

# FORCON INTERNATIONAL

**MICHAEL D. NASH**

## **SUMMARY**

Over 19 years experience in traffic crash reconstruction and analysis. Specialist in commercial vehicle crashes and Federal Motor Carrier Safety Regulations

## **EDUCATION**

Associates Degree in Police Science, John Tyler Community College, 12/98

## **CERTIFICATION**

Certificate of Full Accreditation from The Accreditation Commission for Traffic Accident Reconstruction - ACTAR #415

## **SPECIALIZED TRAINING**

**Traffic Accident Reconstruction Training Program**, Institute of Police Technology and Management, University of North Florida, February, 1992

**Advanced Traffic Accident Investigation Training Program**, Institute of Police Technology and Management, University of North Florida, February, 1990

**Commercial Vehicle Accident Investigation**, Institute of Police Technology and Management, University of North Florida, August, 1993

**Defensive Driving Instructors Course**, Chesterfield County Police Academy

**Hazardous Materials Emergencies Level I Instructors Course**, Chesterfield County Police Academy

**Department of Criminal Justice Service Instructors Course**, Chesterfield County Police Academy

**Transportation Safety Institute of North American Standard Driver-Vehicle Inspection Course**, Federal Bureau of Investigation, Quantico, VA, 1/89

**Truck Safety Inspection Training**, Crater Criminal Justice Academy, Richard Bland College

**Advanced Accident Investigation and Reconstruction**, Virginia Commonwealth University

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**Motorcycle and Heavy Truck Accident Investigation and Reconstruction**, Virginia Commonwealth University

**Basic Accident Investigation and Reconstruction**, Virginia Commonwealth University

**Administration of Justice Curriculum**, John Tyler Community College

**GM Medium Duty Truck and Tractor Air Brake Systems**, technology analysis and testing. All system components and functions studied in detail including interrelationship for failure modes, Service Technology Group, General Motors Corporation, 1993

**Heavy Duty Truck Air Brake Systems**, technology, analysis and testing. All system components, functions and malfunctions studied in detail, equipment examined includes Bendix Anti-Lock System for heavy trucks. Certified as a Bendix Factory Trained Brake Specialist. Allied Signal Corporation/Bendix Heavy Duty Vehicle Systems Group, Elyria, Ohio, 9/94

**Heavy Truck Dynamics and Crash Testing Seminar**, testing included high speed truck dynamics and truck to vehicle crash tests. Combined conference with TAARS, SOAR and WATAI, Texas A&M University, College Station, Texas, 9/94

**Caterpillar Electronic Engine Controls** - Factory training on use of Caterpillar's "Electronic Technician" computer program for data retrieval from Caterpillar diesel engine electronic control modules. Modes of training included speed and RPM calibration, all engine parameters, trip parameters, including the quick brake function, programmable features, security features, and remote diagnostic capabilities. Caterpillar Power Systems, Richmond, VA, 4/02

**Applied Physics for Traffic Accident Investigators**, IPTM, University of North Florida, Jacksonville, FL, 12/97

**Conference on Reconstruction and Safety on the Highway '98**, testing included commercial vehicle brake systems, actual crash testing, barrier crash testing, vehicle crush damage, analysis of vehicle damage and delta V, Texas A&M University, College Station, Texas, 10/98

**Advanced Air Brake Systems** - Advanced concepts of commercial vehicle air brake systems including design, selection of components for maximum efficiency and safety, extensive simulation and analysis of component and system failures. Haldex Corporation - Midland Heavy Duty Brake Systems, Kansas City, MO, 11/98

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**ABS/FMVSS-121 Regulations** - Review of ABS/FMVSS-121 regulations, advanced concepts of commercial vehicle ABS systems including design, selection of components for maximum efficiency and safety, built several configurations of FFABS, MOD 1 and MOD 2, and MODAL brake systems, trouble shoot each design. Haldex Corporation - Midland Heavy Duty Brake Systems, Kansas City, MO, 5/99

**Friction / Foundation** - Identification of friction lining and automatic slack adjusters, overview of slack adjuster operation, problem shooting with foundation brakes, Haldex, Midland Services, Kansas City, MO, 11/99

**Special Problems in Accident Reconstruction Seminar 1999**, testing included commercial and passenger vehicle tire analysis, topics included American commercial and passenger car tires, sport utility vehicle stability, energy and speed calculations, railroad accident investigation, analysis of damage and crush, low speed motor vehicle collision, DNA and trace evidence collection and analysis by Dr. Henry Lee, blood, DNA and trace evidence collection and analysis Ms. Mary Kate McGilvray, University of North Florida, 5/99

**WREX 2000** - Robust tests of Motorcycle/Barrier crash tests, testing of coefficient of friction of various manufacturer's tires, dynamic tests of a tractor truck and semi-trailer to determine the reason there is a difference in stopping capabilities between large truck tires and passenger car tires, obtuse angle collision, both vehicles in motion, with bullet striking behind target vehicle's center of mass, crash test of 40% offset frontal collisions, both vehicles in motion, and crash test of identical vehicles 40% off set frontal collision with one vehicle stationary and bullet vehicle at same closing speed, College Station, TX, 9/00

**EDC Accident Reconstruction** - Review of program history, scope and capabilities, including discussion of precursor programs such as Crash, and Crash III. Orientation to the windows based HVE-2D environment. Program training includes detailed study of the analytical procedures and logic contained with the program to perform the calculations of damage based Delta-V, separation velocities, common velocity check, trajectory simulation and linear momentum. Course included case studies, proper data analysis, management of diagnostic messages, and presentation of data. Engineering Dynamics Corp., Richmond, VA, 2/01

**Norfolk Southern Police Department** - Railroad grade accident investigation, by Norfolk Southern Railroad, Crater Criminal Justice Training Academy, Prince George County, VA 2/02

**Grade Crossing Collision Investigation** - Railroad crossing accident investigation, International Association of Chiefs of Police, National Sheriffs Association, and Operation Lifesaver, Inc., Ontario, CA, 4/02

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**Vetronix Crash Data Retrieval System Training** - Training covering system operational parameters, data formats, uses and limitations. The training resulted in certification of the operator by Vetronix, Fairfax, VA, 5/30

**Pedestrian/Bicycle Crash Investigation** - Course curriculum included cause of pedestrian collisions, identifying the point of impact, vehicle examination, pedestrian trajectory in relationship to vehicle movement, pedestrian injury analysis, speed calculations and techniques, 4/96

**Tires 101** - Classroom training showing the causation of tire damage, tread wear, tire inflation, high speed blowouts, tread separations and miss matched tires. Behind the wheel training demonstrating how to maintain control during a high speed blow out, the importance of proper tire pressure on wet surfaces, and the proper location of new tires when changing only two tires. Michelin Americas Laurens Proving Grounds, Laurens, SC, 8/06

**VISTA Fx3 Accident Reconstruction and Animation Software Training** - Training on the capabilities of the Vista FX3 release of the Visual Statement Software. Training included use as an advanced diagraming tool, Vista Crash Analysis, Real Motion 2D and 3D Animations of analysis data, Photo FX module which allows placement of photos from outside sources into the work product, Hawkeye Photo Rectification module which supports photo analysis applications, Simulation module and extensive data base of data needed for various types of analysis - Visual Statements, Inc. - Richmond, VA 1/07

**Advanced Commercial Vehicle Crash Investigation** - A detailed analysis of commercial motor vehicle dynamics and its application to traffic crash reconstruction. Topics included kinetic energy, ABS air brake systems, speed analysis using gear reduction ratios, low speed/high speed off-tracking, dynamic roll propensities, axle weight distribution using equilibrium and free body diagrams and liquid load analysis, Institute of Police Technology and Management, University of North Florida, Downers Grove, IL, 5/07

## **FIELD EXPERIENCE**

**Chesterfield County Police Department**, Patrolman, November, 1981 to present. Duties include patrolling the highways and investigating criminal and traffic violations. March, 1987 to present assigned to the Crash Team which investigates serious injury and fatal accidents. Currently assigned to be a Field Training Officer and Hazardous Materials Instructor.

**Traffic Safety Consultants, Inc.**, Part-time Consultant since 1991. Duties include accident reconstruction, gathering facts, analyzing data and formulation of opinion.

**United States Air Force**, Stationed in Washington, D.C.  
Ceremonial Honor Guard Unit from 1977 to 1981

**QUALIFIED AS AN EXPERT WITNESS**

**VIRGINIA:** Virginia Circuit Courts;  
Chesterfield, King George

**WEST VIRGINIA:** West Virginia Circuit Court;  
Monroe County