ACKNOWLEDGMENT

Apart from our efforts, the success of this project depends largely on the encouragement and guidelines of many others. We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We take immense pleasure in thanking **Dr. Avinash G. Kharat,** Principal, Sinhgad Academy of Engineering, for having permitted us to carry out this project work.

We deeply express our sincere thanks to our Head of Department **Prof (Col) O. P. Misra** for encouraging and allowing us to present the project on the topic "DESIGN AND FABRICATION OF SHOCK ABSORBER TEST RIG" at our department premises for the partial fulfilment of the requirements leading to the award of Bachelors of Engineering degree.

We wish to express our deep sense of gratitude to our Internal Guide, **Prof. J.N. KAJALE,** Dept of Mechanical Engineering, Sinhgad Academy of Engineering for his able guidance and useful suggestions, this helped us in completing the project work, in time.

We are thankful to **Prof. P.P.Hujare,** Dept of Mechanical Engineering, Sinhgad Academy of Engineering for his able guidance and useful suggestions regarding the project.

We are thankful to **Mr. Phatak Sir**, for allowing us to work in their workshop. Without their kind cooperation and guidance at every step these project would not have been possible.

Words are inadequate in offering our thanks to all the teaching staff for their encouragement and cooperation in carrying out the project work.

Finally, yet importantly, we would like to express our heartfelt thanks to our beloved parents for their blessings, our friends/classmates for their help and wishes for the successful completion of this project.

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ABSTRACT

Vibration creates excessive stresses in machine parts, it leads to loosening of assembled parts, it may also lead to partial or complete failure of machine systems. Therefore in order to reduce excessive vibration to protect system shock absorbers are used. But due to bad selection of shock absorber this may not be achieved in practice. So it is necessary to select appropriate shock absorbing unit based on application. To govern such phenomena *shock absorber testing machine* is used. This would help to check whether the designed shock absorber is performing up to its potential in practice. It would also help user to use it for required application.

This project is helpful to find the transmissibility ratio of the shock absorber in order to check whether the selected shock absorber is suitable for required application.

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EXPERIMENTAL SETUP OF SHOCK ABSORBER TESTING MACHINE

SYMBOLS

c	viscous damping
d	Diameter
F	Force,
f	Coefficient of friction
K	Service factor
l	Length
m	Mass
p	Pitch
T	Torque
v	Linear velocity
λ	lead angle
μ	coefficient of friction
ω	Angular velocity, circular frequency
ψ	Helix angle
τ	Shear stress
K_b	Combined shock and fatigue factor for bending
K_t	Combined shock and fatigue factor for torsion

ABBREVATIONS

PWM	Pulse width modulation
PMDC	Permanent magnet DC motor
TEFC	Totally enclosed fan cooled