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JACOB C. BAKER, PE, DFE, ACTAR

LICENSES

State of New Mexico Professional Engineer, No. 19724

State of Texas Professional Engineer, No. 107053

NATIONAL ACADEMY OF FORENSIC ENGINEERS (NAFE)

NAFE Member (Senior Fellow) and Board Certified Diplomate in Forensic Engineering by NAFE.



ACCREDITATION COMMISSION for TRAFFIC ACCIDENT RECONSTRUCTION (ACTAR)

ACTAR Accredited Reconstructionist, Registration #1567. The only international accrediting body for traffic collision reconstruction. Administered by a Board of Directors comprised of representatives from 24 professional and educational organizations.



EDUCATION

Bachelor of Science, Mechanical Engineering Technology, New Mexico State University, 2002. Minor in Manufacturing.

EXPERIENCE

Evans & Associates, Inc., Accident Reconstruction Specialist, 5/10 – Present. Provide investigation, analysis, and reconstruction services for traffic accidents, equipment and component failures.

TNM Engineering, LLC, Accident Reconstruction Specialist, 11/08 – 5/10. Provide investigation, analysis, and reconstruction services for traffic accidents, equipment and component failures.

TNM Engineering and Accident Reconstruction, Accident Reconstruction Specialist, 8/02 – 11/08. Provide investigation, analysis, and reconstruction services for traffic accidents, equipment and component failures.

Huff's Hytech Auto and 4x4, Mechanic, 1998-2002. Repaired automobiles of all makes and models. Assisted in the building of custom off road vehicles.

Woodsmith Construction, Custom Home Builder, 1995-2002. In charge of day to day construction operations. Built custom homes, decks, patios, garages, cabinets, and an assortment of other custom home projects.

SPECIALIZED TRAINING AND CONTINUING EDUCATION

“Traffic Accident Reconstruction I” – Northwestern University Traffic Institute, Evanston, Illinois, October 20-31, 2003, 80 hours. Curriculum included vehicle dynamics and Newton's laws, basic statics, heavy truck accident reconstruction, conservation of momentum, energy, crush analysis and speed estimates from damage, marks on the road, driver strategy and tactics, derivation of equations, case presentation, testimony, report writing, exhibits. Case studies included cars, trucks and pedestrians.

“Crash Data Retrieval (CDR) Systems Operator Certification Course” – Collision Safety Institute, El Paso, Texas, November 17-19, 2003, 24 hours. Vetronix Corporation approved training for securing crash data from automotive airbag modules.

“Motorcycle Investigation and Reconstruction” – CA²RS (California Association of Accident Reconstruction Specialists) Annual Seminar, Santa Rosa, California, October 28-30, 2004, 24 hours. Crash tests included controlled collisions of various motorcycles into various locations on multiple cars. Crash test data was used to derive speed from damage equation from crash tests. Lectures included motorcycle design, tire mark interpretation, rider habits, motorcycle brake systems and related physical evidence, helmets and injury, applicable vehicle code laws and motorcycle perception/reaction.

PC Crash Intro-Workshop – Macinnis Engineering, Vancouver, British Columbia, August 23-24, 2005, 16 hours. Curriculum included training on PC Crash simulation software and PC Rect photograph rectification software.

“Communication Diagnostics with Cat Electronic Technician” – Wagner Training Institute, El Paso, Texas, October 4, 2005, 8 hours. Curriculum included downloading and evaluation techniques for Caterpillar ECMs using Caterpillar Electronic Technician software.

“Crash Data Retrieval (CDR) Technician Course” – Collision Safety Institute, El Paso, Texas, September 21, 2009, 8 hours. Curriculum included updated training for securing data from airbag control modules, rollover sensor modules, and powertrain control modules.

“Crash Data Retrieval (CDR) Data Analyst Course” – Collision Safety Institute, El Paso, Texas, September 22-25, 2009, 32 hours. Curriculum included updated training regarding the analysis and interpretation of data from airbag control modules, rollover sensors, and powertrain control modules.

“Advanced Skills for the CDR Technician” – Collision Safety Institute, Seattle, Washington, October 28-30, 2009, 24 hours. Curriculum included interpretation of vehicle wire diagrams, vehicle back power techniques, diagnostic trouble codes and advanced vehicle electronics evaluation.

“Advanced Crash Reconstruction Utilizing Human Factors Research” - Northwestern University Traffic Institute, Evanston, Illinois, March 21-25, 2011, 40 hours. Curriculum included evaluating different aspects of driver perception response time and the application of related research.

“Texas Board of Engineering Laws and Rules” – Failure & Damage Analysis, Inc, Online Course, July 13, 2011, 1 hour. Curriculum included Texas engineering ethics.



SPECIALIZED TRAINING AND CONTINUING EDUCATION

“Crash Data Retrieval (CDR) User’s Summit” – Collision Safety Institute, Houston, Texas, January 16-18, 2012, 24 hours. Summit included discussions included OE updates, CDR data comparisons, event data admissibility, and chip swapping.

“Ethical Issues in Forensic Engineering” – PDHonline.org, Inc./PDH Center, Online Course, September 25, 2012, 2 hour. Curriculum included ethical issues for forensic engineering.

“Ethics & Standards of Professional Conducts” – Failure & Damage Analysis, Inc, Online Course, November 26, 2012, 2 hour. Curriculum included ethical and professional conduct.

“Preserving and Analyzing Information from Heavy Vehicle EDR’s” - Northwestern University Traffic Institute, Evanston, Illinois, March 4-8, 2013, 40 hours. Curriculum included forensic downloading, identifying anomalies, and interoperating data contained in control modules from the different heavy truck engine manufactures.

“Professional Conduct and Ethics for Texas Engineers” – McKissock.com, Online Course, August 12, 2013, 1 hour. Curriculum included ethical issues for engineering.

“Conference and Training Course” – Southwestern Association of Technical Accident Investigators (SATAI), Laughlin, Nevada, March 14-15, 2014, 12 hours. Course topics included reconstructing nighttime car verses pedestrian crashes, interviewing witnesses and drivers, and lighting and headlight performance.

“Optics, Lighting, and Visibility for the Forensic Investigator” – Clearly Visible Presentations, Laughlin, Nevada, March 16-20, 2014, 39 hours. Curriculum included basic principles of optics, lighting, and human vision and provided training in night-time digital photography to representatively photograph visibility.

“Engineering Ethics” – PDHonline.org, Inc./PDH Center, Online Course, September 23, 2014, 1 hour. Curriculum included ethical issues for forensic engineering.

“New Mexico PE Ethics and Professional Conduct” – EngineerCE.com, Online Course, December 26, 2014, 4 hours. Curriculum included conduct and ethical issues for engineers.

“TBPE Professional Practice Board Update and Ethics” – Texas Board of Professional Engineers, Online Webinar, September 2, 2015, 1 hour. Curriculum included ethical issues for engineering.

“Digital Forensics of Heavy Vehicle Event Data Recorders” – University of Tulsa, Tulsa, Oklahoma, December 8-10, 2015, 19 hours. Curriculum included acquiring and interpreting digital forensic data from heavy vehicles.



SPECIALIZED TRAINING AND CONTINUING EDUCATION

WREX 2016 – World Reconstruction Exposition, Orlando, Florida, May 2-6, 2016, 40 hours. Topics included vehicle acceleration, video analysis, investigation of emergency vehicle crashes, crash injuries, motorcycle collision reconstruction and speed estimation methods, speedometers, air disk brakes, UAVs, NTSB crash investigation, EDR data, Jeff Muttart – driver response and human factors, pedestrian/cyclist reconstruction, Rick Ruth – EDR update, distracted driving, heavy vehicle inspections and digital forensics, heavy vehicle crash reconstruction, rollover testing applied to reconstruction, tire failure analysis, effects of alcohol and cannabis on driving, collision biomechanics. Crash testing included 15 fully instrumented crash tests of heavy trucks, cars, and motorcycles.

“Recognition – Closing Speed vs. Closing Threshold” – Crash Safety Research Center, Online Course, September 7, 2016, 4 hours. Curriculum included evaluation of rear end collision recognition.

“Professional Ethics for Engineers” – PDHonline.org, Inc./PDH Center, Online Course, September 19, 2017, 1 hour. Curriculum included ethical issues for engineers.

“EDR Summit” – Crash Data Group, Houston, Texas, March 5-7, 2018, 20 hours. Summit included discussions included OE updates, Non-CDR data acquisition, event data admissibility, and HVEDR data.

“ASME Professional Engineering Ethics” – Titan Continuing Education, Online Course, September 4, 2018, 2 hour. Curriculum included ethical issues for engineers.

“iVe Vehicle System Forensics Course” – Berla iVe Training, Largo, Florida, February 18-22, 2019, 40 hours. Curriculum included understanding vehicle electronic module communications and data storage for various manufactures and systems. Using iVe hardware and software to identify, acquire, and analyze data contained in vehicle infotainment/navigation systems.

“Ethics for Texas Professional Engineers” – CPE Solutions, LLC, Online Course, September 27, 2019, 1 hour. Curriculum included ethical issues for engineers.

“Engineering Ethics in an Era of Rapidly Advancing Technology” – PDHengineer.com, Online Course, September 18, 2020, 1 hour. Curriculum included ethical issues for engineers.

“Human Factors and Nighttime Visibility” – Texas Association of Accident Reconstruction Specialists (TAARS), Online Conference, October 21-23, 2020, 15 hours. Course topics included retroreflective materials regulations and measurement techniques, photography/videography of night time scenes, and general detection concepts.

PROFESSIONAL ORGANIZATIONS

Southwestern Association of Technical Accident Investigators (SATAI)

Society of Automotive Engineers (SAE)

National Society of Professional Engineers (NSPE)



LECTURER

"Air Bag Modules", continuing education seminar, Progressive Insurance Company, El Paso, TX, May 2004.

"Air Bag Modules", NICB/State Farm 10th Annual Seminar, El Paso, TX, 2007.

"Basic Investigation Techniques", State Farm Estimatics Seminar, Irving, TX, May 2008.

"Real World Application of Dynamics", New Mexico State University Mechanical Engineering Technology (ET 241 – Applied Dynamics) Guest Speaker, Las Cruces, NM, November 2012.

"Accident Reconstruction", Texas Criminal Defense Lawyers Association CLE, TCDLA 14th Annual Forensics, Houston, TX, December 2017.

"Accident Reconstruction", Texas Criminal Defense Lawyers Association CLE, TCDLA 16th Annual Top Gun, Houston, TX, August 2018.

"Accident Reconstruction and Expert Examination", Texas Criminal Defense Lawyers Association CLE, TCDLA 16th Annual Forensics, Austin, TX, October 2018.

"Passenger Vehicle EDR", Great West Casualty Company, Zoom Presentation, February 2021.

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