

Robert L. Henderson

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PROFESSIONAL SUMMARY

Senior Manufacturing Engineer with over 12 years of experience optimizing high-volume production lines in the automotive sector. Proven track record of reducing operational costs by 20% through Lean Six Sigma implementation and advanced robotics integration. Expert at bridging the gap between product design and large-scale manufacturing execution.

WORK EXPERIENCE

Senior Manufacturing Engineer | Tesla, Inc. | Austin, TX

Apr 2019 - Present

- Spearheaded the optimization of the high-voltage battery assembly line, increasing daily output by 30% through bottleneck analysis.
- Managed a \$12M capital project for the installation of 15 new Fanuc robotic arms, reducing cycle time by 12 seconds per unit.
- Developed and implemented a custom SPC software module that reduced unplanned downtime by 18% in the first year.
- Collaborated with R&D to refine Design for Manufacturability (DFM) for new cell modules, cutting material waste by \$450,000 annually.
- Mentored a team of 6 junior engineers and 20 technicians on Lean Six Sigma principles to foster a culture of continuous improvement.

Manufacturing Process Engineer | Applied Materials | Austin, TX

Aug 2014 - Mar 2019

- Designed and validated precision manufacturing processes for semiconductor equipment components using SolidWorks and MATLAB.
- Reduced the cost of quality by 25% by implementing a comprehensive Root Cause Analysis program for component failures.
- Facilitated 12 Kaizen events focused on shop floor layout, resulting in a 20% reduction in material handling travel distance.
- Managed relationships with Tier 1 suppliers to ensure 99% on-time delivery of critical custom-machined parts.
- Authored over 50 Standard Operating Procedures (SOP) that standardized production across two facility locations.

Manufacturing Engineering Specialist | Flextronics | Plano, TX

Jun 2010 - Jul 2014

- Oversaw the transition of 4 high-speed SMT lines from prototyping to full-scale production for consumer electronics clients.
- Improved Overall Equipment Effectiveness (OEE) from 72% to 88% through the implementation of a Predictive Maintenance schedule.
- Led a cross-functional team to achieve ISO 9001 recertification with zero major non-conformities found during the audit.
- Negotiated with equipment vendors to secure a 15% discount on a new pick-and-place machine suite, saving \$120,000.

EDUCATION

Georgia Institute of Technology | Master of Science | Manufacturing Systems Engineering

Aug 2008 - May 2010

University of Texas at Austin | Bachelor of Science | Mechanical Engineering

Sep 2004 - May 2008

SKILLS

AutoCAD & SolidWorks, PLC Programming, Robotics & Automation, Process Mapping, Tooling & Fixture Design, ERP/MRP Systems (SAP, Oracle), Lean Manufacturing, Six Sigma (Green/Black Belt), Root Cause Analysis (RCA), Statistical Process Control (SPC), ISO 9001 / AS9100 Standards, Total Quality Management (TQM), Project Management, Vendor Management, Cross-functional Leadership, Budget Forecasting, Technical Writing

CERTIFICATIONS

Six Sigma Black Belt | ASQ - American Society for Quality (2016)

Certified Manufacturing Engineer (CMfgE) | SME - Society of Manufacturing Engineers (2012)

LANGUAGES

English (Native)

German (C1 - Professional Working Proficiency)

ACTIVITIES

SME Annual Conference Speaker

Presented a case study on 'Integrative Automation in High-Volume Battery Production' to an audience of 200+ industry professionals.

Volunteer Engineering Mentor

Weekly mentor for the local FIRST Robotics high school team, teaching students about CAD design and mechanical assembly.