



Résumé of
WILLIAM M. BORTLES, B.S.

Kineticorp™

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- EXPERIENCE:** Forensic Engineer - Accident Reconstruction: Kineticorp, LLC, Denver, CO. 2005 to Present.
Project Engineer: Atlantic Industrial Technologies, Inc., Islandia, NY. 2004-2005.
- EDUCATION:** B.S. Mechanical Engineering, University of Colorado at Boulder. 2002.
Mr. Bortles is currently pursuing a Master's degree in Mechanical Engineering at the University of Colorado at Denver.
- CERTIFICATIONS:** Full Accreditation - Traffic Accident Reconstructionist, Accreditation Commission for Traffic Accident Reconstruction (ACTAR)
Crash Data Retrieval (CDR) System®, Technician, Data Analyst, Technician Mentor/Trainer
- AWARDS:** Engineering College – Dean's List, University of Colorado at Boulder. Fall 2001.
Carl H. Giroux Scholarship, University of Colorado at Boulder. 2001-2002.
- FORENSIC ENGINEERING:** Mr. Bortles has investigated and reconstructed hundreds of vehicular accidents. Through this work and research within the field of accident reconstruction, he has gained experience in the following areas:
- Mr. Bortles has investigated and reconstructed accidents involving pedestrians, bicycles, motorcycles, off-highway vehicles, passenger cars, buses, commercial vehicles, articulated truck and trailer combinations and passenger and freight trains. He has also reconstructed vehicular accidents involving wildlife, roadside barriers and terrain features. Mr. Bortles has reconstructed multiple accidents involving post-collision fires. He has also reconstructed numerous single vehicle loss-of-control and rollover accidents.
 - Mr. Bortles is a certified Bosch Crash Data Retrieval (CDR) System® Technician, Data Analyst and Technician Mentor/Trainer. He is experienced in the retrieval and analysis of data from rollover sensors, restraint and powertrain control modules from passenger vehicles and light trucks. Mr. Bortles trains others to become certified Level 1 and 2 CDR Technicians. He is also a member of the CDR Tool User's Group. Mr. Bortles has presented on the topic of Airbag Control Modules and Event Data Recorders to graduate students in the Biomechanical Engineering program at Wayne State University.
 - Mr. Bortles has expertise in accessing, recovering and interpreting data from commercial vehicle Event Data Recorders (EDRs) and Engine Control Modules (ECMs). He successfully completed training in *How to Interpret Commercial Vehicle Event Data Recorders*, the first of its kind commercial vehicle EDR course designed for accident reconstructionists, at the University of Tulsa.
 - Mr. Bortles has participated in full scale crash testing of CDR supported vehicles in car-to-car and car-to-pedestrian crash tests. He has also conducted forensic testing of vehicle and motorcycle dynamics, tire disablements and acoustics.
 - Mr. Bortles inspects heavy truck systems, including air brake systems, to determine their condition and relevance to an accident. He has completed Commercial Vehicle Safety Alliance (CVSA) seminars for *Brake Certification* as well as *Out of Service Criteria* presented by the Colorado Motor Carriers Association.
 - Mr. Bortles has published research in the Society of Automotive Engineers (SAE) Accident Reconstruction Session on the topics of vehicle-to-vehicle crashes and crash-test analysis.
- PROJECT ENGINEERING:** At Atlantic Industrial Technologies, Mr. Bortles designed and oversaw production of numerous custom hydraulic and pneumatic systems, controls and power transmission equipment for use in industrial, infrastructure, military and entertainment applications.
- AUTOMOTIVE ENGINEERING:** During his undergraduate studies at the University of Colorado at Boulder, Mr. Bortles participated in the SAE Collegiate Design Series as a member of CU's Mini Baja team. He designed the chassis and roll cage of an off-road vehicle, fabricated components and assisted in the testing the vehicle. At the 2002 West Regional, he competed as a driver in the four-hour off-road endurance race against a field of approximately 100 international teams.
- PROFESSIONAL AFFILIATIONS:** National Association of Professional Accident Reconstruction Specialists (NAPARS), Society of Automotive Engineers (SAE), International Network of Collision Reconstructionists (INCR), Pi Tau Sigma – International Mechanical Engineering Honor Society.

Last Revised: January 25, 2012

William M. Bortles, B.S.

Senior Engineer



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Publications

- Neale, William T.C., Terpstra, Toby, **Bortles William. M.**, "Evaluation of Discrete Vehicle Accident Sounds for use in Accident Reconstruction." *Proceedings of Meetings on Acoustics*, Vol. 5 (2008).
- Neale, William T.C., Terpstra, Toby, **Bortles William. M.**, "Analysis of Commonly Witnessed Vehicle Accident Sounds *in situ*." *The Journal of the Acoustical Society of America* Vol. 124:4, (Oct. 2008): 5aNS5.
- Rose, Nathan A., Beauchamp, Gray, **Bortles, Will**, "Quantifying the Uncertainty in the Coefficient of Restitution Obtained with Accelerometer Data from a Crash Test." Technical Paper 2007-01-0730, Society of Automotive Engineers, Warrendale, PA, 2007.

Invited Lectures & Technical Seminars Instructed

- "The Evolution of the Event Data Recorder." Guest Lecturer. Biomechanical Engineering Department, Wayne State University, Detroit, MI, April 12, 2011.
- *Bosch Crash Data Retrieval (CDR) System® Technician Level 1 & Level 2 Certification Course*. Instructor. Kineticorp, Greenwood Village, CO, March 8, 2011.

Technical Conferences and Seminars Attended

- *2012 CDR User's Summit*. Collision Publishing & Collision Safety Institute, Houston, TX. January 16-18, 2012.
- *Motorcycle Safety Foundation – Basic Rider Course*. T3RG Motorcycle Schools, Aurora, CO, September 10-11, 2011.
- *Society of Automotive Engineers World Congress*. SAE, Detroit, MI, April 12-13, 2011.
- *Bosch Crash Data Retrieval (CDR) System® Train the Trainer Certification*. Collision Safety Institute, Houston, TX, January 20-21, 2011.
- *2011 CDR User's Summit*. Collision Publishing & Collision Safety Institute, Houston, TX. January 17-19, 2011.
- *How to Interpret Commercial Vehicle Event Data Recorders (EDRs)*, University of Tulsa – Continuing Engineering & Science Education, Tulsa, OK, November 15-19, 2010.
- *The ATV Safety Institute E-Course*, ATV Safety Institute, September 9, 2010.
- *2010 CDR User's Summit*, Collision Publishing & Collision Safety Institute, Houston, TX, January 25-27, 2010.
- *CVSA Out of Service Seminar*, Colorado Motor Carriers Association, Denver, CO, August 27, 2009.
- *Bosch Crash Data Retrieval (CDR) System® 32-Hour Analyst Course*, Collision Safety Institute, Golden, CO, December 9-12, 2008.
- *Bosch Crash Data Retrieval (CDR) System® 8-Hour Technician Course*, Collision Safety Institute, Golden, CO, December 8, 2008.
- *Tire Mechanics & Modeling*, Colorado State University – Race Vehicle Dynamics Laboratory (presented by Dr. Patrick Fitzhorn, Director), Denver, CO. March 20, 2008.
- *2008 HVE Forum*, Engineering Dynamics Corporation, San Diego, CA, February 18-22, 2008.

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- *Active Safety Technology: Paving the Road to Accident-Free Driving Telephone/Webcast*, National Highway Traffic Safety Administration (NHTSA), March 1, 2007.
- *CarSim 7 Training*, Mechanical Simulation Corporation (Presented by Thomas Gillespie), December 13, 2006.
- *CVSA Brake Certification Seminar*, Colorado Motor Carriers Association, Denver, CO, July 27, 2006.
- *Chassis & Suspension Component Design for Passenger Cars & Light Trucks Seminar*, SAE International, Troy, MI, July 24-26, 2006.

Forensic Testing

- Vehicle critical speed yaw testing of a vehicle with a detreaded tire, Denver, CO, June 24, 2011.
- CDR supported vehicle car-to-pedestrian crash testing, Longmont, CO, April 20, 2011.
- CDR supported vehicle car-to-car crash acoustical testing, Houston, TX, January 17, 2011.
- Commercial vehicle Event Data Recorder (EDR) sudden deceleration testing, Tulsa, OK, November 17, 2010.
- Directional control and handling testing, Orlando, FL, August 6, 2009.
- Vehicular acoustical testing, Aurora, CO, October 7 & 18, 2008.
- Nighttime motorcycle headlamp lighting study, Golden, CO, August 8, 2008.
- Dynamic motorcycle swerve and obstacle avoidance testing, Carmel, CA, August 5 & 6, 2008.
- Nighttime lighting and visibility study, Carmel, CA, August 4, 2008.
- Denver Police Department C.V.P.I. directional control and yaw testing, Denver, CO, July 16, 2007.
- Nighttime lighting and visibility study, Morrison, CO, March 23 & 26, 2007.
- Vehicular center of gravity testing, Denver, CO, August 14, 2006.
- Nighttime lighting and visibility study, Las Vegas, NV, March 23, 2006.