Ken Archibald

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E-mail: Ken@wheelforensics.com

Education:

1973-1978 Bachelor of Science Degree in Engineering in Mechanics and Materials from

 Southern Illinois University

• Continuing Education in Business Management and Continuum Mechanics

Career History:

1970-1972 US Army, Sergeant in 2 years

1978-1983 Firestone Wheel Products

Agricultural Wheel Engineer: designed agricultural, off-road, and semi-truck wheels.

1983-1989 Kelsey-Hayes Wheels Co.

Wheel Product Engineer Manager, Steel Wheels

1989-1996 Hayes Wheels Co.

Director of Aluminum Wheel Engineering

1996-2022 Independent Test Services, Owner/Operator

A wheel structural fatigue business; passenger car and light truck wheel testing of wheel: structures, fastening systems, and environmental effects. See www.wheeltest.com for details.

2014-Present Wheel Forensics Inc, Owner/Operator

With 30+ years of experience in the wheel design and testing industry, uniquely qualified to offer consultation on numerous wheel related investigations.

Professional Associations:

1983- Present Volunteer Member and Participant of Society of Automotive Engineers International (SAE). SAE is a global association of more than 128,000 engineers and related technical experts in the aerospace, automotive, and commercial vehicle industries. SAE’s core competencies are life-long learning and voluntary consensus standards development.

History of Voluntary Participation with Society of Automotive Engineers International (SAE):



**SAE Wheel Standards Committee Docs Participation History of Membership Years of Involvement**

| J175 Lateral Impact  | Sponsor- Member  | 1995-Present  | 20+ years  |
| --- | --- | --- | --- |
| J1204 Rec and Utility Trailer  | Sponsor- Member  | 2012-Present  | 3 years  |
| J328 Pass Car & Lt truck Perf  | Sponsor- Member  | 1986-Present  | 29 years  |
| J2530 Aftermarket wheels  | Member  | 2004-Present  | 10+ years  |
| J3010 Registration and Conformity  | Member  | 2014-Present  | 5 years  |
| J2315 Nut Seat Strength  | Sponsor- Member  | 1998-Present  | 20+ years  |
| J2316 Nut Seat system TvT  | Sponsor- Member  | 1998-Present  | 20+ years  |
| J1981 Road Hazard Impact  | Member  | 1994-Present  | 25+ years  |
| J1986 Balance Weights  | Member  | 1996-Present  | 25 years  |
| J2562 Biaxial Fatigue  | Member  | 1997-Present  | 20+ years  |
| J3203 Wheels – Radial Impact Procedure – Road Vehicles | Sponsor- Member  | 2018-Present | 2 years |
| J3204 – Aftermarket Composite Wheels made of Matrix Material and Fiber Reinforcement intended for normal highway use – Pass Car Test Procedures and Performance Requirements | Sponsor- Member | 2018-Present | 2 years |

Professional Accomplishments:

* Wheel Patents:
* Full Face Wheel Assembly -5,360,261 (May 31, 1991)
* Method of Manufacturing a Full-Face Wheel Assembly -5,548,896 (Jan. 7, 1994)
* Bimetal Full Face Wheel – 5,421,642 (Jan 27, 1994)
* Vehicle Wheel having a Tinnerman Nut Clearance Groove -5,490,720 (Jan 27, 1994)
* Balancing Weight Attachment System for a vehicle wheel -5,564,792 (Aug 8, 1995)

Publications:

**Archibald, K.**, Schnaidt, W., Wallace, R., and Archibald, K., "[Minimum Cycle Requirement for SAE J2562," SAE Technical Paper 2014-01-0073, 2014, doi:10.4271/2014-01-0073.](https://www.sae.org/publications/technical-papers/content/2014-01-0073/)

**Archibald, K.**, Lee, W., Rotundo, R., Melara, M. et al., "Development of a Biaxial Fatigue Load File to Emulate the Services Demanded of a Motor Sport Vehicle," [SAE Technical Paper 2012-01-0798, 2012, doi:10.4271/2012-01-0798](https://www.sae.org/publications/technical-papers/content/2012-01-0798/)

**Archibald, K.**, Lee, W., and Brest, M., ["J328 6061-T6 Load Factor Evaluation," SAE Technical Paper 2012-01-0793, 2012, doi:10.4271/2012-01-0793](https://www.sae.org/publications/technical-papers/content/2012-01-0793/).

**Archibald**, **K**., Archibald, K., and Neubauer, D., “Rationale and Methodology for Straightening A356-T6

Wheels,” [SAE Technical Paper 2016-01-1573, 2016, doi: 10.4271/2016-01-1573](https://www.sae.org/publications/technical-papers/content/2016-01-1573/)

Expert Witness Experience:

* **2005**: Testified in a ‘wheel off’ case in Lansing, Michigan. Determined cause of accident, contrary to previous investigations belief.
* **2008:** Developed methodology to test wheel fasteners in lawsuit to confirm that if lug nuts were torqued to 25 ft-lbs minimum, a “wheel-off” accident could have been eliminated.
* **2009 Melecia Thomas V King Motor Company of Coconut Creek Florida Case # 50 –** 2008-CA – 041133MB
* **2009**: Testified at World Trade Organization in lawsuit held in Geneva, Switzerland between a Russian Wheel Manufacturer, and a Spanish Machine maker. The Tribunal voted in favor of my client.
* **2012: Faulkner V StarCraft** Retained to determine if wheel distorted prior to accident. Linn County Iowa, LALA 76341
* **2014:** **Luppino, et al. v. MBUSA, Civil Action No. 09-cv-5582 (JLL) (JAD)** Retained to understand wheel flange damage
* **2016: Masud v. ITW State v. Green Case** Retained to determine effect of putting Permatex anti-seize on studs of 1997 Dodge 3500 front extender separation. Civil Action file # 13 A3006-6
* **2023: Guillen, Maurisia v. General Motors, LLC, et al**. Retained to determine the failure mode of the aluminum wheel in question.
* **2023: Estate of Jason Allen v Shrader Tire & Oil, et al** Retained as the wheel expert to determine how a wheel fractured that caused the death of an individual