

# STEPHEN D. KNAPP, P.E., CFEI, CVFI



## EDUCATION:

B.S. Engineering, University of Colorado - Denver

## REGISTRATION:

Registered Professional Engineer in the State of Colorado (P.E.) Registration No. 39788  
Accredited Traffic Accident Reconstructionist (ACTAR) Registration No. 1792  
Certified Fire and Explosion Investigator (CFEI) Registration No. 16765-9108  
Certified Vehicle Fire Investigator (CVFI) Registration No. 16765-9108  
Certified by the National Council of Examiners for Engineering and Surveying (NCEES) Certification No. 37533

## EXPERIENCE:

Manager, Mechanical Engineering, Knott Laboratory, LLC, Centennial, Colorado, January 2019 to present  
Senior Engineer, Knott Laboratory, LLC, Centennial, Colorado, October 2013 to December 2018  
Senior Engineer, CASE Forensics, Corporation, Englewood, Colorado May 2010 to August 2013  
Project Engineer, Entropy Engineering, Corporation, Sheridan Colorado, July 2008 to April 2010  
Project Engineer, Western Engineering, Corporation, Denver Colorado, May 2006 to June 2008  
Engineer, Knott Laboratory, LLC, Centennial, Colorado July 1999 to April 2006

## RECONSTRUCTION:

Mr. Knapp is an ACTAR accredited accident reconstructionist and performs investigation and reconstruction of both passenger and commercial vehicles. His experience includes the evaluation and analysis of crush damage, occupant dynamics, vehicle crashworthiness, vehicle occupant compartment intrusion and product liability. His accident reconstruction experience also includes motorcycles, pedestrians, bicycle accidents as well as human factors and visibility studies utilizing time/distance relationships. As a trained Crash Data Retrieval System Operator, he has extensive experience downloading and analyzing accident related data from vehicles equipped with Event Data Recorders. As a mechanical engineer with an automotive background in drag racing, motorcycle riding, and engine/drivetrain building, Mr. Knapp has a unique understanding of vehicle mechanics and the failure modes which lead to accidents. Frequent aspects of these investigations involve the evaluation of maintenance/repairs, drivetrain, braking, and suspension failures and their causal relationship to an accident. As an engineer skilled and trained in photogrammetry, Mr. Knapp has mapped accident scenes from witness photographs when scene diagrams and measurements were not available or erroneous.

## FAILURE ANALYSIS:

Mr. Knapp has extensive experience evaluating failure events of mechanical systems. He has evaluated many types of failures which include automotive components, tractors, implements, appliances, machinery, HVAC systems, plumbing components, and fire suppression systems. His hands on experience and mechanical knowledge provide him with the ability to disassemble and evaluate complex systems to establish the root cause of failures. Mr. Knapp is also a knowledgeable plumbing expert having evaluated hundreds of plumbing failures in both residential and commercial applications. In evaluating plumbing failures he has the knowledge and experience to distinguish between failures related to installation, usage, or environmental factors, and those related to a defect in manufacturing or design of the product. He is also experienced in evaluating code compliance and installation of mechanical systems and product safety as it relates to its design, guarding, and warnings.

## FIRE INVESTIGATIONS:

Mr. Knapp is an experienced and certified CFEI fire investigator and has evaluated hundreds of fire incidents for the purpose of determining the origin and causation of fires. His certification as a Vehicle Fire Investigator (CVFI) complements his knowledge of automobiles allowing him to identify and address specific system failures that may have caused a fire. He is experienced in the evaluation of vehicle theft recoveries and the evaluation of their theft deterrent systems, evidence of forced entry, and arson. Mr. Knapp has evaluated many fire incidents where arc mapping and the evaluation of electrical system activity have been key factors in determining the origin and cause of fires. Mr. Knapp has also utilized his photogrammetry skills on several occasions for the purpose of identifying key evidence items and their location at scene.

## VEHICLE ENGINEERING:

Mr. Knapp was a team member of the University of Colorado at Denver, Society of Automotive Engineers (SAE) sponsored, small-scale Baja race car programs for several years. In 1998 and 1999, Mr. Knapp was a team leader and was responsible for designing, constructing, machining, and welding of the vehicle assembly. Mr. Knapp is also an experienced drag racer having built, modified, and tuned drivetrains for the purpose of competing nationally in the Pacific Street Car Association (PSCA). As a hobbyist and enthusiast of classic sports cars, he constructed an entire vehicle from the ground up built with a modern drivetrain and fuel injection passing both licensing and emissions requirements.

## EXPERT TESTIMONY:

As a result of his investigations and experience, Mr. Knapp has provided testimony as an expert witness on more than twenty occasions. Mr. Knapp has testified for both plaintiffs and defendants and qualified as an expert witness in the areas of mechanical engineering and accident/incident reconstruction.

## PROFESSIONAL AFFILIATIONS:

Mr. Knapp is a member of the following technical and professional societies:

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|--------|--|------|---|
| ACTAR  | - Accreditation Commission for Traffic Accident Reconstruction             | ASME | - American Society of Mechanical Engineers        |
| NAPARS | - National Association of Professional Accident Reconstruction Specialists | NAFI | - National Association of Fire Investigators      |
| SAE    | - Society of Automotive Engineers  | IAAI | - International Association of Fire Investigators |
| NSPE   | - National Society of Professional Engineers                               | NAFE | - National Academy of Forensic Engineers          |



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