

NITESH KUMAR

PROCESS ENGINEER | NEW PRODUCT DEVELOPMENT | PRECISION MANUFACTURING

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PROFESSIONAL SUMMARY

Mechanical Engineer with 5+ years of experience driving process engineering and New Product Development (NPD) for micro-precision components. Proven track record optimizing CNC/VMC machining processes, reducing rework through GD&T-based inspection planning, and leading prototype-to-mass-production transitions. Skilled in cross-functional coordination across Design, Quality, and Production teams to improve machining stability, cycle time, and first-pass yield.

KEY SKILLS & EXPERTISE

- Process Engineering & Continuous Improvement — Process Optimization, Kaizen, Poka-Yoke, 5S & Waste Reduction, Root Cause Analysis (5-Why) & CAPA
- New Product Development — NPD, Process Flow Charts (PFC), Control Plans, Process Validation, Prototype-to-Production Transition
- Machining & Precision Manufacturing — CNC & VMC Turning, Gear Hobbing, Tool Wear Analysis & Troubleshooting, Micro-Precision Assembly
- Quality & Documentation — GD&T Interpretation & Application, Quality Inspection (VMS, TMM, Micrometers, Height Gauge, Comparator), SOP & Work Instruction Authoring, Document Control, BOM & Routing Management
- Systems & Tools — SAP (Production & Material Workflow), MS Excel.
- Collaboration — Cross-Functional Team Coordination (CNC, Quality, Design, Production, Materials)

PROFESSIONAL EXPERIENCE

Engineer, Process Engineering & Development | PA Pinion Industry Jan 2023 - Present

- Led process development for new gear and precision components, ensuring manufacturability and machining feasibility from design through production release.
- Optimized cutting parameters to improve tool life and machining stability, reducing tool changeovers on high-volume production lines..
- Cut rework rates by implementing GD&T-based inspection planning and fixture improvements..
- Directed prototype trials, process validation, and documentation for new product launches, accelerating time from prototype to mass production.
- Authored SOPs and Work Instructions and maintained document control standards to ensure consistent, audit-ready manufacturing processes.
- Developed Process Flow Charts (PFC) to standardize manufacturing processes and reduce process variation.
- Drove Kaizen initiatives and 5S workplace organization, improving shop-floor efficiency and safety.
- Coordinated daily across CNC, Quality, Design, Production, and Materials teams to resolve production issues and keep launches on schedule.

CNC Machine Operator | PA Pinion Industry Feb 2021 - Dec 2022

- Operated CNC machines to manufacture precision metal components to tight tolerance specifications.
- Performed tool presetting, offset adjustments, and troubleshooting to maintain machining accuracy and minimize downtime.
- Conducted in-process inspection using precision measuring instruments to ensure dimensional compliance.
- Supported the engineering team during prototype machining and process trials, providing hands-on machining expertise.

EDUCATION

Diploma in Mechanical Engineering — Government Polytechnic, Sundernagar (2016-2019)

12th Standard (Non-Medical) — Kendriya Vidyalaya, AFS Kasauli (2016)

CERTIFICATIONS

- AutoCAD — 2D Drafting & Design
- SolidWorks — Basic Mechanical Design
- GD&T — Practical Application in Production

LANGUAGES

English, Hindi