Amey Tukaram Thorat

Personal information

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Career Objective

Achieving consistent success and improvement in field of Vehicle Product and Process Development.

Educational Qualification

M.S. Automotive Engineering (G.P.A. 3.42/4.00) *August 2010 to August 2012*
Clemson University-International Center for Automotive Research, SC.

B.E. Mechanical Engineering (Grade: 65.75% with First Class) *May 2004 to May 2008*
Mumbai University, India

Work Experience (1 year 7 months)

Godrej & Boyce Mfg. Co. Ltd. (**1 year in Product Development**) *July 2008 to July 2009*
Title: Senior Executive Engineer- Apprentice Core Team size: 12

- **New Product Introduction (NPI):** Process Establishment, Manufacturing Feasibility Analysis, Cost Analysis, Design for Manufacturing (DFM), and Vendor Development/Supplier Development for product design, development and launch.
  Achievements:
  - New Product Vurv (Godrej Interio) nominated best product for year 2009.
  - Developed strong background in sheet metal work/stamping and costing analysis.
- **Cost cutting projects-** Continuous process improvement activities that involve process optimization, re-allocation of labor, substitution of product materials, and layout design.
  Achievements:
  - Achieved savings of approx. $50,000 annually in product packaging.
  - Scrap material re-used as stiffening plates that saved about 5% of manufacturing costs.
- **Value Engineering projects**- Improving product design for manufacturing and aesthetics.
  Achievements:
  - Redesigned Stallion (product) frame that resulted in better design and approx. 13% cost savings.
  - Redesigned Vurv Tooling.
- Purchase and inspection of prototype material and preparation for mock-ups.

ZF Lemforder (**7 months in Continuous Process Improvement**) *Nov.2011 to June 2012*
Title: Engineering Intern Core team size: 5

- **Assembly Line Cycle time reduction**- Motion and time studies to reduce cycle time from 119 to 100 seconds by Line Balancing techniques and recommendations for improvement.
  Achievements:
  - C.T. reduced to about 95 seconds to accommodate operator variations.
  - Run time data analyzed to find means and averages of C.T. at each station.
  - Factors influencing C.T. variation found, classified, and recommendations given for operator training.
- **Work flow optimization**- Optimizing assembly station for better storage of components and faster work flow
  - Strut Assembly workstations optimized for flow of components and thrice the utilization for component storage.

Computer skills

GibbsCAM (machining simulation)	SolidWorks	Minitab
SolidCast (Casting Simulation)	AutoCAD	M.S. Office
MATLAB	CATIA V5	Arena (process simulation)

Technical tools used in projects

SPC, Process Capability	Systems Integration methods	FMEA, Spider Charts
Six-Sigma Interpretations	Mechanical Elements and Systems Design	QFD and DOE
Value Stream Mapping	Lightweight Structural Design	Industrial Origami
5-S, 8-D and DMAIC	Design for Manufacturing	Supply Chain Design
Gauge R&R, GD&T	Advanced Materials in Automobiles	

Familiar with ISO/TS 16949, ISO 2768 and QR83, APQP and PPAP.

Completed M.S. course in Automotive Quality equivalent to Six Sigma Green Belt.

Major Academic Projects

- **Deep Orange 3 in association with Mazda motor company**- A vehicle prototype development program where I worked in **Body in White (BiW)** and **Project Management** teams.
  - Developed an optimized Lightweight structure for vehicle front, rear and side crash safety, and pedestrian safety.
  - Bumper configuration for various impact setups and load levels.
  - Set preliminary (conceptual) targets and later translated these into design hard points.
  - Competitor analysis in terms of market, vehicle structure, and price range.
  - Configured Vehicle Architecture and Vehicle Performance metrics.
  - Prepared BOM file.
  - Applied Industrial Origami (IOI) for BiW. *Oct. 2011 to Dec. 2011*
- **Analysis of Body in White : Advanced Materials Lightweight Engineering Project**
  - Conducted weight, manufacturability and cost analyses for BiW design of complete vehicle.
  - Studied viability of design in terms of ($ saved)/kg, improvement in mpg, and weight reduction-Lightweight engineering index (L).
  - Identified percent change in demand to guarantee selling price elasticity. April *2011*
- **Automated Fastener Torque Analysis: CUICAR + BMW Corp, SC. -** Quality improvement of torquing operation as measured by number of automatically-detected torque defects by Statistical and Engineering Analysis.
  - Performed data analysis and root cause analysis to find special causes of process failure identifying new associate batch related to operations NOKs.
  - Analyzed process for SPC and found common causes of failure identifying a batch of fasteners that potentially had problems with threads.
  - Assessed Process Performance over time and provided possible solutions. *October 2011*
- **Quality enhancement of Painting Process: CUICAR + BMW Corp, SC. -** Studied performance of process in relation to process settings (such as coat thickness) and raw materials (E-coat and Clear coat).
  - Studied parameter interaction effects and input-response model for effect of raw materials and coating process parameters.
  - Optimized process for target conformation. *November 2011*
- **Machining Simulation and optimization-** Tooling optimization, operational analysis, and optimization of Manufacturing Cost for milling operation. *March 2011*
- **Research on high-frequency embossing of patterned tools in Copper and Aluminum-** Use of Ultrasonic welding machine for embossing on soft metals like Aluminum and Copper at various settings of pressure, frequencies and lubricants**.** *April 2011*
- **Design optimization, cost analysis and sensitivity for Casted parts-** Using SolidCast for simulation of Casting conditions and die design, and optimization of manufacturing cost**.** *Feb 2011*
- **Fixture design (SMEDs)** - Solutions on efficient fixture-work concepts for work-pieces on milling machines. *January 2008*

Extra- curricular activities

Value Engineering Workshop-Prof. Mashelkar (C.V.S.)	Vehicle Development workshop-Dr.Julian Weber (BMW)
Fire Fighting and First Aid course	Sketching – human figures and car concepts

References available upon request