

## WHAT THE H#%&\* WAS THAT?

By Dinjer Shefki, CFII, MEI, ATP

*AirShares Elite Mid-Atlantic Owner, Dr. Dinjer Shefki, has graciously allowed me to share with you his marvelously written and entertaining account of a violent wake turbulence encounter that he experienced over New Jersey with his wife's elderly parents on board. Do not think that this couldn't happen to you!*

It was beautiful in the late afternoon, following a wonderful day spent in Atlantic City with my in-laws. They were visiting from England, and we flew there to give them a day to remember. They had flown with me before on many occasions, but this time it was in an AirShares SR22, and I was eager to show them the beauty and elegance of this flying carpet, as well as impress them with its avionics and autopilot. Let's face it; even after thousands of hours of flying many types of aircraft, every time I flew the SR22 it still impressed me plenty. Now it was time to fly back home.



Getting two older folks into the airplane was a little difficult; grandma's frail and bony frame was hard to guide up the step to the top of the wing. I did not know where to grab to hold her to assist. Somehow, slowly we managed, made her comfortable, and placed the four-point seat belt around her body gently. After adjusting, I gave a last tug to make sure the seat belt was snug on her.

Boarding Grandpa was more interesting; with a little help from me pushing "his behind" from behind, his heavy and very round body gradually made it to the top of the wing, as the airframe strained and the strut on the right side sunk plenty. Trying to enter the cabin by putting one foot on the carpet on the cabin floor, and the other still on the wing, he leaned to enter the cabin, and the carpet instantly slid forward towards the rudder pedals. This caused him to glide and swiftly fall into the seat with a loud "thump" and an "Ouch!" He rapidly proclaimed he was unhurt so he would not look too foolish, but his face revealed otherwise. Those expensive seats are designed for how many Gs? We managed to rotate him anti-clockwise and get his other leg in the cabin so we could finally close the door. The seatbelts were another issue; by the time I lengthened them and pulled and pushed to displace surplus blubber, we managed to get him strapped in tightly... very tightly.

The departure from KACY was routine; remaining under "Class Charlie" until contacting departure control, then climbing up to 4,500 feet MSL to avoid the restricted areas enroute the short flight home, northbound to Caldwell, New Jersey. The weather was severe clear, and there was not a bump in the sky. The SR22 performed flawlessly as it obeyed faithfully all the tiny inputs from various knobs and levers. Grandpa was impressed at how little I had to do to fly this complex machine; it seemed to him like the adult version of his grandson's video game. I was relaxed, and looking back at grandma realized how proud they must be of how far they got in their life; flying to and from Atlantic City in their son-in-law's private plane!



With nothing much to do except listen to the pilot-controller chatter on the radio, I started to show and explain to grandpa the various readouts on the wide PFD and MFD screens. As we cleared the McGuire restricted areas, we started a cruise descent to 2,500 feet MSL to get under the New York Class Bravo

airspace. I pointed out to grandpa the various airliners that were coming from the West as they approached to land Northeastward at Newark-Liberty Airport on runway 4. The giant aircraft seemed to slowly cross well above our flight path from left to right as we proceeded almost northbound towards our destination. They were much higher than us, as I steepened our descent to get well below them. I explained to grandpa that just as large ships make large wakes behind them in the ocean, large airliners make huge wake turbulence behind them; only we can not see the turbulent air. I told him that we were descending well below them to avoid their invisible wake turbulence. He helped point out to me various airliners in the clear and calm air. I could see them myself, but I wanted him to feel useful.



He commented that the trip homeward was very smooth, and that I was an excellent pilot. In the smooth and calm air, the autopilot with altitude pre-select was doing all the work, and I was not touching anything! I knew it had nothing to do with my piloting skills, so I quietly smiled, but did not contradict him. I wanted him to appreciate once more what a great guy his daughter had married.

Gently and smoothly descending through 2,500 feet, the airspeed indicating 175 knots, with a smile on my face, life was good! Then, all of a sudden...

### **BANG!!!.....WHAT THE H^%&\* WAS THAT?**

It was as if I had flown into a solid wall! The entire airplane went up and down in an instant, and the loud “bang” was deafening. I thought the plane broke in two. I looked back to see grandma’s ashen face, as she leaned forward to give me my headphones which had departed my head and landed on hers! That was reassuring, as evidently we still had the back half of the plane with grandma still strapped to it.

Looking right to Grandpa, he was holding the top of his head with his hand; evidently he banged his head on the roof of the cabin. He turned and looked at me for an explanation, and must have been disappointed as right then I had none. When he took his hand away from his head, his palm was bloody; evidently his lack of hair on top allowed some abrasions from hitting the ceiling of the cabin. I moved his head down to look on top of it, and saw an egg sized bruise developing. He said he was alright, but did not look it!

All this happened in a matter of 5 seconds.

The plane was somewhat level and still flying. Grabbing the side control yoke on the left, I found the plane responded like it should. My mind was running wildly in every direction trying to reconcile what had just happened. From the “Bang” sound, I thought maybe the ballistic parachute self deployed. I thought maybe we hit another aircraft, even though none were nearby, and none seen on the TCAS. Perhaps a parachute jumper collided with us; what a horrible thought; was he still attached to us? That was not possible since the aircraft responded to control inputs just fine. Did we hit a goose? A deer? Surely not at this altitude!



We had only less than 10 minutes to land at our destination. I considered making an emergency landing, but since the airplane was flying just fine, and everyone was conscious though badly shaken, literally as well as figuratively, I decided to continue to land at our destination. Landing anywhere else en route would only make two or three minutes difference. I calmed myself, and remained on the task of flying the airplane.

The landing at Caldwell was uneventful. We finally located Granddad’s headphones... he was sitting on them!

I left my passengers in the plane as I exited and ran around the airplane crazily looking for holes in the fuselage, or a large dent somewhere. Thankfully, there were none. I found no streaks of blood, no feathers, and no parachute cables, neither from our plane, nor from a skydiver!

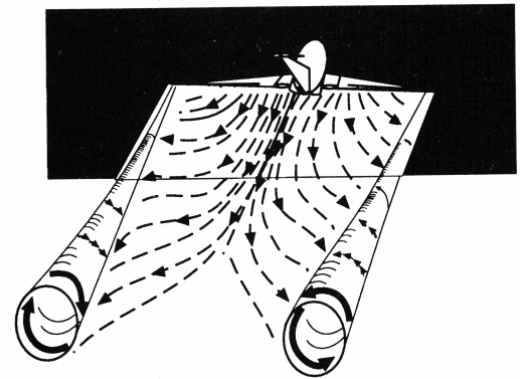
On top of grandpa's head was a small hardboiled egg, but it had stopped bleeding. Grandma was still pale with fear and looking at me for a clue. She was badly bruised, but in my last second, tightening her seatbelt saved her hitting the ceiling of the cabin. Everyone got out of the plane slowly, and we all hugged each other.

I wanted them to have a flight to remember, and they had one that day.

In the final analysis, the plane was checked by mechanics and absolutely no damage was found. The ballistic parachute was just fine, ready for another bad day. There were no wrinkles to the skin, no evidence of tears, splits, cracks. It was as if nothing happened.

Grandma finally got color to her face, and multicolored everywhere else from the hidden bruises from the seatbelt. If it was not for the very visible bruise on top of Grandpa's head, I could almost pretend nothing happened. But it did. Evidently we hit the wake turbulence from an airliner going into Newark-Liberty airport!

We all know about wake turbulence. The Airman's Information Manual ([AIM Chapter 7, Sec. 3](#)) has several pages on the topic, with pictures of airliners and how to avoid wake turbulence. We know not to take off right after a large aircraft has used the runway, and not to land immediately behind one. We develop a mental picture of where the wingtip vortices are and how to avoid them; to land beyond the touch-down spot of a large aircraft on the runway, and to takeoff prior their rotation at takeoff. We also know the wake turbulence sinks behind the aircraft generating it, and can be influenced by winds and air turbulence.



What I have never experienced in thirty years flying was coming across wake turbulence at right angles. With the airliners crossing our flight path from left to right, even though I was about two thousand feet below them in calm air, I ran into wake turbulence while descending at 175 knots. At that speed, I went through it very fast, but it was like hitting a wall. My plane violently went up, then down in less than two seconds. No loss of control afterwards, but in those two seconds, I thought my world had ended.

So, be warned. Always make sure the seatbelts for everyone are snug. Beware when flying in terminal areas where airliners abound at lower altitudes. Be especially careful if the air is calm as the wake turbulence does not dissipate quickly. When everything seems to be going well, expect the unexpected. Last but not least; in any emergency, do not forget your job as the pilot in command; fly the airplane!

