



THE ASSOCIATION

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EFFORTS TO MAKE SUVs, PICKUPS LESS DEADLY PAYING OFF

Excerpts from an IIHS Press Release

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Today's SUVs and pickup trucks pose far less risk to people in cars and minivans than in previous generations, a new study from the Insurance Institute for Highway Safety shows.

Until recently, SUVs and pickups were more likely than cars or minivans of the same weight to be involved in crashes that killed occupants of other cars or minivans. That's no longer the case for SUVs, and for pickups the higher risk is much less pronounced than it had been.

For example, among 1-4 year old vehicles weighing 3,000 to 4,000 pounds, SUVs were involved in crashes that killed car/minivan occupants at a rate of 44 deaths per million registered vehicle years in 2000-2001. That rate dropped by nearly two-thirds to 16 in 2008-2009. In comparison,

cars and minivans in the same weight category were involved in the deaths of other car/minivan occupants at a slightly higher rate of 17 per million in 2008-2009. The researchers attribute much of the change to two things: Improved crash protection in the cars and minivans, thanks to side airbags and stronger structures, and newer designs of SUVs and pickups that align their front-end energy-absorbing structures with those of cars. The more compatible designs are the result of efforts by automakers, the government, and the IIHS to address the problem of mismatched vehicles. The National Highway Traffic Safety Administration asked automakers to address the compatibility issue amid concern about the changing vehicle mix on US roads. In response, the Alliance of Automobile Manufacturers, the Association of Global Auto-

makers, and the IIHS led a series of meetings in 2003 to come up with solutions. The companies agreed to build the front ends of SUVs and pickups so that their energy-absorbing structures would line up better with those of cars, reducing the likelihood that an SUV or pickup would override a car in a collision. Better alignment allows both vehicles' front ends to manage the crash energy, helping to keep it away from the occupant compartments. The automakers also pledged to strengthen head protection in all vehicles in order to improve outcomes when an SUV or pickup strikes another vehicle in the side. They accomplished this by installing more head-protecting side airbags. The deadline for compatibility changes was September 2009, but many of the changes have been met.

IACAI PRESIDENT HARRIS ANNOUNCES RETIREMENT

Well, we knew it had to come one day and that day is nearly upon us. Long time (and I DO MEAN LONG TIME) President and co-founder of the Indiana Association of Certified Accident Investigators, Don Harris, announced earlier this year that he will be calling it quits at the end of the year. He is also retiring from the Greenwood Police Department in June of 2012, after well over 30+ years of service. Both Don Harris and co-founder Dave Minardo founded the IACAI in 1990 as a way to connect Indiana's crash investigators with one another and to share information. Since that fateful day, the IACAI has continued to grow, with up to 258 members now on its rolls. Warsaw Police Lt. Kip Shuter has been named successor as IACAI President. I understand that Don has a boat and that an unnamed lake is calling his name!! While we will certainly miss Don's leadership and his sense of humor, we wish him the best on his retirement! Good Luck, Don...!!

HISTORY: THE ADVENT OF THE SAFETY RESTRAINT



Here's a little trivia you can use the next time you are challenged at the next Trivial Pursuit party: When was the first safety belt developed? The first safety belt was developed in the late 1800's in Britain by George Caley. The first patent for a safety restraint in the US was issued on February 10, 1885 to Edward Claghorn. At that time, the belt was not necessarily designed or intended for an automobile, however. The belt was described as being a device used to "secure the person to a fixed object."

It wasn't until the 1920's that the need for safety belts began to be noticed. During this time, traffic crashes and deaths were increasing at a horrific rate; over 25 times more frequently than today.

Plastic Surgeon Claire Straith first petitioned for more padding in early automobiles after seeing more and more injuries related to interior contact with sharp objects from within the passenger compartment. Surgeon CJ Strickland is credited with actually promoting safety belt use in motor vehicles. In the 1930's, safety belt use became standard issue in aircraft use (what did they do before that time??), but it wasn't until two decades later that safety restraints would be finally incorporated into automobiles.

In 1951, the first inertia reel was developed which permitted the safety belt to tighten rapidly. At about the same time, the first 3-point safety restraints were patented. While there were US automobile manufacturers, such as Nash and Ford who offered safety restraints & padding as options for their vehicles in the 1950's, Swedish automobile manufacturer SAAB produced the first safety restraint for automobiles as a standard piece of equipment in 1958. Volvo followed suit in 1959. It wasn't until 1966 that the US first mandated the installation of safety restraint systems for front seat occupants in all domestically produced automobiles. Rear safety restraints were not required to be installed until 1968.

In 1990, Mercedes Benz produced the first US automobile equipped with a 5-point harness system.



Be thankful that you weren't a kid growing up during the early years. The first produced child car seat was in 1898, consisting of a burlap bag and a drawstring which would secure the bag to the vehicle seat! Tell that to your kids the next time they complain about using the car seat!! The idea was that it would keep the child

from standing up or getting out of their seat during trips. In the 1930's, researchers were making some headway in the development of child safety restraints; however, not much. The first prototype child (restraint) seat was again basically designed to keep the child in the seat, not protect them from a crash. It wasn't until the 1960's when our good friends as SAAB began looking seriously at the child seat as a safety seat. When the first safety seats hit the market in the mid 60's, interest in the seats sucked...only a few folks bought the seats; most considered them a waste of money. It wasn't until the 1970's when several different groups and the government got together to push the idea of keeping kids safe in crashes. Tennessee was the first state to adopt a law governing the use of child restraint seats. It took from 1978 to 1985 for the rest of the states to follow suit. Now, every state in the union requires children aged 0-4 be restrained in a child safety restraint seat.

"...In 1955, the Ford motor company first began offering seat belts as an option for front seat passengers."



ARE HYBRID AND ELECTRIC VEHICLES DANGEROUS?

A NHTSA PRESS RELEASE

The National Highway Traffic Safety Administration (NHTSA) announced recently that the agency is taking the first major step towards proposing regulations that will protect unsuspecting pedestrians and the visually-impaired from accidents involving hybrid and electric vehicles.

"America's streets must be safe for everyone who uses them," said US Department of Transportation Secretary Ray LaHood. "As we improve the environment with cleaner cars, we must also consider how it affects those on bikes and on foot."

The recent action, which was mandated by the Pedestrian Safety Enhancement Act of 2010, will help NHTSA lay the groundwork for a proposed rulemaking to help pedestrians detect the presence of quieter vehicles. NHTSA will evaluate the merits of possible rulemakings, including requiring electric and hybrid carmakers to add sounds that alert the visually impaired and other pedestrians when these vehicles are operating in certain low speed maneuvers.

"Even as we make giant leaps forward with hybrid and electric vehicles, we must remain laser focused

on safety," said NHTSA Administrator David Strickland. "With more and more quiet vehicles on the road, we have to consider their effect on pedestrians." The notice will be published in the Federal Register and the public will have 30 days in which to submit comments on this NHTSA action.



"America's streets must be safe for everyone who uses them." - US DOT Sec. Ray LaHood

ACCIDENT INVESTIGATION TRAINING

IPTM <http://www.iptm.org/Schedule.aspx> **NUCPS** http://nucps.northwestern.edu/course/crs_list.asp

11/28-12/2 \$695	Pedestrian/Bicycle Crash Invest. Jacksonville, FL	2/27-3/2/2012 \$875	Traffic Crash Recon 3 Evanston, IL
2/6-17/2012 \$895	At-Scene Traffic Crash Invest. Franklin, TN	3/12-3/23/2012 \$975	Crash Invest. I Evanston, IL
2/20-24/2012 \$725	Applied Physics Jacksonville, FL	3/26-4/6/2012 \$975	Crash Invest. II Evanston, IL
3/19-30/2012 \$895	Advanced Traffic Crash Invest. Franklin, TN	4/9-13/2012 \$775	Vehicle Dynamics Evanston, IL
4/2-6/2012 \$725	Human Factors Jacksonville, FL	4/23 - 5/4/2012 \$1050	Traffic Crash Recon I Evanston, IL
5/7-11/2012 \$725	Energy Methods & Damage Jacksonville, FL	5/7-5/11/2012 \$850	Traffic Crash Recon II Evanston, IL

To Register, visit the website or call: 904-620-4786

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IACAI CONDUCTS HYBRID SAFETY SEMINAR

On September 28, 2011, the Indiana Association of Certified Accident Investigators held its annual fall seminar in Greenwood. The topic for this seminar included Automotive lighting technology, instructed by IACAI Secretary Dave McElhaney, and Hybrid Vehicle Safety, instructed by Beck Toyota Master technician Jeremy Sloan.

The Automotive Lighting presentation explained the history of the development of automotive lighting, from its origins as a carbide oil lamp to today's HID (High Intensity Lighting) and LED (Light Emitting Diode) lighting systems. Also discussed was the newest form of vehicle lighting: the Laser Headlight. Descriptions and considerations for these types of lighting systems were discussed, as well as how each type of lighting system may or may

not be helpful in a crash investigation.

In the afternoon session, Jeremy Sloan gave an informative presentation on Toyota's Hybrid vehicles, including the Toyota Prius and the Toyota Camry. Sloan started the session by giving a short powerpoint presentation on the Toyota hybrid system and how it works. Sloan explained that at least as far as Toyota was concerned, the Hybrid vehicle uses a large 218-288 volt battery (actually made up of a series of smaller 7.2v batteries) enclosed in a metal case which is stored underneath the 2nd or 3rd seat of a vehicle (depending on the type of hybrid vehicle). The power plant for the hybrid vehicle consists of a 1.6 liter motor and a generator capable of producing between 200 to 650 volts of electricity. When

the vehicle is started, the engine may or may not actually turn on. Sloan explained that anytime the vehicle is in an "on" position, the vehicle should be considered to be ready to drive. The engine does not have to run to be drivable; it can run for some distance on battery power alone. The battery is recharged by the generator; the vehicles' brakes also provide some regeneration as well. Sloan cautioned against attempting to cut, alter, or otherwise attempt to open the battery case. He explained that the bright orange cable is high voltage and will cause the unfortunate first responder who attempts to cut it many more problems than expected. The hybrid also contains a single 12v battery which provides auxiliary power to the various accessories in the vehicle.



The Toyota Prius uses a 288 volt battery to run the vehicle when the 1.6 liter engine isn't running. The vehicle can stop and start running at any time while the vehicle is 'on.'



IACAI President Don Harris and member Julie VanHorn listen as BeckToyota's master technician Jeremy Sloan explains the inner workings of a Toyota Prius at September's IACAI Seminar in Greenwood. Sloan presented an afternoon class on the Hybrid vehicle and the safety considerations investigators/first responders should follow when working around these vehicles.

IACAI SKILLS

This issue of IACAI Skills has to do with Human Factors in Crash Reconstruction.

1. True / False Human perception relies on selective attention to function without Overloading the system.
2. True / False There are no limitations set on the speed with which the human nervous system can process information.
3. True / False When it comes to memory, people are less confident than they are accurate about their recollection of events.
4. True / False Drivers are usually better estimators of time, speed, and distance than eyewitnesses.
5. True / False Unexperienced drivers tend to scan the roadway and ignore irrelevant information while experienced drivers tend to process more irrelevant information.
6. True / False Experienced drivers tend to ignore road signs.
7. Elderly drivers attempt to compensate for deteriorating abilities by:
 - A. Driving less frequently
 - B. Driving at or straddling the fog line.
 - C. Driving in the am hours only
 - D. All of the above are ways in which the elderly compensate
8. In daylight, the human visual system is most sensitive to the colors in what range?
 - A. Blue - Purple
 - B. Red - Orange
 - C. Yellow - Green
 - D. Yellow - White
9. The hardest color to see with the human periphery is:
 - A. White
 - B. Red
 - C. Silver
 - D. Black
10. True / False With regard to interstate highway conditions, the more emergency lighting that is placed on the rear of an emergency vehicle, the safer the emergency vehicle is.



Answers from last issue:

1. C
2. B
3. A
4. B
5. C
6. True
7. True
8. False

The answers will appear in the next issue of The Association.



IACAI TRAINING ANNOUNCEMENT

Seminar Announcement

The Indiana Association of Certified Accident Investigators will be sponsoring a seminar on

"Legal Update" (AM)

"ARIES 5" (PM)

Wednesday, November 30, 2011 0900-1500 hrs

at the

Greenwood Police Department Training Center

736 Loews Blvd

Greenwood, IN 46142

Cost: \$50 for IACAI members; \$75 for non-members

No advanced registration is required.

Registration begins at 08:30am

Questions regarding this seminar may be directed to IACAI

President Don Harris

email: donhar232@comcast.net



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