

HIGHER TECHNICAL INSTITUTE
MECHANICAL ENGINEERING COURSE
DIPLOMA PROJECT

VIBRATION TESTING AND STABILITY IMPROVEMENT
ON A GO-KART CHASSIS

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1999

VIBRATION TESTING AND STABILITY IMPROVEMENTS
ON A GO-KART CHASSIS

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Project report

Submitted to

the Department of Mechanical Engineering of the Higher Technical

Institute

Nicosia Cyprus

in partial Fulfillment of the requirements

for the diploma of

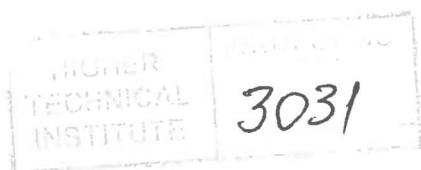
TECHNICIAN ENGINEER

in

MECHANICAL ENGINEERING

July 1999

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ACKNOWLEDGMENTS

I would like to take this opportunity and express my word note of thanks to my project supervisor Dr. Stassis Andreas for his support, guidance and help throughout the whole project procedure. The same goes and for the technician engineers in Limassol' s port for their help in constructing the Chassis.

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, were 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 were drawn on paper. By examining these thoroughly came to the end of the procedure where suggestions were 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.