

One Moment.

On December 7, 2016, I had an accident in my shop that put me in the hospital with third degree burns to my head, face and the left side of my upper torso. Quite the ride since then, with 40+ days in the hospital and too many surgeries to count.

Not looking for anything other than for whomever reads this to realize that life can change in an instant. I was pouring fuel (pump gas) from a plastic fuel jug thru a large plastic filtered funnel, into the dyno room fuel cell. Something I've done literally thousands of times over the last 18 years.

It was very cold (-15 F) and dry that night. All fuel jugs are kept outside, so I brought one into the dyno cell area and began pouring the fuel into the funnel. A minute or so in, and the fuel started to back up about 1/3 of the way up the funnel, and since I did not want to continue filling, I lifted the fuel jug off the funnel, and at that point, the explosion happened.

The theory is that the flowing fuel was building a static charge in the fuel jug and (since the jug was resting on it) the funnel. When I lifted the jug off the funnel, there was a static discharge. The vapor atop the fuel in the funnel was in a combustible zone, and it ignited.

It is hard to convey just how instantaneous this is. You have ZERO time to react. I don't think I can over state this fact. You'll just have to trust me on this one.

The next thing I knew, my face was on fire, and when I looked out, all I could see was flames seemingly on my eyeballs, and I could not breathe due to a lack of oxygen. Well, I could breathe a bit, but I could feel the extreme heat in my mouth from the flames on my face and my lips when starting to inhale, so I held my breath while exiting the shop and luckily found a snow bank to dive into head first, mouth open.

The rest is history, interior of the shop was ablaze, and once help arrived, I was flown to the Foothills Hospital in Calgary, AB.

Very well may have been the perfect storm here.... so many things had to line up for this to occur. Perhaps one in a billion.... Whatever the odds or conditions, our lives will never be the same and maybe by reading this, one of you may be spared similar misfortune.

It would be tens of thousands of gallons of fuel that was poured into that cell, using the same equipment. I was doing something that I felt was seemingly routine, but I am reminded every minute of each day that it was obviously not.

Moving forward, I'd like to compile a few points that I feel contributed to this. As I write this, it has been 13 months since it happened, and I have had many on topic conversations during that time regarding how to avoid the issue, and what can be learned from it.

1 – Do not let the fuel can contact the lip of the funnel. But taking this one step forward... (insight from local Karting club CKRC manager Fred Causer) if using a plastic fuel jug, use a

metal funnel, and vice versa. This was something Fred learned in his military background with the Royal Air Force.

2 – I always strive for clean fuel, and once you use a funnel with a fine filter screen, you can see how dirty the inside of fuel jugs can be. The fuel was stored outside, and because it was well below freezing, whatever condensation that was in the pump gas was frozen. As I was pouring the fuel into the funnel, this slush was plugging up the filter... slowing down the flow of fuel, causing the fuel to back up. I am confident that if the funnel I was using was not filtered, this would not have happened. The fuel would have been out of the funnel when the jug was lifted off, therefore the vapor would not have been in a combustible zone when the discharge happened. In fact, I strongly believe that this discharge happens far more frequently than we realize... the difference is that without something slowing the flow of fuel thru the funnel, the fuel is usually long gone. I'm not entirely sure how I will be tackling this (lack of a filter in the funnel) in the future.

3 – One good thing was I had on my trusty Mechanix Wear gloves, and my hands were unscathed. I would however recommend wearing some sort of clear face shield, if even to keep any errant splashes out of the eyes.

4 – When pouring fuel, keeping the sloshing down to a minimum will reduce vapor

5 – Grounding cables. This is the most obvious improvement to be made. Would be nice if the fuel jug companies gave us some material on the jug to attach permanent grounding cables, maybe some do? I've looked over mine and they don't. Coupling the jug to the funnel, then to the cell. Do we need a grounding rod also? I get vastly different suggestions from different professionals I have talked to in that field.

Additional and constructive comments are welcome here! I am usually the one in the group who is looking for the dangers and taking steps to avoid them. I missed the boat here. I do feel that getting the word out to as many people as possible... giving them a slight bit of insight into how life can change in an instant, may save someone, somewhere. I am notably scarred for life... more surgeries are in the near future, and laser treatments for years to come. I went to physio 5 days a week for 10 months... and one day while walking up a long hill towards the rehab gym I was lamenting in the thought that all of this has happened, life has been turned upside down... for a split second lapse... just one moment. Oh, I wish I could have that day back.

Be safe,

Ryan Brown

rbperf@hotmail.com