

Ulrich Hissen

CONTACT INFORMATION

447 Berkley Cres NW
Calgary, Alberta
T3K 1A9
(403) 295-9146
uhissen@telusplanet.net
<http://www.telusplanet.net/public/uhissen>

SKILLS

- mechanical design and analysis (specialty is **shock and vibration**)
- design team leadership
- technical and professional communication
- embedded C and assembly programming
- creative problem solving
- diverse knowledge and experience

EDUCATION

University of Victoria

Victoria, BC.

- Graduated in 1997, Bachelor of Engineering, Mechanical with 6 Coop terms

Professional Qualifications

Alberta

- Professional Engineer since Q1 2005

WORK EXPERIENCE

General Dynamics Canada

November 1997 – Present

- Mechanical lead for the Integrated Sensor Systems (Bio-Defense) program group
- Mechanical lead for the Romanian Infantry Fighting Vehicle program
- Product engineer for the Expeditionary Fighting Vehicle (EFV) Signal Entry Panel
- 6 month posting to Virginia with General Dynamics Amphibious Systems and the US Marine Corps, as installation Engineer and on-site technical liaison for GD Canada's work on the EFV
- Finite Element modeling of shock fixtures and electronic chassis for vibration and ballistic shock
- System and vehicle level power, weight and C of G engineer as well as the selector of the shelters and prime mover for the successful \$38M 8ACCS Modernization proposal, in which GD Canada acted as system integrator
- Coordinated and carried out vibration and ballistic shock testing on large (500kg) isolated equipment racks in Los Angeles and New York
- Four months operating GD Canada's environmental stress testing facilities which included designing and carrying out tests using environmental chambers, pallet and drop testers, and a 35kN electrodynamic vibration table
- Technical advisor/troubleshooter-of-last-resort for the environmental stress testing facilities up to the present

Teleflex (Coop)

September - December 1996

- Investigated high pressure failure mechanisms of hydraulic steering cylinders for production cost reduction
- Designed and tested hydraulic bleed fittings for outboard steering systems operating in marine environments, a problem involving the interaction of thread shear strength, flare sealing properties and corrosion resistant surface coatings
- Selected composite bushings for the (then) new SeaStar product line and carried out lifespan salt-spray cyclic testing
- Investigated injection moulding failures, and designed and fabricated rework tooling
- Produced drawings of commercial parts using CMM data allowing fit-test mockups to be built

Cominco Engineering Services Ltd. (Coop)

September - December 1994

- Part of a pilot plant project for a revolutionary industrial copper-extraction process
- Constituted the entire plant maintenance team from 2pm to 11pm each night
- Involved in design fabrication, and assembly of plant structures, machinery, piping, and electrical systems
- Mechanical troubleshooting for various aspects of the process

(403) 295-9146

uhissen@telusplanet.net

Ulrich Hissen

COMPUTER EXPERIENCE

Software

- I-DEAS 11 3D CAD software
- Finite Element Analysis
- AutoCAD 13
- DOORS requirement allocation and tracking software
- Vibration Research and Spectral Dynamics vibration control software
- Microsoft Office (including Project)

Hardware

- Closed/open loop vibration and shock control systems
- Kinemechanic instrumentation and mechanical sensor systems
- CNC milling machine
- SMAW welding and general metal shop tools
- Table sized Coordinate Measuring Machine
- High speed digital camera

PROJECTS

Sentry 3000

- A portable, low cost, weatherproofed, networkable biological aerosol detector for the US Homeland Defence market
- Lead a team of 4 designers in the in the mechanical design and building of three prototype portable bio-aerosol detectors for sales and testing

Scout

- A hand-held, battery powered, biological aerosol detector for the Canadian first responder market
- Lead a team of 6 designers in a 7 month crash development schedule for a 2003 North American trade show

Air Test Path

- A mobile biological aerosol generation/test facility built to Canadian Biosafety Level III containment guidelines
- Repeatably generates a wide variety of particle sizes and concentrations for testing and development of GD Canada's bio-defense sensors
- Designed, produced drawings, ordered and assembled parts, and tracked project cost and schedule

Romanian Infantry Fighting Vehicle Modernization

- Installing a modern communications system into a 1970's soviet APC (BMP1 / 2)
- Lead a team of 2 mechanical designers and 1 cable designer
- Coordinated design, manufacturing and rework including cost and schedule for all mechanical/product aspects

Expeditionary Fighting Vehicle Signal Entry Panel

- A protected signal pass-through panel mounted on the rear hull of the command variant of the EFV
- Allocated requirements, wrote the product specification, did the mechanical and wiring harness design, generated all part and assembly drawings, coordinated the prototype build and delivery, and carried out mechanical testing in Q2-2003

LSVW (Light Support Vehicle, Wheeled) vibration

- Developed GD Canada's in-house capacity for instrumentation and data capturing from moving vehicles
- Spectral reduction of data, axis and run enveloping, and translation of that data to test profiles and durations for subsequent box-level testing

Injection moulded cylinder rework tool

- A bench mounted tool for splitting incompletely moulded plastic pistons off expensive hydraulic cylinder rods
- Uses a toggle clamp, an adjustable hardened steel cutter, and soft rubber holders to safely and reliably split cast pistons off the rods without marring their polished surfaces

Composite bushing cyclic test setup

- A stainless steel frame holding 2 steering cylinders, one driven back and forth by a pump, the other acting as the load
- Ran inside a heated salt-spray chamber for days at a time to test bushing wear

INTERESTS

- Gardening, history, computers, electronics, hiking
- Volunteer sound board operator at St. David's United Church