

# Ajit A. Bodas

---

44892 Lafayette Drive,  
Novi, Michigan 48377

E-mail: ajit\_bodas76@hotmail.com  
Cell Phone: (419) 733-4848

---

## Objective

Seeking a challenging full time position as a Design Team Leader or Senior Engineer in product design and development

## Special Skills

- 10 years diversified design engineering-management experience with world-class OEM's and Tier-1 suppliers in design, development, processing and manufacturing fields.
- Fully conversant with GM's design/process engineering and release operations.
- Self motivated and demonstrated 'cause-to-make-happen' approach with excellent project management skills by keeping aggressive project time-lines on track.
- Demonstrated team-work attitude in problem-solving by working with cross-functional teams of design/analysis engineers, suppliers, manufacturing engineers, supplier quality engineers, production assembly team to achieve mutual goals.
- Creative thinking, out of the box ideas and strong attitude to work with speed, simplicity and efficiency.
- Good understanding of engineering theory and principles of operation of mechanical engineering and mechanisms.

## Education

- Master of Science, Mechanical Engineering, The University of Toledo, Toledo, Ohio (May 2001). Major field: Engineering Design  
**Thesis title:** Influence of Manufacturing Errors and Assembly Variations on the Load Sharing Behavior of Planetary Gear Sets (Advisor: Dr. Ahmet. Kahraman)
- Bachelor of Science, Mechanical Engineering, University of Pune, Pune, India (May 1997)

## Paper Publication

- Bodas, A., and Kahraman, A., "Influence of Carrier and Gear Manufacturing Errors on the Static Planet Load Sharing Behavior of Planetary Gear Sets". Presented at *the International Conference on Motion and Power Transmission*, Nov 15-17, 2001 Fukuoka, Japan. Also submitted to *the JSME International Journal*.
- **Patent Proposal:** Through-bore design for transfer drive gear in X25F/X30F Hybrid Drive-Units.

## Work Experience

- *Design Responsible Engineer, 2/2005 – 4/2009*, General Motors Corporation (GM Powertrain)
  - Responsibilities involved designing and managing transfer gears, final drive gears, differential assembly and output-shaft sub-systems from initial design through production for Hybrid and Electric transmissions.
  - Worked as project team lead on high-severity issues of bearing-sleeves walking and cracking in hybrid transmissions. Successfully released a conceptually new design with sleeveless shaft in to production.
  - Implemented successfully an innovative design of transfer gear with through-piloting bore in production.

- Project team leadership in planning, technical design direction, project management, problem solving.
  - Completed 6-Sigma project to improve transmission durability and minimize clunk-noise by developing process to select correct end-play for transfer shaft.
  - Successfully implemented 17 design changes and 27 process changes that were originally not compliant with GM's guidelines by correctly validating components through FEA, bench tests or dynamometer tests.
  - Supported to resolve NVH issues on transfer gears and final drive gears by correcting gear micro-geometry and running DOE tests on NVH-test units. NVH requirements for Hybrid Drive Units were more aggressive than base-line transmissions due to engine-off launch conditions.
  - Managed components logistics to support build programs and execution of tests, supported development and calibration engineers on development of new component and subsystem designs.
  - Supply-base management from source selection through production with involvement in APQP and PPAP.
  - Initiated and managed design changes, to correct and implement issues such as NVH, durability, reliability, assembly issues.
  - Supported planning, build programs and execution of tests, support development and calibration engineers on development of new component and subsystem designs.
  - Completed DFMEA/DRBFM/DRBTR, participate and contribute in Product Design Team, Product Management Team.
  - Identified cost reduction opportunities and developed plan for implementation.
- *Project Engineer, 9/2002 –1/2005, Hitachi Metals, St. Mary's, Ohio (AAP St Mary's Corporation)*
    - Responsible for new product development, R&D, testing and implementation.
    - Worked as team-lead on 2-year long project of non-chrome pre-treatment testing and implementation. Used DOE tools from Minitab to design test matrices. Worked with customers such as Ford, Honda and Subaru to validate and implement 14 stage pre-treatment line.
    - Improved production line utilization/productivity by 10% using statistical problem solving techniques.
    - Worked hands-on with hourly employees on all projects.
    - Worked with vendors/suppliers and customers on different process development projects.
    - Achieved good project management skills while working on different projects with customers and suppliers.
  - *Design Engineer 8/1997 – 7/99, Thermax India Ltd., Pune, India.*
    - Designed and modeled different machine parts, simulated the entire machine assemblies, and performed finite element analysis of critical machine components using CAD/FEA tools such as SDRC-IDEAS
    - Designed steel frame structures (up to sizes of 10'x10'x30') used for shipping or handling the machines using CAD tools such as SolidWorks.
    - Worked on projects of design of pressure vessels compatible with ASME and TUV (German) design standards.

## Research Experience

- *9/99 – 5/2001. Graduate Research Assistant, Center for Gear Research, The University of Toledo.* Worked on a project sponsored by Borg Warner Automotive, Torq Transfer Systems. This project was a durability study of the planetary gear set with the objective of proposing design guidelines representing best load sharing practices for planetary gear set design. An

FE-based deformable multi-body contact mechanics model of single stage planetary gear set was developed to perform a detailed study of the influence of carrier and gear manufacturing errors, assembly variations and planetary gear set design parameters on the static, quasi-static and dynamic/vibration behavior of the system.

References will be available up on request.

Ready to relocate.