CARR ENGINEERING, INC.

12500 CASTLEBRIDGE DRIVE HOUSTON, TX 77065-4532
TELEPHONE: 281-894-8955
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Daniel R. Barnes

Specialized Professional Competencies

- Crash Analysis and Reconstruction - Vehicle and scene inspection including the use of the Leica Total Station laser survey equipment, FARO laser scanner and sUAS to digitize crash and exemplar vehicles to generate input for computer-aided reconstruction analysis
- Small Unmanned Aircraft Systems (sUAS) – Part 107 Drone Licensee
- Specification, design, test, and evaluation of automotive brake system components
- Application of Federal Motor Vehicle Safety Standards
- Determining vehicle dynamic characteristics through specific testing and instrumentation

Professional Experience and Qualifications

- Bachelor of Science, Engineering, with Distinction, Harvey Mudd College (1998)

- Engineer, Carr Engineering, Inc. (2013 to present)
  Engineer responsible for crash reconstruction, testing, test development, and determining vehicle handling characteristics

- OE Program Manager, StopTech (2006-2013)
  Led foundation brake system development projects for OE customers; specified racing and specialty vehicle brake systems; investigated product defect claims

- Technical Editor, *Road & Track SPEED Magazine* (2005)
- Engineering Editor, *european car* and *Sport Compact Car Magazine* (1996-2003)
  Evaluated ride, handling and driveability characteristics in single- and multi-vehicle tests on paved and unpaved surfaces; carried out instrumented testing; researched tire technology

Additional Motorsports Experience

- More than 25 years of experience in vehicle performance modification and off-road activities
- *Four Wheeler Magazine* Top Truck Challenge judge 1995-2000
- Provided technical support to Lucas Oil Off Road Racing Series teams 2010-2011
- Racer and driving instructor at open track events
- Graduate of the Skip Barber High Performance Driving School

Professional Development

- SAE Course: “Introduction to Brake Control Systems: ABS, TCS, and ESC” C0315 (2005 & 2013)
- SAE Course: “Applied Vehicle Dynamics” C0414 (2014)
- SAE Course: “Applying Automotive EDR Data to Traffic Crash Reconstruction” C1210 (2016)
- Northwestern University Center for Public Safety: Traffic Crash Reconstruction – 1 (2013)
- Collision Safety Institute: Crash Data Retrieval Technician Levels 1 and 2 (2014)
- EDCorp: EDC Reconstruction (2018)
- SAE Technical Paper 2014-01-0146: Lay Driver Technique for Crash Avoidance Brake Application (2014)
- SAE Technical Paper 2015-01-1448: EDR Pulse Component Vector Analysis (2015)
- SAE Technical Paper 2019-01-0412: Brake Vacuum Booster Characterization (2019)