



Arc Flash

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TECHNICAL TRAINING GROUP

It has been said that we only use 10 percent of our brain. Here is some information to help you fill the other 90 percent. [Brainfiller.comtm](http://Brainfiller.com)

We've Been Down This Road Before – Arc Flash and Seat Belts

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Then and Now

The next time you or someone you know frown about the big push towards arc flash analysis and wearing all the required personal protective equipment (PPE), think about this: We have been down this road before.

Then: In the 1960's statistics showed traffic fatalities were too high and when someone has a serious collision there is a good chance they would go through the windshield and not survive.

Now: In the 1990's NFPA began to address the statistics that if you work on live equipment and there is a significant arc flash, there is a good chance you might not survive.

Then: To improve the survival rate when in an automobile crash, lap belts were introduced in the mid 1960's

Now: To improve the survival rate during an arc flash, NFPA 70E and OSHA require the use of PPE while working on energized circuits above 50 Volts.

Then: Lap belts were a big step forward and reduced the number of injuries and fatalities. However, further work needed to be done and we needed to address hitting the steering wheel or the dash board.

Now: Present day PPE is a big step forward and reduces the number of injuries and fatalities. However, further work needs to be done and we need to address the effects of the arc blast. Fortunately this is a work in progress.

Then: As protection got better, shoulder belts were introduced to stop people from hitting the dash board and steering wheel. Later airbags were introduced.

Now: Work is being done to analyze the effect of the blast and companies are developing solutions right now.

Then: Experienced drivers in the 1960's did not always want to use seat belts. "I'm a good driver and I have never had a serious accident"

Now: Experienced electrical personnel today do not always want to use PPE. "I'm a safety conscious person and I have never had a serious accident"

Then: Even with all of the restraint systems in a car, serious accidents still happen and people are still injured and killed. However the rate and severity of injuries and the number of deaths has dramatically decreased.

Now: Even with all of the best PPE, you are not bullet proof. Injuries and deaths can still occur but the rate and severity will be dramatically decreased.

Then and Now: If you use all of the restraint systems and drive at 120 MPH, your chances of survival are not good. – Don't drive at 120 MPH!

Now: If you use all of the PPE available today and work on energized systems that can deliver extremely high incident energy, your chances of survival are not good. – Work it de-energized!

Then: As a kid growing up in the 1960's, my sister and I thought it was cool to wear the new seat belts. We felt like astronauts.

Now: As an adult in this industry, wearing a flash suit makes me look like an astronaut

Now: We look back at the 1960's and earlier and think: "can you believe people drove without seatbelts and air bags?"

Future: People years from now will look back at us and think: "can you believe people worked on live electrical systems without the PPE we use today?"

We have come a long way since the 1960's. Passenger restraints took time to evolve into what we have today. It took even longer for everyone to accept them.

Our understanding of arc flash, arc blast and PPE requirements is evolving. The NFPA 70E gang along with many other dedicated committees and groups are doing a great job at moving all of us into a safer direction. Like, seatbelts, it will take a take time for it to evolve, and like experienced drivers in the 1960's, it will take some of us time to get used to a new safer way to work.