

Dere's a Gael in Da Highlands
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Pointed 60 deg nose up and passing through 15,000' in an F-111 Aardvark is not a place you want to stay very long. Wings swept back to 54 degrees for high speed - even worse. Throw in the storm of the decade and winds over 100 knots (kts) and it won't take long before something bad will happen. Oh yeah, it's the middle of the night too. But that's where I was. That's where WE were. In the weather, full Instrument Meteorological Conditions (IMC), nose high, slowing fast. My left seater was frozen stiff with fear having just done an emergency climb from low level, the stick buried in his lap, his left elbow locked forward in full afterburner. I was a little shaken too but knew exactly what happened that scared the shit out of him. "Rufus, get the wings forward ... RUFUS!" Passing through 250 kts the speed tape was shooting down at a massive rate as our speed rapidly decreased. "RUFUS PUSH OVER!" He was so gripped with fear he couldn't hear a thing I was saying. The Aardvark was about to stall and fall out of the sky. Ejecting in this weather wouldn't turn out well. It was time to grab the stick.

It was the winter of '89 and we were flying night training rides in the mighty F-111E's from Royal Air Force (RAF) Upper Heyford in Oxfordshire England. This usually involved flying a low level at night then into the range to drop radar bombs. Most of the time we were single ship. This process involves quite a few key systems to be working tip-top and a lot of training. After all, 40 tons of metal at 540 kts a few hundred feet off the deck in the weather at night is not something you just go out and 'wing'.

It takes thousands of dedicated men and women with the skills and integrity to do their jobs right every time – be it 18-year-old Security Forces airmen guarding the ramp, a 30-year-old Technical Sergeant inspecting a radar repair, or all the folks in between supporting everyone. I was just the lucky guy that got to go out and do it.

I loved flying with Rufus. He could handle the F-111 well and made it a rule to always get upside down once a flight. The low level we chose that night was HRA-North or the Highlands Restricted Area North route through the rugged mountains in the sparsely populated region north of the Scottish Highland Boundary Fault. The culmination of that low level fed into Tain range which sat another 20 miles north of the remote Scottish town of Inverness.

*'Four and twenty virgins came down from Inverness,
And when the ball was over there were four and twenty less ...'*

But that's a song for another forum.

A big storm was forecast that night but not a lot of detail was available. It was still the 80's. Due to eastward moving Atlantic depressions the west coast of Scotland was and still is the windiest place in Europe and one of the windiest places on Earth. It was one of those nights that today with better weather reporting we wouldn't have even attempted to go fly a night IMC low level

in. But it was over 30 years ago, and the internet wasn't up yet. At least not for us. Even if it was, there were no weather stations on the west coast of the Highlands that we knew of.

All things were normal for start, taxi, takeoff and the 45 min cruise up to the orbit point where we would do a turn in holding to get our timing right prior to the letdown to low level. We entered the Hold out over the North Atlantic in a horrible storm. No worries, if the systems were good, we were good as the mighty Aardvark could handle just about anything. We were going to do one spin in the hold and enter the low level. The first turn in the hold brought the first problem, a TF DRIFT Master Caution light.

This light comes on if the aircraft nose is not pointed directly straight ahead or drifting more than 4 degrees from where the aircraft is tracking across the ground. The platform the terrain following radar (TFR) sits on can compensate for drift up to 4 degrees but any more than that and it is not looking straight in front of the aircraft. It's like trying to drive a car looking out the side window only. With that light on you can't fly close to the ground at night or in the weather. Bummer. Most aircraft routinely drift more than this but the F-111 was so heavy and flew so fast that it rarely encountered a drift of more than 4 degrees. Either the winds are hurricane strong, or the platform must be broken somehow. Before we finished the turn the light went out, good! Then the TF SPEED light came on, bad. This light illuminated whenever the Inertial Navigation System (INS) generated groundspeed had a value of more than 120 kts different from the True Airspeed. I think the Texas Instruments engineers that designed the system put this in because the groundspeed would occasionally run away in certain errors of the INS. Sometimes you'd see the radar cursors moving on their own and then look at the INS and notice your groundspeed climbing through 1000 kts even though that wasn't true. Dat aint right. We said the system was running back to General Dynamics in those situations. This light also would not allow you to fly low to the ground at night. We're done for tonight.

Then I looked at the winds on the INS - 322/185. OUT OF THE NORTHWEST AT 185 KNOTS?

I'll never forget that. It took a second to get my mind around it, but we were actually flying in the mid-20's in 185 kt winds. Holy crap what a storm. It was a little bumpy but not what you'd expect for winds that strong. I discussed with Rufus that the system wasn't actually reporting a failure and we could engage the TFR and at least attempt a letdown. If the lights went out prior to Minimum Enroute Altitude (safe altitude above all the terrain) we could continue to our level off at 1000' set clearance plane and then step it down to 400' which was our peacetime limit at night. He agreed. With the system setup and everything looking good (except the TF DRIFT light now back on) Rufus released the paddle switch with his pinky and let go of the control stick, putting his right hand on his right leg close to it. The massive leviathan we were in nosed over making us light in our seats as we sunk into the inky black below. Approaching our MEA the light went out. We're good!

Pushing further down into the soup the Vark automatically started a level off at 1000'. The ride was now getting rough to say the least. We were in the middle of the storm as I tightened my harness straps as much as I could. We stepped down to 750', then 500', then 400' letting the aircraft settle at each altitude before we selected the next lower one. It was a little hard to read

the gauges we were bouncing around so much. We were still over the North Atlantic. My radar showed the coast coming ahead and it looked like we were on course and on time.

My job in the right seat while flying TFR was to back up the TF Radar system with my ground mapping APQ-113 radar dish. I could see the terrain coming and would ensure the TF system was climbing and descending as needed. The cadence was something like this:

- Pilot: 400' SCP and 360' in the LARA
- Pilot: leveling at 400'
- WSO: I have high terrain at 4 miles
- WSO: High terrain at 3
- Pilot: Confirmed on the E-Scope
- WSO: Terrain at 2, should be starting a climb.
- F-111: BEEP, BEEP, BEEP (as it climbed). BOOP, BOOP, BOOP as it pushed over the ridge and started back down). And that continued on as long as we were below MEA.

We coasted 'Feet Dry' into the Highlands climbing up the first mountain a little fast at 515 kts. It was raining hard, and you couldn't see a thing out the windscreen or canopy's - not that it was a good idea to try and see out anyway. It was really bumpy now, the worst I've ever felt, but the system was working fine, and I could see on my radar that we just cleared the first ridge. It was so rough I contemplated recommending an abort but thought the tough old beast could handle it. Just as the jet started to push itself over the first ridge, it happened.

BAM! WE HIT THE RIDGE! We hit the ridge? How can that be? I saw us clear it on the radar and besides I'm still breathing.

That was the most violent bang I ever heard from turbulence or ever would. Our hands, feet and heads went forward. The pubs bins above our heads unloaded and a half dozen paper publication booklets flew everywhere. It sounded like we hit the mountain top. That was severe turbulence. Rufus grabbed all the stick he could and ripped it towards his lap. Shit.

We were riding the elevator up. We were done for tonight. We still had 12 practice bombs. Damn I hate taking bombs back home.

Oh well. I set Scottish Mil in the radio, reset the altitude bug on the tapes to 15K and told Rufus we were good to 15 before we exited the Highlands Restricted Area. He didn't say anything. In fact, I didn't realize it, but Rufus wasn't home right now.

I had the luxury of knowing we were clear of the terrain, but he didn't. The violence we just experienced was just a massive rotor/turbulence on the back side of the first hill we flew over. I'm guessing the winds were upwards of 100 knots on the surface that night. This would have brought down a light plane easily but the mighty F-111 has one of the highest wing loadings of any aircraft ever built. Rufus didn't put it together as quickly as I did, and fear was now in control of the F-111E we were riding in. Not good.

“RUFUS PUSH OVER!!!” Passing through 18,000’ on the way up I had no choice but to grab the stick and push us over. As soon as I started pushing on the control stick forward Rufus came to his senses. He simultaneously threw the wings forward and rolled the aircraft onto it’s back pulling the nose down as quickly as possible to preserve what airspeed we had and accelerate. Rufus was home now. We were pointed North at the Shetland Islands, the airspeed tape climbing slowly to a safer number. I took a moment to gather myself. I looked over at him, but he wouldn’t look at me. I put the Heyford East Fix in the INS and said the steering was good. We turned south and headed home.

Rufus didn’t say a word on the way home or after landing. I took care of talking to everyone on the radio and running the checklists. After landing I told him I would take care of the maintenance debrief and to head home and we would discuss it tomorrow. The next day he showed up, found me right away and immediately apologized saying he thought we were dead. I totally understood. I have to admit it was pretty traumatizing seeing those pubs flying all over. I never felt or saw anything like that the rest of my career. Not much you can say to that. “Me too Roof”. Another night flight tonight, oh well.

What doesn’t kill you makes you stronger.