

RESUME

Tapan Chourey

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(M.P)

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SEEKING SUITABLE POSITION IN AUTOMOTIVE INDUSTRY TO UTILIZE MY SKILLS AND ABILITIES THAT OFFERS SATISFACTION AND PROFESSIONAL GROWTH, WHILE BEING RESOURCEFUL, INNOVATIVE AND FLEXIBLE.

Career History:

A Mechanical Engineer with over 16.6 years of experience in Automotive (Diesel and Gasoline), Off-highway (Construction vehicles & Genset) and Tractor (Agri) product development. Engine (Diesel, CNG & Gasoline) and powertrain engineering and product delivery, with extensive experience in Product Development, Testing & handling of various Engine and powertrain programs in an organization. My strengths lie in establishing Powertrain Projects with complete development technology to meet current and upcoming emission norms which involves the technical strategy for product development based on business need considering available budget. It also involves preparation of business proposals based on business cases including forward planning, roadmap development, product life cycle evolution, value added value engineering proposals and approvals from authority. Good exposure in working with MNC's Techno Commercial Teams and making products with Global Quality Standards.

Core Competencies:

Dealt various roles in Engine R&D, Business development and Quality Functions. Working as Lead – Engine Development R&D around years i.e. since 2014 (9+ yrs).

- Prepare business cases and business proposals.
- Product Data Management & Project Management.
- Technical Reviews, Failure Analysis and driving Cross Functional Teams.
- Grounding of reports as per standards and present it to the management for review.
- Team Based Work systems.
- Planning & preparation of yearly Budget.
- Working with Multinational teams with effective communication skills.
- Product level, System level and Part level Test plans and Approvals.
- Diesel, Gasoline and CNG Engine Development, Testing and Certification / Homologation
- Plan and Perform Validation, Performance, Emission tests on Dynamometers.
- Diesel and Gasoline Engine Calibration for emission and performance optimization.
- Turbocharger matching & Engineering to Diesel & CNG Engines.
- Prepare Technical strategy and roadmap for product development to meet current and upcoming emission legislations.
- Engine Integration Systems Testing (Vehicle/Tractor/Genset).
- Good contacts with Indian certification agencies.
- Motivating next generation engineers by sharing the knowledge in periodic structured meetings and Technical Bulletins.

Experience: Team Lead – (Program Manager)

Employer: M/s. Stellantis, Hosur, India (July'23 to July,24)



Knowledge & Expertise:

- Responsible for ICE, MHEV and BEV vehicle part/component development i.e. driveline, clutch, DMF, cable, Ex-shifter, transmission, and reducer.
- Achieved a cost reduction of \$20 per part for the clutch system in the CC21 vehicle through Value Analysis/Value Engineering (VAVE) initiatives and implemented successfully.
- To Initiate and monitor project timelines, considering the interdependencies between phases and realistic delivery durations.
- Estimate project budgets with inputs from cross-functional teams (CFT) and manage cost estimate adjustments during uncertain situations.
- Ensure timely Gate or Phase end reviews, ensuring adherence to forecasted schedules and meeting required deliverables.
- Effectively partnering with key management and executives, ensuring they are consistently informed about customer projects throughout every stage of development.
- Proficient in managing project dependencies, allocating resources, and aligning stakeholders based on priority.
- Tracking advancement and evaluating project performance to pinpoint variances and propose enhancements.
- Fostered a project culture emphasizing strong stakeholder relationships while maintaining compliance with global project policies and standards.
- Actively managing volatile portfolios and facilitated timely decision-making to enhance business value.
- Balance project constraints to drive projects towards the highest level of customer satisfaction.
- Managing all matters related to product and process development across the platform, encompassing Product Planning, R&D, Production, Manufacturing Engineering, Quality, Purchase, Finance, Sales & Marketing, and Aftersales readiness, from the conceptualization stage of the project to Start of Production.
- Facilitate consistent flow of information and feedback among relevant stakeholders to keep the system aligned with strategy.
- Conduct project reviews with local and global management to identify anticipated risks and assess potential delays.
- Producing project status reports as necessary, including pertinent details and meeting the specified frequency.
- Lead quality issue projects in serial production, ensuring swift resolution and prioritizing customer satisfaction.
- Conveying project requirements and anticipations to both team members and stakeholders.
- Manage, supervise and provide direction for planning/scheduling activities on each department involved in product launch.
- Escalating and managing program risks and issues.

➤ **Experience:** DGM – (R and D: Engine Testing, Development & Homologation)

Employer: M/s. Cooper Corporation Pvt. Ltd., Satara (M.H), India (Feb'20 to Oct'21)



Knowledge & Expertise:

A) Gen-set Application:

❖ **Single Cylinder Air Cooled Engine Combustion Development:**

- Performance optimization by governing system improvement.
- Selection of piston combustion bowls and FIE system.
- Optimized Air intake system / intake port for better performance.
- Nozzle protrusion optimization.

❖ **V-Twin Air-Cooled Engine Combustion Development:**

- Development and optimization of fuel rod.
- FIE system development.
- Combustion optimization to achieve CPCB 2 emission norms without DOC.
- Nozzle protrusion optimization.
- Airflow improvement by tuning actuator software.
- Optimized Air intake system / intake port for better performance.

❖ **500kVA Engine Development:**

- First Proto engine build.
- Initial Performance and validation test conducted by resolving the mechanical problems.
- Engine Performance optimization completed for non – emission market.
- Engine performance optimization including selection of appropriate turbocharger, selection of EGR & EGR cooler, FIE optimization, Timing swing optimization, combustion development by optimizing combustion bowl & Swirl for CPCB-2 is in progress.

❖ **2-Cyl, 3-Cyl and 4-Cyl Engine optimization and Development:**

- Appropriate Turbocharger match selection.
- NTP optimization.
- FIP Optimization (Governing Droop for 100% load point, LLA setting for HC and CO emission improvement, Performance curve mapping for NO_x Emission improvement,) at Supplier end and validation on engine level.
- NO_x Emission improvement through EGR orifice optimization. - Engine optimization for SFC Improvement.

❖ **6-Cyl Engine Optimization:**

- Appropriate Turbocharger match selection.
- VAVE test and trials for cost and Performance optimization.
- Engine block loading issue resolved by optimizing EGR percentage on all 5-mode.

B) Variable Speed Application:

❖ **Tractor Application: 2-Cyl, 3-Cyl and 4-Cyl for TREM 3A, TREM-4 & 5 Emission Norms.**

- Preparation of RFQ's based on product requirement (below 56kW and above 56kW).
- Derive specifications for Different engine ratings as per requirement in comparison/benchmarking with competitors' data base (TREM-3A, TREM-4 & 5)
- Prepare engine development roadmap for each engine rating.
- To prepare Engine optimization and development roadmap and execute to achieve target.
- Freeze specifications in discussion with management.
- Study & understand benchmark engines, suggest improvements to enhance the product value.

❖ **Single Cylinder Engine Project:**

- New CRDI engine development with Delphi TVS.
- Mechanical engine development for Weeder Application with BOSCH mechanical FIE system.

❖ **Marine Application (6.8 lit & 7.8 lit Engine):**

- Torque curve mapping to optimize engine performance.
- Turbocharger trials to match the suitable Turbo to optimize turbine inlet temperatures.

❖ **Engine Certification and Homologation:**

- Plan and conduct COP activities involved in engine preparation prior to its submission to concerned certifying agencies like ARAI.
- Guide team for documentation, pre-preparation of engines before sending to certification agencies for engines development test, certification test and COP compliance tests / processes through

forward planning.

❖ **Engine Testing and Validation:**

- Plan and conduct validation tests for the engine and its components undergone to VA/VE.
- Grounding of reports and present to management.
- Forward test bed planning to accustom testing of Development, field return and Production engines.
- Field failure root cause analysis and improvements.
- Prepare weekly planning and present progress report to the management.
- Grounding of reports, Test data compilation, analysis and provide solutions.
- To coordinate with the external certification agencies i.e. iCAT, ARAI, FEV for INDIA and VCA, EDIADA (For overseas) agencies for testing, homologation, certification of Cooper engines.
- Liaising with engine FIE components suppliers like Stanadyne, Bosch, DTVS etc. discussion and get appropriate solution & information as per project and product-based needs.
- Uploading data and documentation on server whilst working closely with all technical functions within organization.
- Actively support manufacturing, plant quality, service and customer support.
- Understanding and keeping abreast of all relevant regulations, standards and processes relating to engine technology, after treatment system, Electronic control requirements.
- Guide and understand team for better leadership skills, technical skills and motivate time to time.
- Suggest continuous improvements to enhance the product value.
- **Participate in IDEMA meetings as an active member.**

C) **Gas Engines:**

- Performance optimization of 6-Cyl, 4-Cyl and 3-Cyl gas engines via engine calibration with the help of Woodward software.
- Turbocharger optimization, Emission optimization.

➤ **Experience: Manager – (PD): Report to Product Development Lead, ITALY, Reports to Homologation Lead AMEA/APAC (UK).**

Employer: M/s. Case New Holland (CNHi), Noida India (Mar'18 to Jan'20)



Knowledge & Expertise:

- Working as a Fiat Power trains (FPT) Global resource in INDIA, Reports to Product Development Lead – ITALY, Homologation Lead – UK and administratively to Product Development head India.
- Type approved first CEV / TREM 5, 6-Cylinder In-line engine in INDIA as well as first in Europe With 125kW engine type calibration, for Power category $56 \leq P < 130$ kW.
- Project lead TREM 4 & 5, CEV 4 & 5 India.
- Projects Planning and their execution to cater the requirement of management in adherence with targeted timelines.
- As a project lead, Spot awarded by the company for development, testing and Type approval of highest 500HP rating engine in India for Forage Harvester Application.
- Work closely with Turin (ITALY) engine calibration lead for engine testing, Calibration & OBD finalization.
- Travel to FPT Turin (ITALY) as per projects requirement and execution.
- Responsible for FPT engines homologation and certification in India as well as overseas (APAC).
- Responsible for Engine testing and development in India (Trem-3A / Trem-4 / Trem-5 / BS-6).
- Manage and work closely with all technical functions within FPT & CNH.
- To keep abreast of all relevant regulations, local and International testing standards and process relating to engine technology, after treatment systems, electronic controls and inducement strategies as per current and upcoming Emission Norms.
- Document procedures, process embracing best practices.
- To support manufacturing, plant quality, change control functions within the Plant to maintain engine quality & compliance of certification.
- Grounding of reports as per standards & give presentations on the same.

- Planning & preparation of yearly Budget for INDIA.
- Conduct conferences & meeting with headquarters for project tracking and successful execution.
- Responsible for harmonizing the needs of all current and future off-road agriculture, CE off-road, marine and power generation applications for FPT and JV engine products.
- Single reference to rationalize homologation program management to maximize synergies across the relevant regulations to be applied.
- To coordinate with the external certification agencies i.e. iCAT, ARAI for INDIA and VCA, EDIADA (Europe, USA) & country specific (China, Korea, Italy, Brazil, Turkey etc.) agencies for testing, homologation, certification of FPT engines.
- To Guide team for documentation, pre-preparation of engines before sending to certification agencies for engines development test, certification test and COP compliance tests / processes through forward planning.
- **Active Participation in preparation of legislative norms (AIS-137/P7) through TMA.**
- **Contact environment ministries, type approval authorities & attend the conferences/meetings.**

➤ **Experience: Manager (Sec. Head) – Engine Development & testing (R&D)**

**Employer: M/s. SONALIKA International Tractors Ltd., Hoshiarpur, P.B, India–
(Jan'15 – Mar'18)**



Knowledge & Expertise:

- To plan manpower, manage test cells and evaluate engine performance and emission trials on Dynamometers.
- To do test for development of Tractor & DG-set Engine for Emission norms Trem 3A / 3B, Stage- IV, CPCB & CBCP II.
- To coordinate with certification agencies (iCAT/ARAI) for COP, Development Testing and certification of tractor and gen-set engines.
- To perform 8 & 5 mode emission tests for tractor & Gen-set engine as par Indian emission norms i.e., Trem 3A, Stage-4 (NRSC / NRTC) & CPCB-2.
- To perform emission test for SCR development and aftertreatment optimization.
- To do test bed planning with project team for current and upcoming projects.
- To perform endurance test on endurance test bed.
- To evaluate the performance of field return engines and to do root cause analysis for failures.
- Grounding of reports as per standards and prepare analytical presentations pertaining test done i.e. Emission, endurance, validation and present in front of management.
- To perform validation test for components undergone cost reduction projects (VAVE).
- To perform optimization trials including:
 - a) Sensitivity tests for Power, BSFC and Smoke, variant fuel Quantity.
 - b) Sensitivity tests for emissions, variant Injection timing to see effect on NO_x and PM.
 - c) Aim of trials to get best BSFC and meet emissions.
- Solely involved in new Engine Development centre (EDC) planning and establishment.
- Procurement, Installation, and commissioning of two new dynamometers 35kW and 230kW, New FTIR (AVL) for ammonia slip measurements, New Horiba MEXA for emission measurements as per requirement.
- Involved in Stage-4 trials with BOSCH and Cummins for engine calibration and emission optimization including after treatment selection and emission optimization activities.
- To interact with BOSCH and Delphi-TVS for mechanical FIP development.
- Project lead for inline FIP development with Delphi-TVS for 3Cyl NA engines.
- Project lead for BSFC improvement and emission optimization of 3Cyl & 4Cyl NA and Turbo engines.
- Project coordinator for small tractor new engine development and its type approval certification for Stage-V emission regulation.
- Optimization of GT engines governing system (Mechanical and Electronic).
- Project lead for Gen-set development and establishment of new Gen-set vertical of small engine (24Hp).
- Upgradation of existing Performance and Emission test beds with iASYS, HORIBA, AVL software and machines / equipments.

- To do technical interaction with vendors and suppliers.
- **Got an appreciation and award** for development of 25Hp tractor engine (Stage-V) and 24Hp Gen-set (CPCB-II) from Management.

➤ **Experience: Manager - Business Development & Engine Testing.**

Employer: M/s. FEV India Pvt. Limited, Pune, M.H., India - (May'14 to Dec'14)



Knowledge & Expertise:

- **To prepare the business proposal as per client requirements for various engine testing like standard engine durability, Steady state performance and Performance & emission etc.**
- To ensure the test bed utilization.
- **To settle the commercials with client pertaining engine testing program already done or for the program to be done.**
- To interact with clients for new business and to let them understand the capabilities of FEV.
- Interact with client to understand technical details pertaining Testing and their requirement.
- Grounding of reports and documentation according to standards.
- **To co-ordinate activities with various departments like technical testing dept., finance etc.**
- To manage test cells and evaluate engine performance on dynamometer.
- To conduct various tests on steady state and transient test bed like Durability and Performance and Emission according to the client requirement.
- Perform development test and trials on transient test bed i.e. calibration and emission development for clients.
- Engine durability test & validation on dynamometers.
- **Involved in benchmark activities as well as Value added value engineering programs.**

➤ **Experience: Assistant Manager – Research & Development (Engines)**

Employer: M/s. AVTEC Limited, Pithampur, MP, India - (Sep'11 to May'14)



Knowledge & Expertise:

- VAVE coordinator & lead for R & D under DISHA Project at AVTEC.
- Trained expert for VAVE (IL1 to IL5) process (by McKinsey).
- Lead role for validation for Daimler 4D34i Engine for durability & performance (COP, Full load performance, Part load performance etc.)
- Member of CFT from R&D for Validation test bed development & procurement.
- Engine durability test & validation on dynamometers
- Monitoring the various test performance on various engines i.e. GMI, Daimler, Peugeot Citron Motors and 2DE2 diesel, gasoline and gas gen-set engines.
- Hands on experience on emission development of gen-set engine for CPCB norms.
- Hands on experience on gen-set engine development.
- Hands on experience of 5- mode emission test.
- To perform and monitor audit test for GMI production engines.
- To co-ordinate activities with various departments like maintenance, quality, Production, CSD etc.

➤ **Experience: Project Engineer –ERC Engines**

Employer: M/s. TATA Motors Limited, Pune, Maharashtra, India - (Apr'08 to Aug'11)



Knowledge & Expertise:

- Engine Performance, durability and validation tests of 2.2L DICOR engine For ARIA & Safari applications.
- Actively involved in emission development for BS-3, Euro-IV and BS-IV for ARIA applications.
- Monitoring various engine parameters on the durability of cars for validation of engine including engine management system (EMS Calibration).
- Investigation of various failures on engine durability front & diagnosing the same, suggesting the

improvement in various aspects viz. component design, routing, packaging etc. to enhance the quality, performance, durability reliability & serviceability of the product.

- Vehicle preparation for emission development tests & for durability tests on Mileage accumulation chassis dynamometer.
- Preparation of reports in adherence to standards.
- Extending support to various departments as a part of ARIA development viz. vehicle testing department, protoshop, NVH, production, HVAC etc.
- Activities involved in critical vehicle level tests like cold-starts at sub-zero temperatures, power train cooling, water wading & on-road real time tests to measure various engine/vehicle level parameters which helps in fixing key parameters in EMS calibration for safe & consistent operation of various engine sub-systems.
- Component level validation by conducting suitable tests in adherence to test standards like vibration testing of various engine/vehicle level components.
- Laying out the procedure, conducting the time study & accessibility trails related to serviceability of the vehicle, to furnish/recommend the same to service for field requirements.
- Component fitment trials & feedback to designers to improve the same in case of non-conformance.
- Activities involved in vehicle preparation prior to its submission to concerned certifying agencies like ARAI.
- Involved in the activities of EOBD checks & Fault manager development for ARIA Engine durability test & validation on dynamometers.
- Worked on TATA Nano engine performance optimization by engine calibration.

➤ **Experience: Trainee engineer– Research & Development (Engines)**

Employer: M/s. AVTEC Limited, Pithampur, MP, India - (Aug'07 to Apr'08)



Knowledge & Expertise:

- To evaluate the engine performance on dynamometer test bed.
- Hands on experience of development of Mitsubishi Lancer, Ambassador, RTV, Chevrolet Tavera engines.
- Root cause analysis of engine failure on hot test benches for vibration and noise.
- Monitoring the engine dynamometer test cells for conducting various engine Performance & validation tests.
- To conduct long durability tests on dynamometers for component validation.
- To co-ordinate activities with various departments like maintenance, Quality, production, and customer support etc.
- Monitoring transmission dynamometer test cell for conducting performance and validation test of Gear box (GMI).
- Analysis of field failure engines and their components and to take corrective action for the same.

➤ **Professional Qualifications:**

- i) **M-Tech** (Thermal Engineering - 2022) with **83%** from People's University, Bhopal (M.P).
- ii) **B.E. Mechanical (70%)** – (2007) from JIT Borawan, Khargone (M.P)
- iii) H.S.C (M.P Board) – (2002) from St. Theresa's Higher Secondary School, Dhar (M.P)
- iv) S.S.C (CBSE) – (2000) from Kendriya Vidyalaya, Dhar (M.P)

➤ **Industrial Visits:**

- Orientation program in M/s Kinetic Motors limited.
- Supplier visit to M/s BEHR limited to witness the TATA ARIA radiator fan testing on the rig.
- Supplier visit to M/s Febricon to witness gen-set assly. And testing.
- Visit to FEV PUNE for engine testing.
- Visit to AVL India ltd. Gurgaon for Daimler engine testing.
- Visit to BOSCH India ltd., Bangalore for emission trials & FIP development purpose.
- Visit to M/s Dynalec for new test facility procurement.
- Visit to M/s SAJ for new test facility procurement.
- Visit to M/s iASYS for new test facility and automation.

- Visit to M/s Mitsubishi Heavy Industries (Mysore) for engine testing.
- Visit to ARAI for engine type approvals, vehicle type approvals and PE-test beds benchmarking.
- Visit to iCAT for engine type approvals, COP's and PE-test beds benchmarking.
- Visit to FPT Turin (Italy) for Engine calibration and engine development projects.

➤ **Software Skills:** MS-Office, Auto-CAD, Delphi-VISU, AVL-EDACS, Bosch-INCA, Woodward Calibration tool for Gas Engines.

➤ **Hobbies:** Playing Tabla, Singing, Listening to music.

➤ **Extracurricular Activities:**

- Sr.Diploma in Tabla Playing.
- First place in district level music competition.
- First place in college singing competition.
- Participated in National Conference on AMT (Advance Modeling Technique).
- Member of discipline committee in Inter College Athletics meet.
- Participated in Singing reality shows.

➤ **Personal Details:**

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| Date of birth: | 09 MAY 1985. |
| Nationality: | Indian. |
| Marital status: | Married. |
| Languages known: | Hindi, English and Marathi. |

References:

- 1) Mr. Arjuna Rao (CTO) - +91 - 7499549562
- 2) Mr. Nagesh Ponnamm (Head Design R&D) +91 - 9689670421.
- 3) Mr. Praveen Jain (Sr. Manager) +91 - 9784674029.

I Tapan Chourey hereby declare that the furnished above are true to the best of my knowledge and belief.



Place: Bangalore

TAPAN CHOUREY