

Tedd McHenry, P.Eng.

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Introduction

I am an experienced designer of mechanical and electronic equipment with engineering experience in the accessibility lift, medical, commercial printing, telecommunication, and nuclear power industries. I have designed elevators and lifts, precision production tooling for medical products, mechanical, electromechanical, and pneumatically-driven devices, as well as electronic equipment chassis.

Summary of Qualifications

- Proven mechanical design ability, having designed and developed a wide variety of mechanical devices:
 - Accessibility lifts and residential elevators
 - Non-invasive therapeutic devices
 - Precision jigs and fixtures for the production of biopsy probes
 - Plate-transport mechanisms for computer-to-plate printers
 - Mechanical aspects of numerous telecommunication equipment platforms
- Experience in designing for a wide variety of manufacturing processes in stainless steel, titanium, aluminum, steel, sheet metal, and various plastics. Hands-on experience machining and forming components in stainless steel, steel, aluminum, and brass.
- Broad experience in mechanical engineering and related fields, including managing a mechanical prototyping and machining operation and six years experience in nuclear safety systems analysis and nuclear plant construction engineering.
- Proficient with software design tools: SolidWorks CAD; SolidWorks EPDM; Autodesk Inventor CAD; and Flotherm CFD/thermal analysis. Some experience with SolidWorks EPDM administration.
- Highly-developed written and oral presentation skills. Three years experience developing technical documentation and training technical writers in the use of publishing and online development tools.

Related Technical Skills

Engineering

- Mechanical analysis and design
- Mechanical testing
 - Thermal analysis and testing of electronics
 - Shock, vibration, and noise
 - EMI minimization
- CAD design and CAD data management

Tools and Systems

- 3D CAD: SolidWorks, SolidWorks EPDM, Autodesk Inventor
- Thermal analysis: Flotherm
- Operating systems: UNIX, Windows, MacOS
- Office tools: Excel, Word, MediaWiki
- Graphics: Adobe Illustrator & Photoshop
- ERP: SAP, Oracle, SyteLine

Professional Experience

Deputy R&D Manager for Canada Mechanical Engineering Team Lead

Garaventa Lift, 2011-Present

Currently lead the Canadian half of an international R&D team in designing, developing, and testing residential elevators and access lifts for the mobility impaired. Design systems and components and analyze power requirements. Analyze and test stresses in support of FDA and EU type approval submissions, and other regulatory requirements.

In response to the company goal of developing a global R&D team, sourced and implemented an innovative cloud-based CAD data management system that has vastly increased the ability of engineers at three different sites to collaborate on designs. Implemented and led the development of company engineering standards and processes, including a cloud-hosted corporate wiki site.

President and Engineer

McHenry Engineering Ltd., 2003–2012

Founded McHenry Engineering Ltd. in 2003. Developed designs and products for Dyaptive Systems Inc., KLN Klein Product Development, Zeugma Systems Inc., Agilent Technologies Canada Inc., Angiotech Pharmaceuticals, StarFish Product Engineering, and Nautilus Lifeline. (See below.)

Mechanical Engineer

Nautilus Lifeline, 2011

Hired to troubleshoot a portable marine rescue radio that was nearing production but still failing IP57 water-ingress testing. Determined the water-ingress path through further testing, and developed an innovative and cost-effective solution. Worked with contract manufacturer to implement the necessary changes to the production process, allowing the radio to be brought to market on schedule.

Senior Mechanical Engineer

StarFish Product Engineering Inc., July 2010-November 2010

Designed and developed non-invasive therapeutic devices. Designed and developed a voice coil actuated tendon stimulator as part of a stroke therapy device. Designed, fabricated, and tested various related test fixtures and devices. Designed miscellaneous other mechanisms.

Design Engineer

Angiotech Pharmaceuticals, Inc., 2009-June 2010

Designed and developed precision jigs and fixtures for the production of biopsy probes. Fabricated and tested prototype jigs and fixtures, tested designs, and analyzed results.

Manager—Prototype Centre

Kodak Graphic Communications (formerly Creo), 2008–2009

Managed a team of 19 shop managers, machinists, machine operators, and technicians to produce prototype mechanical parts and assemblies for product development teams. Developed a rapid procurement system for prototype parts not made in-house, including various classes of mechanical components as well as PCB assemblies, cabling, and optical components.

- Defined and measured metrics of operational performance and implemented numerous process changes to speed delivery of prototypes to product-development teams.
- Decided on priorities and strategies, to be implemented by the shop managers, to ensure that the requirements of the product development teams were appropriately met with available resources.
- Prepared budget projections and made staffing and resource recommendations to the operations manager.

Design Engineer—Mechanical

Kodak Graphic Communications (formerly Creo), 2006–2007

Designed and developed mechanical systems and components for computer-to-plate printers for the offset printing industry. Designed pneumatically driven, electronically controlled mechanisms to handle delicate plate media (light-gauge, emulsion-coated aluminum plates).

- Developed an easily retrofittable modification to a plate-handling mechanism that solved a long-standing customer problem with very thin plates.
- Took over the development of a critical plate-handing sub-system and designed a simple, highly effective “gripper” mechanism that enabled the handling of plate sizes that the system could not previously handle. This significantly expanded the product's market potential.

Design Engineer—Mechanical

Agilent Technologies/Hewlett–Packard, 1997–2003

Sole mechanical design engineer for the division. Designed and developed chassis, instrument cards, and all other mechanical components of telecommunication test instruments. Planned, supervised, and participated in all mechanical testing of new designs, including shock and vibration, thermal, and usability testing. Assisted EMI testing and regulatory approval.

- Designed an all-new mechanical platform for network test instruments. The platform subsequently became the basis for three product families in three different divisions.
- Designed portable version of same test platform in six months (concept development to first customer shipment).

Learning Products Developer

Hewlett–Packard, 1994–1997

Developed state-of-the-art online help systems for telecommunication and digital video protocol test software. Developed and conducted training on technical writing authoring tools. Wrote user and programmer guides for telecommunication and digital video protocol test hardware and software.

- Designed a comprehensive online help system for the Emmy-award-winning MPEGscope Test System

Pilot—Canadian Forces

Department of National Defence, 1987-1994

Trained and instructed student pilots to “wings” standard on the CT-114 Tutor jet. Flew search and rescue missions, and missions in support of Arctic operations, in the CC-138 Twin Otter. Managed publication of the “Plainsman,” the CFB Moose Jaw base newspaper.

Nuclear Systems Engineer

Ontario Hydro, 1981-1987

Analyzed the reliability of safety systems for CANDU nuclear plants. Evaluated the effectiveness of proposed modifications to CANDU safety systems and made recommendations. Participated in the planning and performance of CANDU safety system tests, especially vacuum containment system leakage tests. Assisted in the planning of major maintenance operations on CANDU reactors.

- Designed the operations centre for a major remote-tooling maintenance operation.

Academic and Military Achievements

**Bachelor of Applied Science,
Mechanical Engineering**
University of Toronto

Final electives: direct energy conversion, combustion theory, instrumentation design, control systems theory.

Officer Training
Department of National Defence

Military leadership, oral and written French, electronic warfare technology and tactics, military law and administration.

Pilot Training
Department of National Defence

Jet instructor training, search and rescue training, aerodynamics, meteorology, navigation, aircraft systems, flight procedures.

Hobbies and Interests

- Private pilot; former left wing and deputy lead of the Fraser Blues formation flying team
- Avid downhill skier
- Motorcyclist
- Memberships
 - Vintage Racing Club of BC (President)
 - Canadian Owners and Pilots Association
 - Recreational Aircraft Association, Chapter 85