

# Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

## STEVEN J. BECKER Vehicle Expert

### PROFESSIONAL EXPERIENCE

2009 to present **Robson Forensic, Inc.**  
*Associate*

Provide technical investigations, analysis, reports and testimony towards the resolution of commercial and personal injury litigation involving vehicle collisions, vehicle design issues, acoustics, mechanical defects and malfunctions, and vehicle repair issues for UTV's (side by side ATV's), pedestrians, bicycles, passenger cars, light trucks, SUV's and Tractor Trailers.

Experienced case work and testimony involving: scene diagramming, evidence collection, gunshot acoustics, environmental acoustics, sirens and backup alarms, manufacturing and test machines design, pedestrian knockdown, bicycle collisions, low speed collisions, occupant dynamics and restraint, black box (CDR) download and data analysis, automotive design/engineering and defective repair for: oil changes, lighting systems, engines, transmissions, brake systems, steering and suspension systems, axle systems, driveshafts and universal joints, throttle systems, vehicle structure, bumpers, vehicle dynamics and collision simulations.

2009 to present **Fournier, Robson & Associates, LLC**  
*Consulting Engineer*

Provide acoustic and vibration monitoring and problem diagnosis consulting. Vehicle engineering and test development consulting. Computer aided design (CAD), Animation and Simulation.

1997 to 2009 **Magna Powertrain – New Process Gear Division**  
*Engineering Test Services Manager*

1999-2009

- An active project engineer and manager for three worldwide manufacturing and two engineering sites' noise and vibration activities; project approval, purchasing, timing, and methodology.
- Coordinated the activities of several engineers in product development.
- Product design and development engineering for gears, sprockets, and chains.
- Negotiation of customer product specifications relating to noise and durability with BMW, Chrysler, Ford, GM, Honda, Nissan, Toyota, Volkswagen.
- Responsible for new product launch from design to problem resolution.
- Test vehicle fleet management
- Design of the machine, quality and test plan for all products' end of line test.
- Developed the capability for electrodynamic shaker durability testing, HALT.
- Performed vehicle dynamics testing and durability development for traction control systems.
- Developed and taught a course on Design for Test Engineering
- Used problem solving techniques; Six Sigma, Shainin, Taguchi, Root Cause.

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### *Quality Engineer*

1997-1999

- Implemented the quality process for assembly line First Time Capability improvement, and defect repair.
- Designed methods of noise analysis for production inspection and repair of manual transaxles, gears sets, power take-off units, and transfer cases.
- Performed process audits and verification of all design changes throughout production that affect noise (FMEA, APQP).
- Designed test apparatus including; motors, controls, shafting, and fixtures.

1994 to  
1996

### **Chrysler Corporation**

#### *Sci Lab Engineer from Modern Engineering*

- Program development for Chrysler vehicles including; sound package design, design and development of engine mount systems, induction resonators, vibration dampers, and various structural components.
- Responsible for the stiffness of structural components and joints of the vehicle body.
- Powertrain and drivetrain noise and vibration specialist.
- Provided technical support for Viper, Sebring, Neon, PT cruiser, Grand Cherokee.
- Coordinated shift assignments for engineers, mechanics and technicians.

1993 to  
1994

### **New Venture Gear**

#### *Product Engineer from CDI Corporation*

- Designed geared systems for automotive transmissions.  
Established a method of experimentation for NVH and computer simulation.
- Performed acoustic and vibration analysis of gears, bearings, shift actuators.

## PROFESSIONAL CREDENTIALS

Certified Inspection Mechanic, Class 1 (passenger car / light truck): Commonwealth of Pennsylvania

## EDUCATION

M.B.A., Marketing Concentration, Syracuse University, Syracuse, NY, 2007

B. S., Mechanical Engineering (with Aerospace), Worcester Polytechnic Institute, Worcester, MA, 1992

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### *Continuing Education:*

PC-Crash Software Crash Simulation and Animation Skills, 2011  
Traffic Crash Reconstruction 2, Northwest University Center for Public Safety, 2010  
Leika Total Station, Digital Laser Survey Techniques, 2010  
Traffic Crash Reconstruction 1, Northwest University Center for Public Safety, 2010  
Polytec Non-contact Laser Doppler Vibrometry, 2008  
Bruel & Kjaer Operational Deflection Shapes Analysis, 2006  
Six Sigma Yellow Belt training, 2006  
OSHA Compliance, 2003  
LMS Modal Testing, 2003  
Labview Systems Engineering, 2002  
Shainin Red X Apprentice training, 2001  
New Venture Gear Off Road Driving Techniques, 1999  
Small Engine Maintenance and Repair, 1999  
Emergency Responder and Hazardous Substances, 1997  
Chrysler Performance Driving Techniques, 1996  
Dale Carnegie-Effective Communication & Human Relations, 1996

### PROFESSIONAL MEMBERSHIPS

Society of Automotive Engineers (SAE)  
Pedestrian and Bicycle Information Center  
National Association of Professional Accident Reconstructionists

### PUBLICATIONS

The NP244 Transercase Chain Noise Reduction Using a Gemini HyVo Chain System, SAE, 2005-01-2298  
1<sup>st</sup> Order Boom Noise Relationship to Driveline Imbalance, SAE, 2005-01-2299  
Measurement of Transercase Imbalance, SAE, 2005-01-2297  
Gear Noise Rating Prediction Based on Objective Measurements, SAE, 1999-01-1721  
Objective Rating of Gear Whine, SAE, 1999-01-1720

### OTHER

Twisted Axles 4WD Club – Founding member, 1999-2004  
Mountaineering and technical rock climber, 1990-present  
Cub Scout Den Leader, 2011  
Soccer and Track coach - various  
Whitewater Kayaking  
Kayaker, 1993-present  
Instructor - teaching safety, self-rescue, and swift water rescue, 2001-present