

KUNJAN SANADHYA

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PROFESSIONAL SUMMARY

Senior Manager With Eleven Years Of Experience In Research And Development Department With Post Graduation In Heat Power Engineering (Mechanical Engineering). Recognized Technical Skills, Problem Solving Skills, Interpersonal Skills, Project Management , Working across department, Team Work & Team Management Skills.

On Campus selected as Graduate Engineer Trainee for Kirloskar Oil Engines Limited, Pune in August 2008. Promoted as Senior Engineer in 2009. Received appreciation award for excellent performance in 2011, promoted to Deputy Manager in 2012, promoted to Manager in 2015 and working as Senior Manager since August 2019

ACADEMIC DETAILS

2018-On Going	Pursuing part time Phd. From Govt. College of Engineering, Pune, affiliated to Pune University.
2011-2013	Company Sponsored Full Time M.Tech. in Heat Power Engineering (Mechanical) from Vishwakarma Institute of Technology, Pune, affiliated to Pune University; secured CPI – 8.8 with distinction
2004-2008	Bachelor of Engineering (Mechanical) from Government Engineering College Bikaner, affiliated to University of Rajasthan; secured 70.4 % with Honours.
2003-2004	All India Senior School Certificate Examination from Kendriya Vidhyalaya, Udaipur; affiliated to Central Board of Secondary Education; secured 71.2% with distinction
2001-2002	All India Secondary School Examination from Central Academy, Udaipur, Rajasthan; affiliated to Central Board of Secondary Education; secured 78.4 % with distinction

PROFILE SUMMARY

Mechanical Validation Team Leader (2017 to present)-

- Leader of team responsible for validation, components merit rating (assessment) after validation trial, approval of all base engine components for production mainly piston assembly, bearings, valve train, gaskets and seals, gear train, crankshaft, connecting rod etc.
- This team is also responsible for assembly failure analysis as well as testing of all engine components observed during proto trials.
- Responsible to attend Assembly failures, engine test rig failures of all KOEL proto engines on regular basis and responsible to solve those issues with CFTs.
- Interaction with engine development consultants and suppliers to solve the validation issues.
- Interaction with other departments to solve the failure issues.
- Prepared automated tracking system of the assembly failure and test failure issue resolution with IT department on Windchill PLM software to track the issue closure path which include informing supplier, deciding the corrective action, Drawing change, part procurement, part validation, part approval, part addition in BOM for production.

Piston Assembly Design, Development and Validation Expert Role (2009 to present)-

- Leading piston assembly design, development and validation tasks from 2009 for all projects starting from agricultural engines to high horse power engines. Successfully completed piston assembly validation of all diesel engines of organization for CPCB II engine norms.
- Worked as team leader for piston assembly subsystem in organization level VAVE project and received appreciation award for contribution.
- Responsible for sizing, analytical calculations and assembly layout preparation for piston, liner, connecting rod, crankshaft, main bearing cap and bearings for any new engine design.
- Responsible for sharing requirement sheet of piston assembly and bearings with suppliers and design finalization for new development and new application engine.
- Attend and solve piston assembly related field failures like oil consumption, blow by , oil throw .
- Optimizing existing piston profiles and ring design (using AVL Exite piston and rings software and then durability) for latest requirement of lesser oil consumption (which is a major requirement to meet latest emission norms).
- Also responsible for optimizing other piston-liner interface parameters like bore distortion, surface finish, coatings etc. for latest requirement of lesser oil consumption (which is a major requirement to meet latest emission norms).
- Responsible for optimizing piston cavity shape along with simulation team for requirement of high bmep applications and latest emission norms.

System Engineer/Project Manager Role (2015 to 2017)-

- System Engineer role for a new development engine (smallest engine series of KOEL engines) which includes following –
 - Benchmark of Interfaces from Outline Drawings, specification manuals, application manuals, parts manuals and service manuals of major competitor of this engine in market.
 - Benchmark of all systems of competitor engines like – fuel injection system, cooling system, lubrication system, electrical components and after treatment system.
 - Interaction with bearing expert, combustion expert, gasket expert and design team to finalize the design of all major components and prepare KOEL proposal.
 - Interaction with German engine design and development consultants for design review.
 - Interaction with Manufacturing engineering managers, supply chain managers and suppliers to understand the feasibility of KOEL proposal and finalize the design.

Design Engineer Role (2009 to 2015) –

- All KOEL engines Benchmark of design & features of piston assemblies, piston cooling arrangement, bearings, valve train components, gear train, connecting rod.
- Preparation of company standard for checkpoints to prepare and approve drawings of piston, piston rings, piston pin, liner, piston cooling nozzle and bearings.
- Design calculation of Braze type heat exchanger.
- Worked on steam engine project with Forbes Marshall.
- Worked on Compressor oil consumption issue resolution project with KPCL, Pune

More details -

- Sound knowledge of subjects like Advanced IC-Engines, IC engines and Gas turbines, Automotive fuels and emissions, Fluid dynamics, Design of Heat Exchangers, strength of materials, Thermodynamics and Heat Transfer.
- A self-motivated team player with good interpersonal, communication and analytical skills.

ACCOLADE

1. Received certificate of appreciation for an organization level VAVE project.
2. Received organization level team award for contribution towards first high horse power engine launch.
3. Awarded for contribution in organization level VAVE project as a team lead of piston assembly subsystem.
4. Received Performance Appreciation Award (in 2011) for- (a) Digitization of piston assembly drawings and validation reports, (b) Optimizing and implementing piston assembly validation procedure, (c) Establishing piston, cylinder head and liner temperature measurement procedure (d) Generating piston assembly data bank of all KOEL engines.
5. Self-prepared piston observation and analysis reports appreciated within organization and also by piston suppliers.
6. Piston design for a new application diesel engine prepared by self, accepted by piston suppliers.

ACADEMIC PROJECTS

1. 1 year M-Tech academic project titled “CIDI Diesel engine Helical Port Optimization through Geometry Parametric Masters and 3 D Simulation” at Kiroskar Oil Engines Ltd., Pune
2. 30 days BE academic project titled “Design of Face seal Test Rig” at Indian Institute of Technology, Bombay

CERTIFICATIONS & TRAININGS

1. 6 months online course on IC engines & Gas Turbines organized by NPTEL Programme by 7 IITs (passed with 68% in 2019).
2. 3 days Certificate course on Failure Analysis (Including Engine Components) organized by ARAI in association with ASM International Pune Chapter.
3. 2 months training programme conducted on F. E. Analysis technique using ANSYS at F. E. Solutions, Pune
4. 3 days “AVL Excite timing Drive” training Course at AVL, Pune
5. 2 days “Geometric Dimensioning and Tolerance” training at Kiroskar Oil Engines Ltd., Pune
6. 2 days workshop on “Computational Fluid Dynamics” at Pimpri-Chinchwad College of Engineering, Pune
7. 10 days “Boot Camp” at Kiroskar Institute of Management Studies, Harihar
8. 12 days “Basic workshop skills (Phase II)” training programme at Tata motors, Pune
9. 7 days “Basic workshop skills (Phase I)” training programme at Tata motors, Pune
10. 30 days BE academic practical training at Chanderia Lead Zinc Smelter, Chittorgarh (Raj.)

VISITS

1. FEV GmbH Europe, Germany
2. Mahle GmbH, Germany
3. Shriram Pistons and Rings Limited, Gaziabad
4. Menon Pistons Limited., Kolhapur
5. Menon Pistons and Rings Limited., Kolhapur
6. Automotive Research Association of India, Pune
7. Kirloskar Oil Engines Ltd, Rajkot (Small engine manufacturing plant),
8. Kirloskar Oil Engines Ltd, Kagal (Medium engine manufacturing plant),
9. Kirloskar Oil Engines Ltd, Nashik (large engine manufacturing plant).
10. Kirloskar Pneumatics Limited., Pune
11. Forbes Marshall, Pune
12. Tata motors, Pune
13. Spicer, Pune
14. Chanderia Lead Zinc Smelter, Chittorgarh (Raj.)

PUBLICATIONS & SAMINARS

1. Paper published in SAE technical paper publication 2019 titled , “ Improving the reliability of piston for increased power density by changing the shape of piston bowl for a medium speed heavy duty diesel engine”, SAE Technical Paper 2019-26-0048, 2019, doi:10.4271/2019-26-0048
2. Paper Published in Proceedings of the National Conference on Emerging Trends in Mechanical Engineering (NCETME-2019), VIT Pune, Feb. 7-8 2019 titled “A Review on Piston Ring and Liner Tribology”
3. Paper Published in International Journal of Emerging Technologies and Innovative Research (www.jetir.org | UGC and issn Approved), ISSN:2349-5162, Vol.6, Issue 4, April-2019, titled "A Review on Tribological Wear Investigation of Power Cylinder in Diesel Engine"
4. Presented paper in AVL Advanced Simulation technologies User Conference 2018, titled “Effect of Piston Liner Clearance on Piston Assembly Dynamics and Bore Polishing”
5. Paper published in SAE technical paper publication and presented in SIAT 2014 conference, “Effect of in-cylinder peak pressure variation and fuel spray characteristics on piston seizure”, SAE Technical Paper 2013-26-0121, 2013, doi:10.4271/2013-26-0121.
6. Journal paper published in IJIRSET Journal and presented in IFERP conference in 2015, “Effect of Helix Parameter Modification on Flow Characteristics of CIDI Diesel Engine Helical Intake Port”, doi: 10.15680/IJIRSET.2015.0404082.

SEMINARS

1. Phd. Course work Seminar titled “Particulate matter measurement and analysis Techniques”
2. M-Tech academic seminar titled “Effect of Combustion chamber design on engine emissions”.
3. Department level seminar on “Validation method of piston cooling nozzle for DI Diesel engines”.

TECHNICAL PURVIEW

Well versed with following softwares –

- AVL Excite Piston and Rings (Software used for Piston and Ring Simulation),
- Ansys (Finite Element Analysis)
- Star CCM (Computational Fluid Dynamics Software),
- AVL Concerto,
- AVL Excite Timing Drive
- Auto Cad Mechanical,
- Windchill PLM software

PERSONAL DETAILS

Date of Birth: 28th February 1986
Address: W/O Mr. Kapil Sharma, 18, Shivalik Homes, Opposite Gandhinagar International School, Gandhinagar-Mansa Road, Randheja – 382620, Gandhinagar (Gujarat)
Languages Known: English, Hindi and Marathi
Preferred Location: Ahmedabad (Gujarat), Gandhinagar (Gujarat)