

COMPUTERIZED DETERMINATION
OF
VIBRATION FREQUENCIES
IN
POWER TRAINS

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I. INTRODUCTION

In the study of vibrations of operating equipment, one of the most difficult tasks facing the vibrations engineer is identification of the myriad of peaks which will be found in the power spectrum data on even the most simple types of equipment. Modern digital signal processing equipment has given us the ability to measure vibration spectra with great precision and frequency resolution. If this same equipment can be programmed to identify the various peaks in the measured spectra it will go a great way toward helping the vibrations engineer establish causal relationships between high vibration spectra and failure of mechanical components.

This thesis is the result of a feasibility study into such a program. The program described herein is in no way meant to be a finished product nor is it meant to cover all possibilities in terms of computerized identification of power train vibration components. It is, however, a meaningful first step in this process.

