



Unbroken Chain to Disaster

Accidents generally result from a progressive series of events. Break that chain and chances are that the accident will not happen.

—
by

John A. Pope

On February 19, 1988, at about 2125 Eastern Standard Time, a commuter airline Fairchild Metro III departed Runway 23R at Raleigh-Durham International Airport Morrisville, North Carolina, U.S. with two crew members and 10 passengers on board. The local controller had amended the flight's original clearance from maintaining a runway heading of 230 degrees after departure to turning right to a heading of 290 degrees.

The aircraft began a turn about 10 seconds after liftoff at an approximate height of 200 feet. Analysis of radar data indicates that the airplane continued to climb at an appropriate climb speed but at an excessive rate of turn and then began to descend. The data suggest the absence of abrupt maneuvers.

At 2126:33, the flight was told to "report established on the 290 degree heading and make that turn as soon as feasible, jet traffic to depart behind you." The captain responded with the flight number which was the last transmission from the flight. Within five seconds, the airplane entered a 40- to 45-degree angle of bank and maintained that for at least 10 seconds. A standard rate turn would have required an approximate 22-degree bank angle. After 10 seconds, a rollout was initiated but at that time, the airplane was in a high rate of descent. The airplane was aloft for less than a minute and struck water within 100 feet of a reservoir shoreline at a point about 5,100 feet, or not quite a mile, from the mid-point of Runway 23R. The airplane was destroyed and all on board died.

NTSB Report

In NTSB/AAR 88/10, the U.S. National Transportation Safety Board (NTSB) determined that the probable cause of this accident was the failure of the flight crew to maintain a proper flight path because of the first officer's inappropriate instrument scan, the captain's inadequate monitoring of the flight and the flight crew's response to a perceived fault in the airplane's stall avoidance system. Contributing to the accident was the lack of company response to documented indications of difficulties in the first officer's piloting and inadequate U.S. Federal Aviation Administration (FAA) surveillance of the airline.

In probing into the details of the report and, perhaps, going beyond the printed words, an accident analyst might also be able to give credit to decision making, motivation and mind set as causal factors.

And again, here is a catastrophic accident, like others we have heard about, where the first officer was the pilot flying the aircraft when the weather, while not violent, also may have played a part. At about the time of the accident, the U.S. National Weather Service forecast office at Raleigh recorded the following airport surface observations: ceiling — indefinite 100 feet obscured; surface visibility — 1/8 mile; tower visibility — 0 miles; weather — light drizzle and fog; temperature and dew-point — both at 47 degrees F; wind — 220 degrees, five knots; remarks — Runway 5R visual range 2,400 feet variable 3,000 feet, surface visibility — 1/8 mile.

While the stall avoidance system (SAS), airline management and FAA surveillance were cited as contributing causes, the human factors merit the most consideration in attempting to reconstruct the events that led up to the accident.

The Captain

The airline hired the captain in June, 1985, and assigned him as first officer on the Fairchild Metro. In July, 1987, he attempted to upgrade and transition to the position of captain on the Shorts 330 airplane. He completed ground school and after 16.9 flight hours in six flight training sessions, he left 330 training and returned to the Metro.

The NTSB noted that the captain's progress in transition was normal for the first four training sessions. After the fifth session, the instructor commented, "needs more time on one-engine work and instrument procedures;" and, after the sixth session, wrote, "needs basic instrument work (ILS-VOR). Also needs more time before check flight." Those were the only unfavorable comments in the captain's records.

The captain, who resided in Roanoke, Va., flew two legs of a trip on February 18, the day before the accident, in preparation for a required six-month proficiency check that would be given during a three-hour layover in Lynchburg, Va. According to the examiner who administered the check, the captain performed as an "average" captain during the one hour and 45 minute flight. The examiner described the captain's instrument work during the check as "fine." The captain's duty day ended at 2000 hours and he then returned to Roanoke.

A close friend met the captain at the Roanoke airport and, according to the friend, the captain most likely went to bed shortly after 0230 on February 19. At 1000 on February 19, the friend called and the captain told her that he wanted to remain in bed but would call her later. At 1245, the captain called her and shortly thereafter, she visited him at his residence. The captain indicated to her that "his stomach was queasy," and that this may have been related either to a sinus problem (he had a history of treatments for this ailment) or to his having too much to eat the previous night. The friend described him as not being very sick, and gave him a bottle of Emetrol, an over-the-counter medication for the relief of nausea. She did not see him take the medicine.

At 1400, the captain telephoned the company flight controller, informed him that he had "upper-respiratory and flu-like" symptoms and asked if there was a reserve captain available to take care of his scheduled flight. The captain was informed that a reserve captain was available, but he then told the controller that if he did not call back he would take command of the flight as sched-

uled. If the symptoms worsened, the captain said he would inform the flight controller, but he did not call. After flying as a passenger from Roanoke to Raleigh, he reported in one hour and 30 minutes before the scheduled 2040 departure time for the flight.

Another airline captain said that several hours before the accident the captain of the ill-fated flight told him he was reluctant to call in sick because, "They'll put me on reserve tomorrow, and I'd rather fly tonight." According to the airline's chief pilot, the company placed pilots on reserve status upon their return to duty after being on sick leave although this was not a written policy. Reserve pilots were required to report to their duty station within one hour of being called to report to duty. Since the captain lived in Roanoke, this would have required him to remain in the Raleigh area while he was on reserve status.

The NTSB received comments from other crew members who had flown with the captain that were consistently positive. However, several first officers said that, based on their experience, the captain would turn the bleed air switches on when he was the nonflying pilot. These switches, located just behind the first officer's control column, were to be turned on shortly after takeoff in order to pressurize the cabin. The choice as to which crew member turned on these switches varied among captains. But, a pilot who flew as first officer with the captain said that, as the nonflying pilot, the captain might be looking at a checklist, "cleaning up the aircraft and might have his eyes off the instruments," while climbing through 300 feet.

The Captain's Motivation and Mind Set

The captain's conversations with his friend and the commuter flight controller give a fairly good indication that he was not feeling well. It would be relatively easy for a casual observer to say that the captain's best decision at this point should have been to ground himself and take his chances on reserve status. But, the company sick leave policy provided all the motivation the captain needed to make his decision to meet the flight schedule.

Pilot decisions are sometimes based on tendencies to use non-safety related information, such as job demands, convenience, economics, commitment, emotion, etc., in choosing a course of action.

Once the decision was made to go ahead with the schedule, the captain had to decide who would fly the aircraft. In this case, the first officer was given the task. The captain may have believed that, given his physical state, he would expend less effort by not flying, which can be considered a form of mind set.

Mind-set may have also come into play when the captain turned off the bleed air switches as part of his cockpit habit of “cleaning up the aircraft” and reading a checklist while climbing shortly after takeoff. And, the crew’s reaction to a perceived SAS problem could be the result of mind set.

The First Officer

The first officer joined the commuter in May 1987, and was assigned as a first officer on the Metro. At the time of the accident, the first officer had accrued about 2,080 hours, of which about 450 were in the Metro. In the six-month period before employment, she accumulated 20.1 hours of multi-engine time, all in the Piper PA 44, and all during nine days in April in preparation for an Air Transport Pilot’s (ATP) check ride which she successfully passed on April 17. The remainder of her flight time in that period, 244.2 hours, was in Cessna 172 airplanes.

The commuter provided ground training and 12.7 hours of flight training before she was certificated to fly as a first officer on the Metro 111. She then began “differences” training on the Metro 11 and required 5.8 hours in three sessions, each with a different check airman, before qualifying on that airplane.

The first check airman wrote in the flight check form that she “needs more work on landing, having trouble maintaining glidepath and speed control and keeping torques matched on landing.”

The second check airman, who was her instructor in the Metro III, wrote, “refuses to fly aircraft, performance unsatisfactory ... recommend termination.”

After observing eight takeoffs and landings, the third check airman qualified her as second-in-command on the Metro 11.

The commuter’s director of operations at the time of the first officer’s training stated that he and the check airman who recommended termination talked about the situation. The director of operations testified to the NTSB that he did not make it a practice of terminating anyone based upon one person’s recommendation. “She had invested a lot in our company, and our company had invested a lot in her, and my question to him was within a reasonable period of time could we bring her up to the standards that we demand of first officers. His response was it would take a long time.”

Another commuter captain completed a captain’s progress and evaluation report on the first officer and described her as “behind the airplane,” that she “over-controlled” it, and that she “had real problems landing.” The

captain also noted that the chances of her successfully completing her one-year probationary period were “questionable.” The captain discussed her performance with the chief pilot who told the captain that her difficulties resulted from her reaction to her mother’s illness and that she should get better after she “gets over these family problems.”

Another captain reported that while the first officer was “rough around the edges,” she had made “tremendous improvement” throughout the month they had flown together. Another captain who had flown with her during a five-day period immediately after she qualified as first officer said that she had difficulty with landings and with altitude captures. He stated that she was “very much behind the airplane, much more so than most previous new hires I’d flown with,” but added that she became “smoother” by the end of their fifth day. Another captain said that the first officer appeared to be behind the airplane during instrument approaches, and that it seemed that she did not feel as if she was in command of the airplane. Another captain stated that he had “no problems” with her instrument skills.

On the two days prior to the accident, on flights described as “severe clear” by the captain of those flights, he described her first landings of the two-day trip as “rough,” manifested by landing on her side of the runway, flaring too soon, or not flaring at all. Her landings improved as the day progressed and the captain described her flying abilities as “average.”

The NTSB was blunt in its assessment of the first pilot’s piloting abilities and called them “deficient.” Although much of her record concerned difficulties in basic aircraft control during approaches and landings, the record itself suggested a possible deficiency in basic piloting skills and abilities. Further, said the NTSB, an examination of her difficulties suggested that her performance may have deteriorated when she was under stress. The first two check airmen with whom she attempted to qualify, were described as demanding pilots who could be critical and, thereby, create a tense cockpit environment. The NTSB believed that the circumstances of the accident flight and the first officer’s recent history created a highly stressful situation for her.

The first officer had accrued 184 hours of actual and 57.2 simulated hours of IMC at the time of the accident.

A Possible Scenario?

A mixed bag of bad factors combined to affect the outcome of the flight.

The captain, although he may have appeared normal to

others who observed him, was probably not feeling well. Sinus congestion and gastro-intestinal discomfort motivated him to call in and ask about the availability of the reserve captain. Even with the knowledge that a reserve captain would be available, the company policy motivated him into making the decision to take the flight.

Enter the first officer into the scene. Did the captain know that the first officer had experienced some difficulties flying for the commuter? The NTSB said "yes" but had no evidence that the captain was aware of the extent of those difficulties or that the first officer had most likely not made a takeoff in conditions as poor as they were on the night of the accident. Nevertheless, it had to be the captain's decision to let the first officer fly the airplane in spite of the weather.

Unfortunately, there was no cockpit voice recorder on board the aircraft so accident investigators and analysts can only imagine what cockpit conversations transpired.

Elements that would have created stress for the first officer were present. There was the captain who was not feeling up to par, a night takeoff into abnormal weather, a call from the local controller to speed up a turn to another heading and a possible problem with the SAS.

So, the cast of characters was in place . . . the sick captain in a nonflying role and the stressed first officer at the controls.

The NTSB's Analysis

The NTSB worked its way through this mixed bag of bad factors and discussed them in its analysis of the accident.

First, the NTSB took a look at the turn that the aircraft initiated after takeoff - a 40- to 45-degree angle of bank. The reduction in the airplane's vertical lift component from the excessive bank angle required additional back force on the control column to maintain level flight. The NTSB calculated that a Metro III trimmed for an approximate 157-knot climb speed required about 10 pounds of back force in a standard rate turn and about 40 pounds for a 45-degree angle of bank turn to maintain level flight. The data indicated that with the more than 40-degree angle of bank demonstrated by the radar data and the trim position found on the airplane, had the pilot exerted a back force sufficient only for a standard rate turn, the airplane would have lost altitude in a way closely resembling that observed in the radar data.

Stall Avoidance System Malfunction

The NTSB considered the likelihood that a SAS malfunction, specifically an inadvertent stick pusher actua-

tion, occurred in the short time the flight was airborne. The SAS clutch switch was found in the disengage position and a filament in one of the annunciator panel's two SAS fault indicator light bulbs was found stretched at impact, indicating that the bulb most likely was illuminated at that time. The illuminated bulb also could be explained by the fact that disengaging the SAS clutch by itself will cause the SAS fault bulb to blink. Thus, the flight crew may have begun the flight with the switch in the "off" position. The NTSB considered that unlikely since crew members were required to test the SAS in the before-taxi checklist to determine that it was engaged.

Both crew members consistently followed the checklist, so the crew would have been unlikely to either allow the SAS to be disengaged before flight or to disengage the SAS without an indication of a system fault. Since it is unlikely that the crew would have continued a takeoff beyond the V_1 decision speed with an SAS fault indication, the NTSB concluded that the crew disengaged the SAS in response to what they perceived to be an SAS fault which occurred after V_1 .

In the limited visual conditions which existed at the time, the first officer would have been unlikely to visually confirm a trim setting during the climbout. Rather, she could have trimmed the airplane for a 157-knot climb speed shortly after rotation. However, if, following entry into the turn, the first officer had not begun to trim noseup to compensate for the reduction of vertical lift from a 40- to 45-degree bank angle, the trim could have remained in the nose-down setting that was found after the accident. Lack of evidence on the actual performance of the trim system prevented the NTSB from conclusively determining how the trim setting was achieved.

The NTSB said that the airplane flew in what were perhaps the most adverse conditions in which a perceived SAS fault could occur. The airplane was close to the ground, in a busy terminal area and in instrument meteorological conditions. As a result, the crew needed a high degree of concentration to fly the airplane solely by reference to the instruments and coordinate routine inflight duties, such as responding to ATC clearances. At the same time, they would have been performing activities, such as retracting the gear, while attempting to respond to a perceived SAS fault.

Given those conditions, said the NTSB, an SAS malfunction at any point in the flight, regardless of whether it actually occurred or was perceived to have occurred, could have distracted the crew when such a distraction could be least afforded. Yet, because of what the crew believed to be potential catastrophic consequences of an uncommanded and unwarranted stick pusher inherent in a perceived SAS fault, they had to take immediate action in response. That response was required regardless of the phase or circumstance of the flight because the approved

manufacturer and commuter night manuals failed to mention that an SAS fault indicated by an illuminated warning on the annunciator panel does not require an immediate pilot response in all circumstances. Rather, because the same computer action that causes the fault light to illuminate also inhibits the SAS clutch or indicates the presence of an inhibited clutch, the likelihood of an inadvertent stick pusher actuating when a SAS fault is indicated is highly unlikely.

The NTSB concluded that a perceived SAS fault distracted the crew, compromised their ability to monitor the instruments and to control the airplane, and, as a result, contributed to the cause of the accident.

The Crew's Actions

The NTSB did not consider that the demands placed on a pilot performing a takeoff under the restricted visual conditions exceeded the abilities of a crew member approved for U.S. Federal Aviation Regulations Part 135 operations. Even with the additional, subtle pressure placed on the crew by ATC's asking almost immediately after takeoff whether they had begun a 60-degree turn to the right and the distraction of a perceived SAS malfunction, the NTSB said that a well trained and well coordinated crew should have been able to safely execute the maneuver. The crew should have resisted ATC's pressure to initiate a turn at such a low altitude, said the NTSB and climbed straight out to a safe altitude, generally 500 feet/agl, retracted the gear and flaps, and then initiated a turn as necessary.

The NTSB opined that the captain's ability to monitor flight parameters on initial climbout may have been hampered by routine post-takeoff procedures, such as retracting the gear and turning the bleed air switches on. While neither task was particularly demanding, the captain may have diverted his attention from monitoring instruments to the point where he may not have noticed a departure from the correct flight profile. The captain's physical condition was sufficient to degrade his ability to effectively monitor flight parameters, reduce his concentration and, possibly, his reaction time in an environment which made the highest demands on those very skills.

The NTSB felt that if the captain had more information as to the flying capability of the first officer, he might not have allowed her to make the takeoff. Nonetheless, the NTSB said, that in view of the severely restricted visibility at the time, prudence should have directed the captain to perform the takeoff himself.

The records of both crew members indicated that they encountered difficulties in their flying for the commuter. The captain had some problems while attempting to up-

grade and transition to the Shorts 330 but, due to the nature of the training, the lack of other unfavorable comments about the captain's performance, as well as the positive nature of crew member's comments about the captain's abilities in the Metro airplane, the NTSB did not believe that those difficulties related to the quality of his performance in the Metro.

On the other hand, the NTSB found that the first officer's records indicated that her piloting abilities were deficient. An examination of her difficulties suggested that her performance deteriorated when she was under stress. Two days before the accident the first officer had returned to duty with the commuter after being off duty for four and a-half weeks. In the two days before the accident, she flew extensively, but under exclusively visual conditions. On the day of the accident, she was to fly in the most visually restrictive conditions encountered at the commuter, her only experience in scheduled passenger operations. Additional inputs to this potential stress included the last-minute change in the ATC clearance, the perceived need to initiate a right turn almost immediately after lift-off and the knowledge that an airline jet was taking off just behind them.

The NTSB believed that a distraction, such as a perceived SAS malfunction, in the initial phases of flight increased the stress on the first officer to the point where her instrument scan deteriorated, and she continued the turn but allowed the airplane to descend. Given the vertigo-inducing maneuver that the first officer began almost immediately after takeoff — an accelerating climbing turn into instrument conditions - it was imperative that she perform an adequate instrument scan to maintain appropriate flight control. The excessive bank angle and the insufficient control column back pressure are consistent with the evidence, said the NTSB, of a first officer who was relatively inexperienced in IMC and encountering vertigo in a highly stressful condition.

Commuter Management

The NTSB believed that the commuter airline management created extraordinary conditions for the company, from early 1987 to the time of the accident, which limited its ability to adequately oversee its operations. The airline moved its operations base several hundred miles, experienced considerable turnover in the management of its pilot operations as well as in its pilot ranks, acquired and then phased in a new and considerably more complex aircraft type, dramatically increased its number of pilots, intensively trained pilots, furloughed pilots, significantly expanded its route structure, significantly reduced its route structure, sustained a major accident, and finally, filed for bankruptcy. Those factors suggested to the NTSB that the airline management significantly misjudged critical aspects of financial and operational plan-

ning and that those extended to oversight of the first officer involved in the accident discussed here.

Management had been informed by its training personnel and line captains that the first officer's performance was marginal, and that her potential advancement in the company was questionable. There was no evidence that the company provided her with additional training or that it monitored her performance more carefully or more often. The only action the company took with regard to her performance after she qualified to fly as first officer was to file the captain's progress and evaluation report dated in September 1987, that had been completed by a captain with whom the first officer had flown.

The NTSB believed that management should have responded in some positive manner, and that its failure to do so could be accounted for, in part, by the turmoil the airline was experiencing. However, said the NTSB, given the first officer's training history, a prudent course of action would have been for the company to determine quickly the nature of the performance difficulties and, at a minimum, provide her with remedial training and additional flight checking, as needed. This was not done. Therefore, the NTSB concluded that the company's failure to respond adequately to the first officer's piloting difficulties contributed to the accident.

FAA Surveillance

The NTSB also found fault with the FAA's surveillance of the airline. At the same time the airline was experiencing a high management turnover rate, the FAA was also experiencing a high turnover rate in personnel from its Richmond and Raleigh offices who were assigned to oversee the airline. With the company's relocation of its operations base to Raleigh, the FAA transferred responsibility for surveillance of the airline from Richmond to Raleigh. Although the move was consistent with FAA policy, it caused further turnover in surveillance personnel. Unfortunately, said the NTSB, the inconsistency in the FAA's surveillance occurred at a time when consistency was most required.

The NTSB believed that the efforts of the principal operations inspector (POI) at the Richmond Flight Safety District Office were commendable in performing the routine, necessary surveillance of an expanding operation, monitoring the acquisition of the Shorts 330 airplane and monitoring its operation under FAR Part 121 rules.

On the other hand, the NTSB said that following the transfer of the airline's certificate to Raleigh, the surveillance performance of the FAA achieved a low level in its quality and frequency. Considering the events that occurred to the airline in just the two months before the

accident, including a near-fatal accident, bankruptcy, cessation of operations and resumption of operations, the NTSB was at a loss to explain why there was no record that the POI performed an en route inspection of an airline flight, observed a flight training session or a check ride, met the chief pilot or the manager of training, or even visited the company headquarters. If the POI was unwilling or unable to perform the necessary surveillance, said the NTSB, then his supervisor should have taken the necessary action to ensure that the airline was receiving the level of surveillance warranted by a major FAR Part 135 carrier that was undergoing significant management and operational changes.

The NTSB stated that had the FAA surveillance of the airline been adequate, it was possible that the accident would not have happened. Increased surveillance could have indicated to the FAA that the airline was operating its Metro airplanes under inappropriate operations specifications which did not prohibit the second-in-command from performing the takeoff in those conditions. Then, the captain would have been required to perform the takeoff.

More important, said the NTSB, effective surveillance could have resulted in an improved airline management that responded properly to reports about the first officer's piloting abilities. Therefore, the NTSB concluded that inadequate FAA surveillance of the airline contributed to the accident.

A Review of the Mixed Bag

The captain was ill. A first officer whose training records indicated that she was deficient was allowed to perform the takeoff in lower than standard minimum instrument takeoff conditions. The company did not take positive action in response to documented indications of difficulties in the first officer's piloting. The crew responded to a perceived malfunction in the stall avoidance system (SAS) by disengaging the SAS clutch. Because of possible deficiencies in the operating procedures, the crew was not informed that a perceived SAS malfunction does not require an immediate response. The airplane's flight path indicated an excessive angle of bank initiated at an altitude that was too low. The first officer was at the controls and allowed the airplane to descend due to a deficient instrument scan. The captain should have performed the takeoff due to the restricted visibility at the time. The captain did not effectively monitor the flight instruments, possibly because of his response to a perceived SAS fault and the possible degradation of his monitoring capabilities due to his physical discomfort. FAA surveillance of the airline was deficient and inadequate.

Nearly everybody who studies accidents concurs with

the reasoning that accidents are seldom caused by one, single, isolated circumstance. All agree that there is usually a chain of events that occurs, linking all of the single circumstances together. When the chain remains unbroken, the accident usually happens. However, if the chain of events can be broken almost anywhere in its

structure, chances are more than even that the accident will not happen.

Those who subscribe to chain of events theory will have no problem in having a field day with the links that came together to create this accident.♦

Cockpit Communications: Don't Leave Home Without It

How one pilot applied lessons learned to break the barrier of one-way flow of information. The result was safer, more team-oriented cockpit discipline.

by

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OK. I admit it. I'm a coward. I don't care what you say — There's no way I'll let myself be killed because my crew and I aren't talking to one another.

My first recollection was that this had always been my sentiment. Thinking this through a lot more though, revealed that this is a conditioned response. Besides the normal pilot concerns about pain, death and professional embarrassment, over the years, I added a very genuine concern about stupidity. That concern is that not talking to your crew can kill you and make you look stupid in the process.

As a novice pilot being trained by the seasoned veterans, I was somewhat in awe of their abilities (and seniority), and limited my questions to one per occurrence. Those questions really weren't too directive either. Instead of saying, "What are you doing down here at 10 feet above the water?" or "Why didn't you tell me you were going to do a practice autorotation?" I'd say "Gee, what's going on?"

That thought process started to change when I became part of a new crew. The aircraft commander wanted me, his copilot, to help as much as possible, so he made a point of briefing me completely before each flight.

I learned that lesson well and used it to full advantage just a few months later when I passed my check ride and was designated an aircraft commander.

Well folks, I wasn't ready for it. Not really ready. How can you be ready straight through to your bones the very

first time you are absolutely responsible for one state-of-the-art aircraft, a crew of four, and the success of the flight? I found I needed all the help available and wasn't about to treat my copilot as an inconsequential part of the crew like I'd been treated by those veterans a few years earlier.

I briefed my crew and copilot religiously. I felt awkward about my zeal but my need for help outweighed the fear of looking foolish briefing my contemporaries.

Did it pay off? Well, of course it did.

On my first flight as aircraft commander, we lost the governor on one of the two engines. My copilot and I handled it flawlessly. On my second flight, we had a bogus warning of an engine fire. Again, we handled the problem by the book and with dispatch. Neither one of these two emergencies were life-threatening, but two months later we had a situation that we survived only because of good communications.

We took off at night, over the water, with the copilot doing the flying. Before we reached 300 feet he lost it. Vertigo had set in so badly he was snapping the nose up and down 15 degrees and letting the airspeed bleed down. I yelled, "I've got it!" He let loose and I scooped it out 40 feet above the water as our light reflections were getting awfully close. That was a real heart thumper then but it doesn't read like much now.

It doesn't read like much because everything happened as we had briefed. When the aircraft excursions reached

the prebriefed point, I didn't hesitate to ask the copilot if he was all right. He didn't hesitate telling me he wasn't because we had talked about it on so many preflight briefs that he didn't feel threatened. My "I've got it!" call and his simultaneous release of the controls were also time savers.

If everything hadn't been prebriefed, I wouldn't have been able to pull it out with only 40 feet to spare.

The thing about communications, and briefings and the like, is that I cannot, and will never be able to, understand why some pilots can't learn what most pilots learn. I tend to sputter and fume in frustration when I hear about pilots willing to forget all the lessons learned over the past 75 years. Let me give you an example.

I was reading an article a while ago that was written by a corporate pilot. He was flying as copilot with Company A and was telling of his difficulties asserting himself when speaking with the pilot. I could relate to that so I got wrapped up in the story. It was well written and talked of my favorite topic — communications.

The author talked of his situation and of his reluctance to challenge the pilot. Then he put in a few statements which were not meant to be accusatory or a meaningful part of the story, but that made me blanch because of the stupidity of the situation. The author said that checklist completion was left to whoever thought about doing it

and whoever did, did so in silence. When the person completed the checklist, he sometimes did, but often times did not tell the other pilot.

I was floored. I was floored by the author treating the situation as a normal one, by the aircraft commander (captain) running his cockpit like that, and I was floored because the author implied that the company always operates like that. Who taught these guys how to fly? What sort of flight check did they get? Had Company A ever had a successful audit? Why does the company want to operate like that? Where in FAR 91 does it say it's okay to be less than professional?

There are no pilots or companies out there who can afford to play dumb, and not using checklists in an agreed upon format is most certainly dumb. That this happens at all can be traced back to the fact that this crew, and this company, do not communicate with each other. What makes it all so frustrating is that they all know better or they once did.

It doesn't take much to start good communications going. It takes the boss saying, "Do it." That boss isn't the FAA and it's not the chairman of the board. It is the pilot who has the moxie to say it.

The best pilots do communicate with their crew, even if that other crew member is their own conscience. You shouldn't be in control of an aircraft if you don't. ♦

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