Automotive Safety
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Findlay CHEVROLET
Automotive Safety

• History
• Before, During, and After an Accident
• Technology
Zero Fatalities

- Engineering
- Education
- Enforcement
- EMS
- EVERYONE

Zero Fatalities
Drive Safe Nevada

Safe Drivers
EXIT HERE
History

- Six years at Texaco
- Seven years of valet parking
- 12 Years with Findlay Automotive Group
  - Saturn, Toyota, VW, and Chevrolet

Safety, Style, Performance, Economy & Reliability
1959 Chevy Bel Air vs. 2009 Chevy Malibu
Vehicle Safety History

- 1899 – first car accident fatality
- 1946 – “Expert” wrote that the latest models “are as safe as science can make them.”
- Around 1950 – Seat belts were offered as options
- 1967 – Department of Transportation founded
- 1970 – NHTSA officially established
BEFORE an Accident

100’s of Safety Features to help avoid an accident

• Traction Control
• Driver Information Centers
• Tire Pressure Monitoring Systems
• Back up Cameras
• ABS Brakes
BEFORE an Accident

- Daytime Running Lights
- Blind Zone Side Mirrors
- Side Turn Signals
- Pinch Protection Windows
- Bluetooth
BEFORE an Accident

• Additional/Moving Sun Visors
• TPC Codes & other Tire Standards
• Telescopic Steering Wheels
• Voice Commands and Steering Wheel Controls
• Automation – Lights, Parking, other Sensors
Electronic Stability Control (ESC): Maintains vehicle control

Lane Departure Warning (LDW): Monitors lane markings on the road and cautions driver of unintentional lane drift

Forward Collision Warning (FCW): Detects vehicles ahead and cautions driver of impending collisions
DURING an Accident

- Safety Belts
- LATCH
- Safety Cage Construction
- Crumple Zones
DURING an Accident

- J Hooks
- Side Impact Door Beams
- Vehicle Weight Ratios
- VW Examples
Advanced Head Restraints:
Reduce potential head/neck injuries in crashes

Advanced Frontal Air Bags:
Protect in frontal crashes by shielding the driver’s and front passenger’s head, neck, and chest

Side Air Bags and Curtains:
Protect in side crashes by shielding an occupant’s head, neck, chest, and pelvis

Safety Belt Load Limiter and Safety Belt Pretensioner:
Absorb crash energy and tighten belts to restrain occupants

(Dual depth & passenger sensing)
AFTER an Accident

- GM-OnStar, Ford Sync, Hyundai BlueLink, IN DRIVE – State Farm, ORION VIS and more

Future? Data like speed, force, distance, # of occupants, weights, pulse, and more.
Technology

- Mild Steel
- Tailored Blanks
- High-Strength Steel
- Ultra-High-Strength Steel
- Aluminum
Steel – Lighter, Smaller, Stronger...

- Martensite
- Boron
- Flash Bainite
- Nanotechnology

Research is taking place into many applications of nanotechnology such as - improved lubricants, fuel cells for clean energy, lighter and stronger engine and body materials, better catalysts, nanoporous filters, self-cleaning windshields, self-healing and scratch-resistant coatings, environmentally friendly corrosion protection and color-changing paints – to name but a few!
Trauma Mandates – 12 inches
“Distance of Intrusion”

23% of U.S. passenger vehicle fatalities typically occur in side-impact collisions

2008 Chevy Equinox
“Yardsale” vs. Enhanced Protective Glass

OLD VEHICLES =
• YARDSALE
• LIMITED ACCESS
• DEVASTATION

NEWER VEHICLES –
• ENHANCED PROTECTIVE GLASS – SAFER – KEEPS OCCUPENTS AND CONTENTS IN
• DOORS, LIFT GATES STILL OPERATE
• DRASTICALLY LESS VISIBLE DAMAGE
Evolution

B-pillar: 2008 Toyota Camry
Rockville MD Vol FD
Equipment, Training, and Testing

Project work currently involves field testing of vehicle rescue tools to evaluate ability to cut through advanced steels.

Boron Cutting – Reduced Need/Takes Longer
NEVADA (1864-Present)

- Safety is a non-negotiable
- Communication
- Teamwork
- Education – CSN & AARP
THANK YOU!

QUESTIONS

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