

## Chapter 33 - Training Captain

**A**s if I was watching a slow-motion video replay of an accident, the electronic flight attitude indicator showing the Beechcraft 1900 Airliner's relationship with the earth rotated until the blue side (sky) and the brown side (ground) swapped positions – brown side on the top side of the instrument meant we were nearly upside down. The plane was in over 120 degrees of right bank and getting worse, low to the ground in solid cloud over Gainesville, FL at around midnight performing a practice simulated single engine missed approach. The plane was more inverted than right side up and my verbal coaching of the marginally performing first officer in training had done no good to this point.

I had been an airline training Captain for about five weeks at this point, having performed about 18 training flights, graduating two sets of students. These guys were my third set to be trained, plus I had trained a few strays that needed extra or remedial work here and there. With around 1,800 flight hours in the same make and model airplane over 28 months, I was proficient and confident in my ability to teach new pilots to be

airline first officers or Captains. Maybe a little too confident. My previous experience as a flight instructor in Atlanta had prepared me well for this role, and it was basically a continuation of what I had been doing, just in a larger and much more powerful regional airliner. After the first couple of sets of students, I was very comfortable with instructing in the airplane and was settling into the routine of churning out safe airline pilots for our airline.

It should be mentioned that at Mesa Airlines during that time, the airline did all the initial training and checking, including simulated engine out maneuvers, in the actual airplane and not in a flight simulator as nearly every other airline did as standard practice. The airline simply did not have a simulator for this make and model of airplane, and although one was being sourced it was far from ready, so the FAA approved all the training to be done in the airplane. This is germane to my description of this incident, because if this situation had occurred in a simulator, I would have hit the freeze button, pointed out the error of the FO's ways, and backed the thing up to try it again with no possibility of an accident. When you crash a simulator, it is a simulated crash, you debrief the flight and go home. Crashing a regional airliner during engine out training usually has fatal consequences. Airline flight training in the airplane is a risky business.

Chief Pilot Ken had sent me to our base in Orlando to conduct initial and upgrade training. We had a dedicated training airplane there, meaning we training guys did not have to share it with any passenger operations. I was the third of three training Captains at Orlando. The most senior Captain preferred working early mornings, the second most senior liked day shift, and I got what was left – swing shift, taking off about 4 to 5 pm each

night and flying until past midnight most evenings.

Ken had called me earlier in the week. He said he was sending me a student that could not get through training and wanted me to put her through the syllabus one more time, starting with lesson one. When I asked why we were bending over backward for this FO when normally we would have already sent her packing, Ken said this particular FO was a personal friend of the two brothers that owned the airline and flight school back in Farmington, NM. I began to see the light. He said to not show her any favoritism, and that she had to be safe at the end of training before flying any revenue operations, but keep in mind anything I said to her would get back to the airline owners. "Good luck, Dave. I'm counting on you." Gee thanks, Boss.

I met the FO and looked over the training folder while we sat in the hotel lobby. Sure enough, there were a string of grades including marginal, unsatisfactory, and a few satisfactory. There was a long string of unsatisfactory grades in single-engine work, including takeoff engine failures, engine out approaches, and engine out missed approaches. It sounded to me like she could fly when things were normal but throw an engine failure in and things would deteriorate. I added her to our crew briefing in the afternoon and thought about my instructional strategy. I would review things she could do well and build confidence, then introduce more complex maneuvers including the single-engine work. Right then and there, I decided never to be alone with her. It would be better to have witnesses to anything that was said. Even in our brief discussion in the lobby, she had mentioned the names of the owners a couple of times, like I needed reminding. She would get professional and proper Captain Dave for her entire training experience.

Our first training flights together did not give me much encouragement. The other students were miles ahead of her even though it was their first trip through the syllabus. Watching her struggle with normal maneuvers and approaches, I quickly realized most of the maneuvers in her training folder that were marked SAT or marginal should have been UNSAT. I called the Chief after the first two flights and gave him the bad news. He said to take her through the first unit of instruction and then decide on whether to continue or not.

I was puzzled as to how the FO had made it this far. The flight school where she had earned her commercial and multi-engine license had a good reputation for churning out students. One of the other students that we were flying with this week was a graduate of the same course and did just fine. Where was the disconnect? How could she end up with FAA certificates if she had trouble with basic maneuvers?

Which brings us to how did we end up upside down over Gainesville? To put it simply, in performing single-engine practice in multi-engine airplanes, the speed must be kept above a minimum control speed referred to as  $V_{mca}$ , or loss of control was possible. In flight training, to simulate an engine failure, the instructor reduces the thrust lever on the desired engine to near idle, simulating 'zero thrust' or in other words, a dead engine. The engine is still running and is available upon advancing the thrust lever, with a delay for spooling up as all turbine engines do. When initiating the simulated single-engine missed approach, the FO had slammed the power on the good engine to the maximum and jerked the nose up too high to get away from the ground. This combination of actions caused the speed to bleed off almost instantly below  $V_{mca}$ , with the power of the left engine at full power rolling us to the right, even though

the FO had the control wheel turned to full left aileron deflection. We were in a classic Vmc roll and it was getting worse. This was why we should be practicing these maneuvers in a simulator.

Since the FO was on her third try at getting through the airline flight training syllabus, I was trying to let her have as much chance as possible to get things back into a normal state before intervening. I had already called out to lower the nose and reduce the power on the operating engine with no response. The FO had locked up on the controls and was watching the plane roll upside down and head to the ground. That would have been a great time to hit the freeze button, except that we were in a real airplane low to the ground over Florida and not a simulator.

At that moment, my check airman mentor Captain Stan Knight saved our lives as I performed the actions that he and I had discussed in depth a few years earlier when he was administering my Airline Transport Pilot flight test. Stan had passed on his experiences as an airline check airman in turboprop airplanes. “When you get into an out-of-control Vmc roll, pull both power levers to idle right away. That will stop the asymmetric thrust situation and then you have a normally responding airplane to recover with. Get the nose down to the horizon line or below even if you are inverted to keep from stalling the wings. Roll the shortest way to right side up and get the power back in on both engines and then establish a climb attitude. This will save your life someday.”

Calling out, “My airplane!” I took control and snapped both thrust levers to idle, neutralized the controls, then pushed the nose down to the nearly upside-down horizon line, reducing the angle of attack and getting a few knots of speed back. With that done, I put in a firm shot of left rudder and full left aileron and forcefully rolled the big turboprop right side up. We were

still flying, and in pretty much the correct attitude but with both engines at idle and the props in flat pitch acting as giant speed brakes, the airspeed was bleeding off quickly. I had no choice but to lower the nose toward the ground which was getting awfully close and start a descent to keep the wings from stalling. I pushed both thrust levers firmly forward to get full power out of the engines. Come on, baby! After a few heart-stopping seconds of delay for the engines to spool up while the altimeter unwound and the ground came ever closer, the powerful Pratt & Whitney engines responded with their familiar roar as the props started producing thrust. I eased the nose up into a positive attitude and then after we were established in the climb performed the after-takeoff items after the speed was correct.

Turning to the missed approach course while climbing to the missed approach altitude back under full control, I looked over at the first officer, who was watching what I was doing with interest but did not seem overly concerned. “Do you know what just happened?” I asked. She replied something like the missed approach had been messed up and I took control. One of my other trainees who were looking on from the back yelled, “We were fucking inverted!” This was news to her, and she seemed surprised.

I called for one of the other trainees to relieve the FO, and while they were exchanging seats, I asked air traffic control for a direct course back to Orlando. With the new FO in the seat, I had him take control of the airplane and fly us back to Orlando.

Relieved of flying duties for a few minutes, I took a few deep breaths and tried to calm down. I realized that my knees were shaking from the adrenaline shock, so I looked out the window at the lights of central Florida going by for a while as I regained composure. I don’t know how low we had descended during the

recovery maneuver, but it was damned low to the ground. We had narrowly escaped death.

In my logbook is the date that all this occurred – 12/16/97. According to my log, I had flown a proficiency check ride and line check with senior Check Airman Todd earlier that day logging 1.5 hours, with four instrument approaches, including 1.2 hours of simulated instrument time. The proficiency check had included simulated single-engine approaches, maneuvers, and landings, so I had practiced single-engine maneuvering that very day. I picked up the students afterward and flew another 4.8 hours before we were back on the ground for the night at Orlando after the late start. Part of the evening would include a delay for ground refueling at Gainesville at some point, since with three students to train the plane did not hold enough fuel to complete all the syllabus work needed. This flight would be the sixth and final training flight for the two regular trainees, and the fourth flight I had instructed the remedial FO. I had flown six nights in a row logging over 28 hours in the left seat of that airplane, always landing after midnight. By the time the rollover occurred, it was already a long night in a series of long nights and it's safe to say I was somewhat fatigued by the grind of the training regimen and my reflexes were not as quick as they could have been. The only guy qualified in the airplane – me – was tired and too slow to correct an abnormal flight condition. It was my fault all the way for letting the FO get the airplane into what we now call an undesired state. We were all luckier than we had a right to be.

On the ground in Orlando after a short and uneventful leg, we went through the routine of putting the airplane to bed for the night. Chocks in, brakes off, engine covers, pitot tube covers, battery switch off, close and secure the door from the outside. Before we walked into operations to call for the hotel van, I took a

second and patted airplane number N112ZV on her ugly bulbous nose. A few minutes later, I was lost in my own thoughts as we rode the shuttle train back to the main terminal. The FOs were still excitedly talking about the rollover. I looked down and could see the plane sitting on the ramp, cooling off and waiting patiently for her next flight. I felt a little bit emotional. We could have been in a smoking hole on the final approach into Gainesville. Thanks for taking care of us, sweetheart.

Back at the hotel lobby in the early morning hours, I dismissed the students and set a time for the debriefing in my room for after lunch later that day. Dropping my flight gear in the room, I stopped by the ice machine, locked my door, and poured a stiff drink from the supplies on hand. I raised my glass to Captain Stan Knight, wherever he was. Thanks, Stan. I owe you one. My family and my students owe you one. I'll never get put in that position again.