

Nikhil Mohan Vyas

Mechanical Engineer



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Dynamic, young professional with practical experience in **Industrial Tribology, Tribological Design, Failure analysis and repair, Lubrication theory and practices, Diagnostic maintenance, Maintenance planning and control**, which are concerned to product design & development, quality control and maintenance of any production unit. Undertaken projects such as *Modification in threaded fasteners, Generation of electricity by the impact of vehicle over speed breaker, Implementation of solar power driving system to the four-wheeler cycle* during M.E. and B.E. courses. Along with these projects I was able to implement some of my learning into the industrial assignments like **ISO audit (Internal) of shop floor practices at National Steel & Agro Industries Ltd., Dist.-Dhar (M.P.) And Metrology and active inspection at Mahle Engine Components Pvt. Ltd., Pithampur (M.P.)**.

Currently working as Assistant Professor (Contractual), in the Department of Mechanical Engineering, S.A.T.I. (Engineering College), Vidisha (M.P.). Also, pursuing Ph.D. in Mechanical Engineering, from R.G.P.V. Bhopal.



Course instructor for

Machine Design, Industrial Tribology, Engineering Graphics



Thrust areas of research interest

Tribology of materials, Tribological design, Composite materials



Technical Skills

Design software – Pro E



Projects

Modification in threaded fasteners

SGSITS, Indore, 2017

Summary:

The project was taken during M.E.. The uniform thread engagement of nut -bolt makes the stress distribution between the threads more uniform and thus the nut-bolt assembly becomes more reliable. But due to the manufacturing variables the stresses in the nut and bolt assembly during tightening and the load sharing of individual mating threads remain non-uniform in general. Studies have confirmed that the threads of nut-bolt assembly experience stresses being geometrically distributed, initiating from maximum at the first thread which is near to bearing surface and then reducing subsequently. A large fillet radius at the thread root which is more than the standard is proposed and to realize the effects, undercutting is done within the thread root profile of ISO standard M24 bolts so as to induce elasticity in threads and changing the stress distribution from geometric to simple arithmetic. Four specimens with different undercuts are investigated experimentally for proving the effectiveness of the proposed. The effect of tightening torque is observed on one experimental set up. The results are

compared between the existing and corrected thread profiles and the corrected thread profile has given better results.

Implementation of Solar power driving system to the four-wheeler cycle

IIST, Indore, 2012

Summary:

The project was taken as a major work during 8th semester of B.E. and based upon the specifications of the four-wheeler cycle calculations were made to apply solar panels and allied driving system.

Generation of Electricity by the impact of vehicle over speed breaker

IIST, Indore, 2011

Summary:

The project was taken as a minor work during 7th semester of B.E. and the idea was to apply the slider crank mechanism under the speed breaker for the generation of electric power as the vehicle passed through the speed breaker.



Education

M.E. (Tribology and maintenance engineering) - 8.67 CGPA

SGSITS Indore (R.G.P.V. University) – No.1 State Engineering College

B.E. (Mechanical engineering)

IIST Indore (R.G.P.V. University)

HSSC – M.P. Board – 81%

HSC – M.P. Board – 87%



Accomplishments

Qualified GATE 2020 securing 95.47 percentile

Qualified GATE 2019 securing 92.78 percentile

Qualified GATE 2015 securing 91.5 percentile

Qualified GATE 2014 securing 95.5 percentile

Qualified GATE 2023 securing 84.2 percentile

Qualified RRB JE exam 2014

Qualified AFCAT 2013 and attended 6 days SSB

Secured 1st rank in all semesters of M.E. (Tribology & maintenance engineering), S.G.S.I.T.S. Indore

Secured 3rd rank in Ph.D. entrance written examination of R.G.P.V. Bhopal



Publications

- Nikhil Mohan Vyas, Satish B. Purohit, (2017) "An Experimental Study of Tightening Effects on Threaded Fasteners with Enlarged Thread Fillet Radius", *International Journal of Mechanical and Production Engineering (IJMPE)*, pp. 125-129, Volume-5, Issue-12
- Anil Kumar Gurjar, Nikhil Mohan Vyas, Satish B. Purohit (2017) "Surface deposition of copper nano particles on steel substrate by microwave", *International Journal of Scientific Research and Development (IJSRD)*, pp. 720-723, Volume-5, Issue-5