Mane Sagar Bhikajirao

Senior Engineer. Eaton India Innovation Centre, Pune

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SUMMARY

- **4.5 years of diversified experience in gearbox and engine field**.-Gearbox design and analysis. Always strive to apply technical & analytical skills in challenging environment.
- **DFSS green belt certified professional individual and certified for Reliability practitioner**.
- Proficient experience in Mechanical element design & analysis of complex mechanical systems like Powertrains, machine structures etc.
- **VAVE/ Cost saving**, Re-engineering, Design optimization & Recommendation of Powertrains sub-systems.
- A keen learner with ability to work under pressure & able to take new challenges more effectively with stipulated timelines
- Sound knowledge of **Mechanical system design** and **stack up analysis** of system.
- Specialties: - Gearbox system design, Stack up analysis**, GD&T, DFMEA, Six sigma (DMAIC,DFSS**), **Reliability ,Structural analysis and Program Management.**
- Software Proficiency: - **Weibull++,KISSSOFT, KISSSYS, MATLAB, ANSYS, CATIA, UG-Nx, ROMAX**

EXPERIENCE

- **Senior Engineer** –Eaton India innovation Centre Pune From June 2016 to present
- **Assistant manager –R&D"** - AVTEC Ltd. Bangalore From 30 June 2014 to May 2016 **(1 year 9months**)

KEY PROJECTS HANDLED

- **Design of clutched supercharger for advanced combustion engine.**
  - Handled the all engineering activities from concept level design to production level design like PDSC, Engineering calculation and drawings.
  - Preparation of DFMEA and DVP for supercharger and execution of the all hardware testing +software analysis.
  - Developed reliability growth model for advanced supercharger.
- **Design of Two stage helical gearbox for Metro application (Customer-ALSTOM France)**
  - Design of all elements like gear, bearing, shaft using **Kiss soft and kissys** As per ISO standards**.**
  - Preparation of **layout drawing, stack up calculation, DFMEA, RAMS document for** system.
  - Optimization of **design for NVH** with micro geometrical parameter change in gear system.
  - Preparation of **design validation plan** and co-ordination with testing team (fatigue test for gear ,vibration and acoustic test)
- **Design of new PTO unit and planetary pair for existing dumper/cycling transmission (Customer-Cargotec India)**
  - Designing new gear pair arrangement , selection of bearing ,design of shaft ,spline by using **Kissoft and kissys**
  - Handled activities like **design analysis and validation, design detailing**.
- **Benchmarking of flex plate for integration of power shift transmission with engine.**
  - **Application -**3.6 Ton Wheel loader Transmission, 100 Ton dumper truck Transmission
  - Carried out **CAE study** of flex plate from completing transmission as per SAE reference.
  - **Analyzed stresses &deflection** under application of torque, axial play due to tolerances & ballooning effects.
  - Performed **modal analysis** to understand the **mode shape** of flex plate and developed correlation between engine torque and stiffness to design the flex plate system.
- **VAVE (Cost saving and performance enhancement)**
  - Splitting of transmission housing of CLBT754 into two element and material optimization with performance enhancement. .
  - (cost saving = 15 lakh)

EDUCATION

Program	Institution	%/CGPA	Year of completion
M .Tech in Machine Design	Indian Institute of Technology Madras, Chennai	8.7	2014
B.E in Mechanical Engg	Vidyapratishthan College of Engg ,Baramati	70.2%	2011
XII	Vidyamandir Jr.College,Islampur	82.5%	2007
X	Mahatma Gandhi Vidyalaya,Khanapur	86.66%	2005

SCHOLASTIC ACHIEVEMENTS AND AWARDS

- Secured an **All India Rank 186** in GATE 2012 among 123000 candidates
- Secured **second rank in B.E**. with percentage of 75.86
- Winner of "**Best Employee Award-R&D"** for Third Quarter FY 2014-15
- Winner of **"Chairman Excellence award-R&D"** for Metro gearbox project FY 2015-16.

ACADEMIC PROJECTS

• Optimization of asymmetric gear for maximum fillet stress analysis by using Direct gear design method . **(JUN13-MAY14)**

- Generation of spur gear geometry for normal contact ratio on the basis of direct design method by **using FEA tool as APDL code in Ansys .**
- Calculation of results of fillet stress value with different geometric parameters and compare with standard papers
- Finding of influence of different parameter on maximum fillet stress and final task will be to find out optimized parameters on the basis of results of maximum fillet stress

TRAINING AND CERTIFICATION

- **DFSS GB certified** at Eaton Global quality institute in Sept 2018
- **DFR Certified** professional at Eaton RMCOE in Dec 2018
- Attended training (2014) of **KISSsoft software** on advanced gear calculation.
- Attended 1 week training & workshop (2014) on "**Communicating with Impact**" at AVTEC LTD.
- Attended 1 week training & workshop (2015) on "**Development of Leader in You" by Dale Carnegie**

AREA OF INTEREST

- New product design and development
- Mechanical system design
- CAE analysis

PERSONAL PROFILE

- Date of birth- 26/7/1989
- Languages known- English ,Marathi , Hindi
- Marital status- Single
- Passport Details: Passport No.- L8183400, Valid up to 3rd April, 2024
- Languages: English, Hindi and Marathi