

# Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

## DOUGLAS J. ROWLAND, P.E. Vehicle and Industrial Engineer

Provide technical investigations, analyses, crash reconstruction, reports, and testimony towards the resolution of litigation arising from collisions involving trucks, buses and other motor vehicles, and arising from industrial accidents and claims.

**Commercial Vehicle Operation** – safe and proper loading and operation of gas and diesel engine commercial vehicles, including single unit trucks, tractor-trailers, buses, skid-steer loaders, fork lift trucks, and snow plows employing hydraulic or air brake systems. Body types and options include: dump body, tilt body, snowplow, walking floor, wheel chair lift, yard horse, tow body, sander, lowboy, refrigerated box, and car carrier.

**Vehicle Crash Reconstruction** – certified by Northwestern University in Traffic Accident Reconstruction.

**Motor Vehicle Braking Systems** – hydraulic and pneumatic braking system design, operation, and trouble shooting including friction materials and hydraulic and pneumatic components: master cylinder, wheel cylinders, calipers, brake chambers, relay valves, etc.

**Mechanical Equipment Operation, Maintenance and Repair** – establishing preventative maintenance procedures, breakdown problem solving, expediting repairs for all types of mechanical devices from simple lever presses to 800 ton stamping presses; including motor vehicles from single cylinder gas engines units to large industrial diesel engine drive units.

**Motor Vehicle Transport, Towing, Recovery & Repair Service** – on and off road vehicles from motorcycles to tractor-trailer combinations as well as heavy construction equipment; winching and up-righting; proper loading and towing techniques, as well as securement, repair procedures, trouble shooting and repair shop management and supervision.

**Commercial Transportation Management** – business operations for Department of Transportation regulated Carriers; specifying & purchasing vehicles, recruiting and training drivers, safety programs, customer management, vehicle maintenance & repair, and regulatory compliance.

**Vehicle Component Design, Development and Testing** – from requirements, concept thru validation field-testing, including manufacturing for prototype samples to first production runs. Failure Mode Effects Analysis (FMEA) conducted for products & process, as well as writing trouble shooting procedures.

**Industrial/Manufacturing Process Design and Development; Tool & Fixture Design** – process sequencing, material flow, equipment specification & procurement, equipment layout and installation, process prove-out and problem solving. Plastics processing, powdered metal processing, rubber based calendaring, production welding, assembly, extrusion, embossing, multi-head custom embroidery, baking and curing, grinding, drilling, hot-press positive molding, high speed die cutting.

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**Facility and Equipment Layout** – optimizing space utilization as well as material flow for manufacturing and warehousing facilities.

**Product Design, Development and Testing** – from concept / requirements thru validation field-testing, including manufacturing for prototype samples to first production runs.

**Material Requirements Planning (MRP)** – installation of MRP software and system setup to ensure compatibility between process flow and software tracking ensuring proper performance.

**HVAC** – Heating, Ventilation and Air Conditioning system specification, design, installation and trouble shooting.

### PROFESSIONAL EXPERIENCE

2006 to present **Robson Forensic, Inc.**  
*Associate*

Provide technical investigations, analyses, crash reconstruction, reports, and testimony towards the resolution of litigation arising from collisions involving trucks, buses and other motor vehicles, and arising from industrial accidents and claims.

2002 to present **T & T Inc. of New York, Cohoes, NY**  
*Heavy Vehicle Recovery & Towing Technician, Repair Shop Supervisor*

Responsible for operation of Towing/Recovery/Road Service vehicles as appropriate. Spec new equipment; consult on work practices, estimate jobs and train new employees. Equipment operated includes: Recovery wreckers up to 30 ton; rollback flat bed, and fully equipped emergency road service trucks. At scene, assess situation, available equipment and personnel, develop strategy for service. Provided service to commercial transportation companies, car enthusiasts, as well as emergency response requested by state and local authorities. Provide damage free towing and recovery for over 100,000 miles, servicing over 800 vehicles. Supervise 5-bay service & repair shop for cars and trucks.

2000 to 2006 **Racemark International, Malta, NY**  
*Senior Engineer*

Responsible for product design group as well as production tooling for automotive floor mat manufacturing facility. Implemented digital product design and manufacturing. Specified and supported Computer Numeric Control (CNC) multi-head embroidery machines & processes, as well as CNC cutting machinery & processes. Provided engineering support to maintenance for complex machine opportunities, including mechanical failures. Designed (patent applied for) revolutionary tooling and production thereof. Managed installation and startup of Pointman Material Requirements Planning (MRP) software for satellite manufacturing facility in Switzerland.

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- 1998 to 2001 **Central Service Towing & Recovery**, Albany, NY  
*Heavy Vehicle Recovery & Towing Technician*  
Responsible for operation of Towing/Recovery/Road Service vehicles as appropriate for calls assigned. Emergency Response Exclusive Contract Service area covered included NYS Thruway Exits 23 – 25, as well as the City of Albany. Was lead operator on heavy truck accident scenes. Performed vehicle repair & service for cars and trucks.
- 1996 to 1999 **Allied Signal Friction Materials Division**, Green Island, NY  
*Senior Engineer*  
Responsible for all engineering activity in a powdered metal processing department. Key areas of activity included: cost saving capital projects, equipment and tooling failure analysis, customer and vendor quality and delivery issues. Major projects included rebuilding 600-ton safety-head presses and 200-ton mechanical presses, refurbishing controlled atmosphere furnaces and chillers and construction of labor saving automated production cells. Responsible for MRP system installation requirements and performance for our department. Defined Bill of Materials, process routing as well as training operator and staff on new software use. Administered process changes to documentation to secure QS-9000 registration. Developed and implemented proper press tool usage program.
- 1995 to 1996 **Nastech**, Bennington, VT  
*Manufacturing Engineer*  
Provided engineering support for Nissan product line, producing two different automotive steering columns. Production equipment included: automatic and robotic welders, plastic injection molding machines, CNC machining centers, hydraulic and pneumatic presses, and assembly stations. Projects included tooling redesign on all equipment to accept next generation parts, quality, safety, and productivity improvements on existing equipment as well as designing next generation processing equipment, including PLC programming. Suggested steering column design changes for manufacturing feasibility with sacrificing “safety-critical” functioning of the product.
- 1994 to 1997 **Capital Transcorp**, Albany, NY  
*Heavy Vehicle Operator*  
Established optimum routes for start-up trucking company providing contract services from Guilderland, NY to Long Island, NY. Negotiated delivery times to reduce wear and tear on both drivers and equipment. Safely operated over-the-road highway tractor transporting refrigerated loads to customer.
- 1992 to 1994 **Marsh Bus Company**, Albany, NY  
*Operations Director*  
Responsible for all operations of a charter and tour bus company. Included maintenance/trip scheduling, equipment acquisition, sales and service, managing 2-bay bus repair shop. Trouble-shooting complex problems in vehicle electrical, mechanical pneumatic, hydraulic

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and heat/air conditioning systems. Presented vehicles to NYS Officials for stringent DMV safety inspections. Increased fleet size from three to eight coaches in two-year period. Due to size of company, “hands-on” approach to all aspects of the business was required.

1988 to 1992 **Allied Signal, Bendix Friction Materials**, Green Island, NY  
*Product Applications Engineer*

Developed and implemented testing and analysis procedures to assure compliance with contract specifications and customer requirements, and FMVSS 105 and 121. Review of customer’s (Ford, Chrysler, GM) engineering contract specifications and requirements for specific friction material applications, then selecting and testing potential submission materials. Included analysis of friction material test data, new test equipment specification, and coordination of installation. Extensive presentations to customer’s engineering and management groups.

1986 to 1992 **First Class Coach Repair**, Latham, NY  
*Owner*

Owned and operated heavy vehicle road service truck providing 24/7 emergency assistance, as well as routine fleet service, to heavy trucks, tractor trailers, and buses. Regular clients included local truck fleets and a local university operating highway coaches. Occasional clients included many nationally recognized transportation fleets, as well as regional and local fleets, and private vehicles (i.e., motorhomes, fifth wheel travel trailer combinations).

1985 to 1988 **Bendix Friction Materials**, Green Island, NY  
*Manufacturing Engineer*

Developed and fine-tuned processes for production and testing friction material. Involvement with the process began at product design and was followed through to final inspection of initial product runs. Responsibilities included plant start-up as well as trouble shooting existing processes to improve product quality. Equipment specification, design and modification were required.

## PROFESSIONAL CREDENTIALS

Professional Engineer, State of New York – License No. 072172

Licensed NYS Motor Vehicle Inspector: Light and Heavy Duty Motor Vehicles, Trailers and Motorcycles

Valid New York State CDL Class A-M, with endorsements for Passengers, Doubles & Triples, Tank & Hazmat, and Tow Truck

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**Vehicle and Industrial Engineer**

## EDUCATION

B.S. Mechanical and Industrial Engineering, Clarkson College, Potsdam, NY

### *Continuing Education:*

Heavy Vehicle Crash Reconstruction, Ocean City MD, October 2009

Bendix Air Brake Systems, Ocean City, MD 2009

Critical Curve Speed, Oriskany, NY, June, 2009

Friction Materials for Light and Medium Duty Applications, Cohoes, NY, 2009

Lift Truck Safety, Lake George NY, May, 2009

Hazards of Hybrid Vehicles, Lake George NY, May, 2009

Wheel Bearing Failure Analysis, Cohoes, NY, May, 2009

Mortal Sins of Crash Reconstruction, Latham, NY, June 2008

Investigating Vehicle / Utility Pole Impacts, Atlantic City, NJ, October, 2008

Investigating Eccentric Collisions, Binghamton, NY, October 24-26, 2007

Traffic Accident Reconstruction I, Northwestern University Center for Public Safety,  
Traffic Institute, 2007

## PROFESSIONAL MEMBERSHIPS

New York State Traffic Accident Reconstruction Society (NYSTARS)