

LUIS ALBERTO JIMENEZ RAMIREZ

Mechatronics Engineer

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PROFESSIONAL PROFILE

Process engineer specialized in electronic assembly (SMT and PCBA) with experience in programming, start up, and maintenance of production equipment. I have worked on new product introduction, yield improvement, thermal profile development, and tooling design for SMT lines. I am familiar with IATF 16949 standards, quality tools (APQP, PPAP, FMEA, MSA, SPC), and continuous improvement methodologies such as Lean Six Sigma and 5S. My focus is on solving technical problems, reducing costs, and ensuring process reliability in the electronics and medical industries.

EXPERIENCE

Fresenius Medical Care

Reynosa, Tamaulipas

Automation Engineer

03/2025 - Present

- I redesigned PLC programs (Siemens/TIA Portal) for 4 production lines, increasing OEE from 75% to 87% and reducing downtime by 20%.
- I worked directly with customers and suppliers to implement solutions that improve the quality of the final product

Ametek Lamb Motors

Reynosa, Tamaulipas

SMT Programmer

06/2023 - 03/2025

- I led the migration of two automotive production lines from the United States to Mexico, meeting deadlines 100% and with zero quality loss.
- I designed a real-time monitoring system for humidity and temperature in SMT areas, reducing solder defects by 30%.
- I applied Kaizen tools to develop an application that eliminated seven redundant steps in the pick-and-place process, increasing production speed by 12%.
- Programming and adjustment of inspection and placement equipment (AOI, SPI, Yamaha Pick & Place, reflow with nitrogen atmosphere).
- Optimization of reflow profiles that improved solder reliability and reduced voids and tombstoning defects.
- Implementation of customized tooling for special assemblies, reducing cycle times by 10%.
- Participation in new product introduction (NPI) projects, generating documentation and validations under IATF 16949.
- Development of an internal traceability and ESD monitoring system, increasing reliability in external audits.
- Support in preventive maintenance plans that reduced unplanned line downtime by more than 12.

Kimball Electronics

Reynosa Tamaulipas

SMT Technician

05/2020 - 06/2023

- Performed advanced diagnostics of SMT equipment (paste printers, AOI, reflow), reducing unplanned downtime.
- Programming and adjustment of SMT equipment (printers, SPI, Yamaha Pick & Place, AOI, X-ray, reflow with nitrogen), ensuring stable PCBA production for medical and automotive clients.
- Development and validation of advanced reflow profiles, achieving higher reliability in solder joints and reducing defects such as voids and tombstoning.
- Design of specialized tooling for high-density component assembly, decreasing cycle times by 10–12%.
- Participation in new product introduction (NPI), conducting DFM reviews, PPAP, and capability studies under IATF 16949 standards.
- Implementation of an in-line traceability system, improving auditability and reducing response times for failures.
- Coordination with maintenance for SMT preventive maintenance plans, increasing equipment uptime by over 12%.
- Application of Core Tools (APQP, FMEA, SPC, MSA) in critical projects for Tier 1 automotive and medical clients.
- Interpreted electrical diagrams and manuals in English to execute action plans for 15+ critical failures per month, improving line reliability.
- Implementing Kaizen improvements focused on production application development.
- Developed a digital failure tracking tool (Excel + Python), reducing reporting time by 50%.

EDUCATION

Universidad Tecnológica de Tamaulipas Norte

Reynosa, Tamaulipas

Bachelor's Degree in Mechatronics

09/2021 - 08/2024

- Interdisciplinary projects combining mechanical, electronic, and software engineering.
- Dominio de sensores, actuadores y sistemas SCADA para monitoreo en tiempo real.
- Proyectos interdisciplinarios combinando mecánica, electrónica y software

EDUCATION

Universidad Tecnológica de Tamaulipas Norte	Reynosa, Tamaulipas
Mechatronics Technician	09/2021 - 08/2023
- Industrial equipment troubleshooting using thermography and vibration analysis. - Interpretation of electrical diagrams and repair of PCB boards.	

LANGUAGE

Spanish	Native	●●●●●	English	Avanzado	●●●●●
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STRENGTHS

 Technical versatility Experience in multiple industries (SMT, medical, military, software development, and automation).	 Development of complex systems Ability to design, program, and optimize industrial and digital solutions.	 Problem-solving Ability to diagnose failures, troubleshoot systems, and propose effective improvements.
 Quality control in electronics Implementation of optical inspection systems and defect analysis	 Adaptability Ability to integrate into new sectors and quickly learn processes and technologies.	

PROJECTS

Comprehensive traceability system for SMT	Ametek Mexico
	2024 - 2025
- Ensure full control of the production flow, from component receipt to final assembly. - Programming and software integration to capture data at each stage of the SMT process. - Implementation of barcode readers for batch tracking. - Integration with databases to generate automatic reports and provide complete traceability for ISO/AS9100 audits. 35% reduction in production errors and improved response time to defects detected by AOI.	