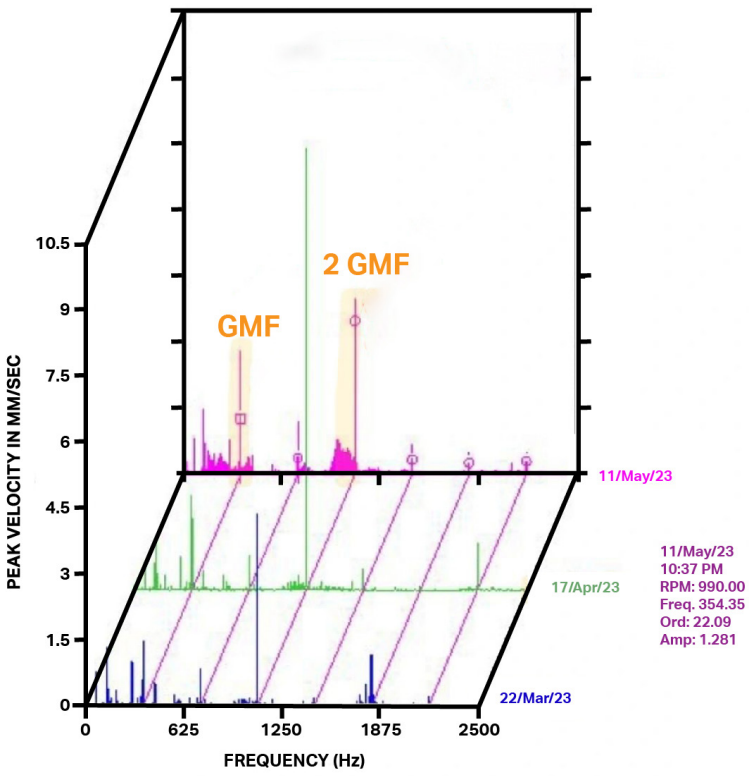
Findings

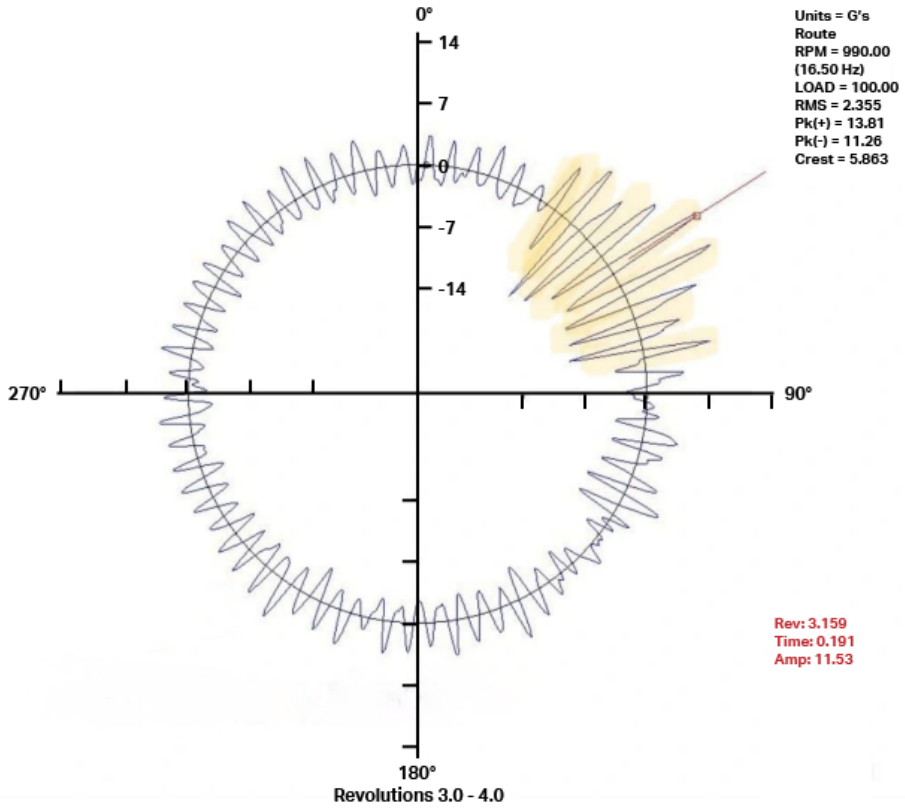
The data shows repeated impacts, which was confirmed through a borescope inspection.

Data Collected by MDI

WATERFALL SPECTRUM



IMPACTS ON CIRCLE TWF



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