HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING COURSE

DIPLOMA PROJECT

VIBRATION TESTING AND STABILITY IMPROVEMENT ON A GO-KART CHASSIS

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VIBRATION TESTING AND STABILITY IMPROVEMENTS ON A GO-KART CHASSIS

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Project report

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THANK YOU!

SUMMARY

The purpose of this project is to investigate how vibrations occurring from the engine of a Go - Kart can affect the dynamics of it and especially the chassis (body frame), and by studying any possible reactions, suggest stability improvements to the dynamics of the structure.

First of all some basic theory was necessary to be studied behind vibration, modal analysis and stability to be able to understand what is to be expected.

After the gain of knowledge of vibrations a procedure had to be followed on how the test would be performed, what kind of components had to be used and how these work. So testing hardware, where examined for their operational features and then the actual test of the excitation of the Go - Kart was conducted.

By finishing the vibration test the mode shapes of the vibration excitation where drawn on paper. By examining these thoroughly came to the end of the procedure where suggestions where made on how the Go - kart could gain stability by various methods, such as mounting isolators between the engine and the chassis, changing the inside or outside diameter of various hollow rods used for the development of the chassis etc.