

Richard W. Wilson

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Skills:

• **Machinery and Tooling**

- Assembly and maintenance of machinery : machine shop equipment, robotic systems, small and large vehicles, hydraulic, pneumatic, and electro-mechanical equipment
- Manual operation of lathes, milling machines, sheers, brakes, surface grinders, torches, welders, and other various hand tools
- Hand tools used for machine repair: Torque wrenches, indicators, size gauges, lifts, hoists, and overhead cranes
- Measuring devices: micrometers, calipers, height gauges, indicators
- Design and fabrication of custom tooling

• **Computer Applications**

- Solid Edge 3d CAD, Solid Works 3d CAD
- Microsoft Office (Word, Excel, Outlook, etc.)

• **Mechanical Layout and Design**

- Knowledge of common and irregular hardware / tooling
- Knowledge of common practices for mechanical system layout, assembly, and maintenance
- Excellent analysis and problem solving skills
- Experience with physical dimensions and tolerance stack up
- Experience in holding geometric tolerances
- Experience with standard practices in various types of manufacturing: high & low volume, Large equipment, switch gear, electrical equipment
- Knowledge of specific alloys and metals and that can be used for cost savings and sustainability

• **Technical Writing**

- Experience in writing site machining and safe work policies
- Creating safe work practice documents
- Writing detail work procedure documents to explain complex wiring and mechanical assembly procedures

Education and Affiliation:

Point Park University

Bachelor of Science in Mechanical Engineering Technology
Currently Enrolled

Conformance Technologies, Inc.

IPC-A-610 Certified in Acceptability of
Electrical Assemblies

Community College of Allegheny County

Associate of Science Computer Aided Drafting
and Design (Mechanical)
Graduated 12/2007

Steel Center AVTS Machine Program

PA certificate in Precision Machining

**Student Member of the Engineers Society
of Western PA**

Professional Experiences:

Eaton Corp. (Tech Center) - Moon twp. , PA **Lead Mechanical Technician** 09/2016 - Present

• **Engineering Services**

- Mechanical technician support to the low and medium voltage, air circuit breaker engineering department
- Support mechanical endurance, thermal, and high potential testing
- Assemble test set ups, terminate large cable assemblies for testing up to 72k Volts, 5k Amps
- Analysis of mechanisms, moving parts, and material for proper fit, form, and function

• **Mechanical Assembly and Prototyping**

- Assembly of large and small products and mechanisms, using various hand tools or machinery
- prototyping parts, fixtures, and assemblies before release to manufacturing
- Machining custom parts for design verification
- Modifying large pieces of equipment with various hand tools and machinery

• **EHS Department Support**

- Writing policies and procedures for safe use of equipment for entire site
- Training personnel on safety procedures , administering tests when applicable

RE² Inc. (R.E. Squared Inc.) - Pittsburgh, PA **Mechanical Technician** 9/2010 – 9/2016

- **Mechanical assembly**
 - Mechanical assembly of prototypes and fixtures used for R&D, machining, and production
 - Assembly using drawing packages, following the intent of the engineer with minimal input
 - Problem solve issues, research and implement solutions
 - Redline the official drawing package, so changes can be implemented in future releases
- **Mechanical Design**
 - Use Solid Works 3d CAD software to design various test rigs, assembly tools, mechanical components
 - Design components as part of a whole new system, and also design components to fit into previously designed systems
 - Create drawings for machining, fabrication, and assembly
- **Machine operation and fabrication**
 - Machine and fabricate parts and assemblies from scratch, often on the fly to get tasks accomplished
 - Fabricate components according to mechanical drawings, often holding tolerances to the nearest .0001"
 - Modify components with machinery, accurately setting up the machine from existing features
- **Mechanical testing**
 - Work with engineers conducting experiments to ensure proper tools, facilities, and procedures are used
 - Design, fabricate, and setup test rigs to ensure safe and accurate tests
 - Record data, solve problems and equations for processing data
- **Electrical assembly**
 - Create the layout and routing for electrical cables on complex systems
 - Create technical documentation explaining electrical cable routing procedure for future production

Kurt J. Lesker Co. – Clairton, PA **Mechanical Designer** 2/2007 – 5/2009

Clean Room Technician 8/2006 – 2/2007

- **Mechanical Design**
 - Used Solid Edge 3D CAD to design various vacuum components for custom and standard applications
 - Designed custom parts and assemblies per customer specified parameters
 - Worked with manufacturing engineers to design for manufacturability, cost, and time effectiveness
 - Used dimensional and geometric tolerances to ensure fitment within pre-manufactured systems
 - Created Quality Control drawings in order to expedite QC processes
- **Material Designation**
 - Created bills of materials for previously designed systems
 - Changed material for previously designed components, for aesthetics and cost effectiveness
 - Worked with manufacturing and purchasing engineers to find effective solutions of raw material
- **Metal Finishing**
 - Used machinery, hand tools, and polishing equipment to complete the manufacturing process
- **System Assembly**
 - Assembled vacuum systems using mechanical drawings, bills of Material, and diagrams
- **Lifting and Rigging**
 - Operated overhead cranes and assisted in the lifting and rigging of objects weighing up to 5 tons
- **Shipping and Receiving**