AN APPROXIMATE ESTIMATION OF NATURAL FREQUENCIES OF EQUIVALENT SYSTEM OF FOUR WHEELER DRIVE

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Abstract

This paper details how to calculate the natural frequencies of Four-wheeler automobile system with new method. It has been seen that it is very difficult and complicated task to calculate natural frequencies of mechanical systems like Airplane, Marine Engine, and Transmission system of Marine Engine etc. The conventional methods which are used to estimate natural frequencies for such systems are quite difficult to apply. Hence in this paper a new approach for equivalent system is established [1]*, which not only converts a complicated mechanical system to a simple shaft –disc system but also this equivalent system helps us to estimate natural frequencies by applying conventional methods. This approach will also help a design engineer to alter his design as per his requirements. A case study of complete Four-wheeler automobile system also has been discussed and natural frequencies of each gear ratio is found with Holzer Method.