Hannah Brooks

Mechanical Design Engineer

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SUMMARY

Mechanical design engineer with 4 years designing packaging and automation machinery for food and consumer goods plants. Builds assemblies in SolidWorks and Creo, checks critical parts in ANSYS, and releases GD&T drawings that suit real machining and manufacturing processes, which cuts rework on the shop floor.

EDUCATION

Bachelor of Science 05/2022
University of Cincinnati Cincinnati, OH
Mechanical Engineering

EXPERIENCE

Mechanical Design Engineer 08/2024 - Present
Queen City Automation Cincinnati, OH
Design engineer on a 9-person team building case packers and robotic palletizers for food and consumer goods plants.

- Design complete machine modules in SolidWorks for **11** case packers, each with 1,500+ parts and full bills of materials.
- Verify frames, shafts and gripper arms with ANSYS FEA, catching 3 fatigue risks before the build floor started assembly.
- Specify bearings, linear guides, motors and pneumatics from load and cycle calculations, keeping purchased parts within 2% of quote.
- Mentor 2 co-op students on mechanical design standards, drawing checks and GD&T callouts for machined parts.

Mechanical Engineer I 06/2022 - 07/2024
Miami Valley Machine Works Hamilton, OH
Custom machine builder making fixtures and test stands for automotive and appliance plants.

- Modeled **80** fixtures and test stands in Creo, releasing drawings to the in-house machining and welding shop.
- Cut average machining cost per fixture by 22% by redesigning parts around standard stock sizes and fewer setups.
- Converted 300 legacy AutoCAD drawings to 3D models, tracking progress and revisions in Excel.
- Investigated 14 field failures with the service team and released design changes within 3 weeks of each report.

Mechanical Engineering Co-op 05/2020 - 12/2021
Tristate Conveyor and Packaging Cincinnati, OH
Three alternating co-op terms through the University of Cincinnati program.

- Modeled **30** conveyor guards and brackets in SolidWorks for released machine orders.
- Checked 200 vendor parts against drawings with calipers and micrometers, logging defects for quality.
- Built a machining cost estimator in Excel that 3 engineers used for fixture quotes.

SKILLS

SolidWorks • Creo • AutoCAD • GD&T • ANSYS • FEA • Mechanical Design • Manufacturing Processes
Machining • Excel

CERTIFICATES

GDTP Technologist Certification
ASME
2024

Engineer in Training (EIT)
Ohio State Board of Registration for Professional Engineers and Surveyors
2022