

Jakob Pearson

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Mechanical Design Engineer | Tooling, Fixtures & Manufacturing Equipment

Professional Summary

Results-driven mechanical design engineer specializing in tooling, fixtures, and manufacturing equipment. Experienced in concept development, CAD modeling, reverse engineering, and design for manufacturability within. Proven ability to own mechanical designs from concept through release, delivering practical solutions that reduce scrap, improve efficiency, and support scalable production.

Experience

Manufacturing Engineer – Chromalox (*Dec 2024 – Present*)

- Led the design of custom fixtures, jigs, and bending tools from concept through release, contributing to a \$182K reduction in scrap through improved part control and manufacturability.
- Designed and implemented manufacturing layouts and tooling solutions to optimize workflow, ergonomics, and production efficiency.
- Reverse-engineered and redesigned existing tooling across multiple manufacturing departments to improve reliability and reduce downtime.
- Collaborated cross-functionally with design engineers and production teams to improve product manufacturability and reduce scrap.
- Produced detailed CAD models, assemblies, and manufacturing drawings

Manufacturing Engineer Technician – Chromalox (*Feb 2024 – Dec 2024*)

- Converted undocumented and damaged legacy tooling into fully constrained 3D CAD models and manufacturing drawings using Autodesk Inventor to support redesign, replacement, and process improvement.
- Designed and released tooling supporting the manufacture of \$800K+ in new products, ensuring manufacturability and repeatable production.
- Supported engineering and production teams by maintaining accurate tooling documentation and CAD data for shop-floor use.

Mechanic / Service Writer – The Bike Shoppe (*Sep 2023 – Feb 2024*)

- Diagnosed mechanical, pneumatic, hydraulic, and electrical system issues and translated findings into clear repair plans and service documentation.
- Communicated technical issues and solutions to customers, demonstrating strong problem-solving skills and technical communication.

Manufacturing Engineer Intern – Chromalox (May 2022 – Aug 2023)

- Designed and implemented tooling solutions that prevented 500+ parts from being scrapped.
- Participated in kaizen events for feeder departments (wiring, hardware kits, gaskets, and seals) to drive continuous improvement.
- Supported fixture and tooling designs through prototyping, testing, and iterative improvement in production environments.

Core Skills & Technical Proficiencies

Mechanical Design

- Tooling, Fixture, and Jig Design
- Reverse Engineering
- Design for Manufacturability (DFM)
- Machine and Workcell Layout

CAD & Documentation

- Autodesk Inventor (Advanced)
- SolidWorks
- AutoCAD
- Engineering Drawings & Documentation

Manufacturing Knowledge

- Sheet Metal Fabrication
- Tube Forming and Bending
- Press Dies
- Punch and Knockout Dies

Certification

- SOLIDWORKS Certified Associate (CSWA)

Education

B.S. Mechanical Engineering Technology – Weber State University
Dec 2024

Senior Capstone Project:

Designed a welding fixture cooling device that reduced dwell time from 6 minutes to 45 seconds for Williams International. Lead mechanical designer, responsible for concept development, CAD modeling, and assembly.

References

Available upon request