

Importance Of Peer Reviews For Pilots

James Albright March 25, 2021



Review pilot Greg Bongiorno watches a Gulfstream GVII-G500 crew during a cockpit preflight.

Credit: James Albright

If you are like most pilots, you probably think you have taken more than enough check rides to last a lifetime, certainly enough for a career. For many of us, a check ride means engine failures, cabin fires, rapid depressurizations and other catastrophes followed by a landing in the crummiest weather. We take these with someone holding the power to threaten our paychecks watching our every move, waiting for the slightest mistake. And some of us do this every six months. But this level of scrutiny of our “performance” is based on a tightly controlled script, looking at us to accomplish a specific list of tasks that have little in common with what we do on a day-to-day basis in our real, non-simulated airplanes. These check rides often miss things not on the script, things the screenwriter never thought to put on the page.

If you are in a small flight department, say less than 10 pilots, I think you are at much higher risk for three hazards that you may not recognize until it's too late:

- (1) Lacking required skills and knowledge.
- (2) Becoming complacent by taking shortcuts around standard operating procedures (SOPs).
- (3) Becoming intentionally noncompliant with standard operating procedures (SOPs).

Higher risk than who? Well, certainly at higher risk than pilots flying for a large airline. The airlines and other cadres of professional pilots in large groups have several advantages over those of us in small flight departments. (I am including myself; we have four pilots, two mechanics, a dispatcher and a line technician.) These larger organizations have dedicated training and standardization departments that devote themselves to making sure you are an SOP maven. Their pilots do not normally fly with you on the line, so they don't have a vested interest in keeping on good terms with you. You either follow SOP, or your longevity with the company is in peril.

If you think you are not at risk, it may be because you've already succumbed to complacency, one of the three hazards. It goes like this: One pilot finds a shortcut that violates SOPs but is convinced his or her way is better. Nobody else objects because they want to get along. Pretty soon, everyone is taking the same shortcut. After a while, SOPs start to mean very little. You have normalized deviance, perhaps without even realizing it.

This sounds bad, but there is an easy solution. As much as we tend to hate check rides, orals and written exams, there is something else we hate: looking bad in front of our professional pilot peers. And that is the key to avoiding the three hazards: Submit yourself to regular peer reviews.

What is a 'Peer Review?'

What is a peer review? First, what it isn't: It isn't a check ride. The observer has no legal authority and your license is not at risk.

Another thing it isn't is a Line Oriented Observation. Some management companies conduct these observations, emphasizing they are merely "how are you doing" rides and certainly not check rides. I did many of these for a few management companies and can tell you they were always perceived to be check rides because every now and then pilots were fired--for good reason, of course, but fired nonetheless. A peer review does not carry that risk, since it is being done by a peer with no standing in the company.

A peer review is nothing more than the opportunity to have a peer--another professional pilot--observe your crew in action. The reviewer is a guest of yours whom you've asked to watch and provide feedback that will help you and your team to become better. You may think you already have this opportunity during regular simulator check rides. But those are artificial environments where the observer has a tightly structured "to-do list" and no time for anything else. Besides, the simulator observer is probably not a true peer, not someone who does what you do for a living.

I've already mentioned that small flight departments have a special vulnerability to three hazards because there is so little oversight. I think we can mitigate those hazards with peer reviews. Let's take a look at these hazards, an example accident case study for each, and how a peer review could have saved the day.

The Hazards of Being 'Peerless'



[Learjet](#) 35 N452DA, moments before its crash, May 15, 2017. Photo credit: [NTSB](#)

Hazard 1: Lacking required skills and knowledge.

We've all seen pilots out of their depth at recurrents and wondered how they got to where they are without some kind of quality control step along the way. They didn't know what they needed to know and didn't have the skills required.

On May 15, 2017, a couple of [Learjet](#) pilots with a long history of performance deficiencies so badly scared their passengers while landing at Philadelphia, the passengers decided to rent a car and drive rather than fly to their next stop, Teterboro. The pilots repositioned empty and crashed a mile short of their intended runway. It was a challenging day at Teterboro, with gusty winds and the need to break out from an ILS and circle to an adjacent runway. These pilots didn't know the difference between an IFR circling approach within circling radii at minimum descent altitudes and maneuvering visually from one runway to align with another. This misunderstanding is just the tip of the iceberg of the knowledge and skills these pilots lacked, and yet they somehow became qualified to fly their jet with paying passengers.

Of course, these pilots didn't set out in their [Learjet](#) with the objective of doing something they were ill-prepared to do. I think that had they undergone a peer review at some point before finding themselves having to negotiate challenging winds at an airport that is challenging even with calm winds, they might have been given a wakeup call. At the very least, the peer could have sat down with them and told them they were at risk and talked some sense into them.

Keep in mind that lack of knowledge and skills isn't limited to marginally qualified pilots, it also happens to good pilots who fail to keep up with changes to their aircraft or the industry. Think of how lost an international procedures expert from just 10 years ago would be in today's North Atlantic High Level Airspace. If you don't keep up, you fall behind.

I've seen this happen many times over the years. I once gave a line observation to a pair of Falcon pilots who didn't understand that their takeoff minimums are different at most Canadian airports and politely pulled out the appropriate minimums chart before they fired up their aircraft's APU, hours before the visibility would be sufficient for takeoff. I might have saved them a violation or perhaps just some embarrassment. But I hope I gave them cause to understand the need to better prepare themselves for flights outside their home country.



[Bombardier](#) BD-700 C-GXPR, Nov. 11, 2007. Photo credit: Transport Safety Board Canada

Hazard 2: Becoming complacent by taking shortcuts around SOPs. Even very good pilots can be tempted by SOP shortcuts that seem to get the job done more quickly, with less fuss, and that are just easier. The problem with taking that shortcut "just this one time," is that success with the shortcut encourages repeat performances. Pretty soon the shortcut becomes the new SOP.

On Nov. 11, 2007, a pair of highly experienced [Bombardier](#) Challenger 604 pilots flew their brand-new Global 5000, C-GXPR, into a small airport with a short, 4,885-ft. runway. On paper the runway was more than long enough and the captain had flown there 75 times in a Challenger 604. He had apparently gotten into the habit of aiming to touch down in the first 500 ft. He did this once in the Global, a month before the accident flight, and his technique resulted in a touchdown 200 ft. beyond the threshold. On the day of the accident, the wheels touched 7 ft. prior to the runway, impacting the runway lip, causing the gear to collapse and damage to the aircraft beyond repair.

These pilots apparently did not understand that the geometry of their new airplane meant the main landing gear would touch hundreds of feet short of their aim point. A peer review from a more experienced Global or Gulfstream pilot could have saved the day. Their peer may have picked up their tendency to "duck under" and then explained how this is harder to get away with in a larger jet.

I saw this very tendency in another Global a few years before this accident. Like the accident crew, these pilots had upgraded from the Challenger 604 and just assumed that even without a flare, the wheels hit just 50 ft. behind the cockpit. After I drew them a few stick-figure diagrams, they realized just how important a 1,000-ft. aim point is.



[Gulfstream GIV](#) N121JM wreckage. Photo credit: [NTSB](#)

Hazard 3: Becoming intentionally noncompliant with SOPs. The natural progression of complacency, if left unchecked, is willful and intentional noncompliance with SOPs. While simple complacency is insidious and its victims can be thought of as unfortunate innocents, I think intentionally noncompliant pilots are different. They are willing perpetrators.

On May 31, 2014, two highly experienced [Gulfstream GIV](#) pilots killed themselves and five others by attempting to take off with their gust lock engaged, and then attempting to disengage that gust lock at a speed that made such an action impossible. Subsequent investigations into the crash revealed that these pilots had a pattern of not using checklists, callouts or flight control checks that would have caught the forgotten gust lock. They managed to fool their evaluators at regular recurrences by flying one way for those charged with checking them, and another way during actual operations. Contract pilots who flew with them noticed many of their transgressions but as contract pilots had a vested interest in keeping quiet.

A peer review could have saved the day had someone they knew and respected noticed their procedural noncompliance and let them know just how reckless they were. "You guys are courting disaster," the talk could have begun. "You might be good, but nobody is immune from making mistakes. Your behavior might kill someone." And, of course, it did.

Behavior this flagrant is more common than we might think. Since this incident, I've watched several Gulfstream operators with similar gust-lock systems start up and take off without a flight control check. Over the years of giving check rides, line observations and peer reviews, the most frequent examples of willful noncompliance I've noticed deal with oxygen use, followed by sterile cockpit rules, headphone usage and inadvisable automation procedures. Of course, all of these are fairly common occurrences and we usually get away with them. As the reviewer I try to diplomatically point out the advantages of compliance and hope my words are taken to heart.

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How To Conduct A Peer Review

James Albright March 25, 2021



Pilots greet their peer at the door. Photo credit: James Albright

I've given several check rides and line observations that resulted in an "Aha!" moment for crews and the necessary check in behavior. And I've had a few of my own "Aha!" moments to help me out. A peer review can be similarly enlightening without the threat of a formal evaluation. But how do you actually give or receive a peer review?

(1) Find like-minded pilots nearby.

Look for pilots flying a similar operation in similar aircraft. They don't have to be type rated in the same equipment, just conversant in what you do. (One of the best comments I got while flying Gulfstreams came from a [Learjet](#) pilot.) You can use this article as a script to convince them that a peer review program will be mutually beneficial.

There is a divergence of opinion about compensation. Some will argue that for any professional endeavor the professional needs to be paid and that compensating the review pilot at the standard day rate is fully justified. Others will argue that will turn the review into a paid audit and can color the reviewer's opinions. They contend it is better handled as a professional courtesy paid by your offer to conduct a review in return. I will leave that determination to you and your situation.

(2) Get company buy-in.

Your company takes for granted that there are many steps along the way needed to keep you trained, proficient and legal. You can sell the peer review as a step above and beyond the legal bare minimum that takes you to the level of best practices. It may be best to sell this peer review as a flight evaluation, even though it isn't. You can make the same case to your company as you did to your like-minded peer.

(3) Find the right trip.

I find the best peer review happens on an out-and-back trip that gives you a chance to operate both as the pilot flying and the pilot monitoring. These types of trips also reduce the time spent to one calendar day and reduce associated travel and meal expenses.

Ideally, the trip will be with passengers, if your company will permit this. This shows your peer observer how you handle the pressures of dealing with the passengers and their requirements.

(4) Train your peer and crews.

Observing pilots from a jump seat takes a certain amount of tact and willingness to watch and listen without automatically offering opinions on anything worth noting. Peers with previous check airman or standards pilot experience will have a leg up in this process, but that experience is not required. You should emphasize the purpose of the peer review:

- (a) Observe crew performance under normal operating conditions.
- (b) Assess the effectiveness of training programs.
- (c) Determine awareness of industry best practices and regulatory requirements.
- (d) Provide a feedback opportunity for crews.

The peer will have an opportunity to watch the crew in action and compare that with his or her own experiences. Any discrepancies are likely to be deficiencies in the training programs and are therefore a good way to assess the effectiveness of those programs. Discrepancies can also be traced to awareness; not everyone gets the word on the latest and greatest practices in the aviation world as a whole. A chance to provide feedback to the reviewer can also provide crews with an opportunity to talk through practices they may have adopted unknowingly.

Though it may not require mention, you should nonetheless establish a few "rules of conduct":

- (a) The review pilot will dress according to company standards and will introduce himself or herself to the passengers (if desired) as an "observation pilot."
- (b) The review pilot will not impede any activity and will attempt to remain "in the background" for the entire flight.
- (c) The review pilot will monitor cockpit and radio communications and will not interrupt ongoing communications.
- (d) The review pilot will be another "set of eyes," and will let the pilots know if he or she spots a hazardous situation, such as conflicting traffic or a missed radio call.

(5) Conduct it.

The review pilot should attend all crew events--everything from the crew briefing to post-flight debriefing and everything in between. Pilots should conduct themselves as they normally would without the additional set of eyes, feeling free to collaborate with each other and even asking the review pilot for opinions. Pilots should give the review pilot an emergency egress briefing as well as instructions on the use of the jump seat. The review pilot will have to be adept with deploying and stowing the jump seat so as to "get out of the way" as the pilots will need to get by for normal duties.

The review pilot should take notes and save non-critical remarks for slow periods of the flight or for after the flight has been completed. The review pilot can offer comments during flight if there are slow periods during cruise flight and the pilots invite discussion.

(6) Debrief it.

The review pilot should reconstruct the flight, starting with the initial meeting and covering each phase of the flight(s), emphasizing the positive while covering areas that could be improved. The review pilot should realize that he or she has a different experience base and these ideas may help improve the subject pilots in the future.

The reviewed pilots should listen with the aim of learning from another professional pilot, should not become defensive, and should provide their own comments with the view that the review pilot can learn from them as well.

Editor's Note: Read "[Importance of Peer Reviews For Pilots](#)" by James Albright in case you missed it. The subsequent article is "[Peer Review: Real World Results](#)."

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Peer Reviews: Real-World Results

James Albright March 26, 2021



Credit: Adobe Stock/RioPatuca Images

One of my earliest "Aha!" moments was given to me by a younger Learjet pilot who noticed I used the words "for" and "to" in clearance readbacks that could have been confused with the words "four" and "two." He told me that instead of saying "November one-two alpha passing flight level two four zero for nine thousand," for example, I should have said, "November one two alpha passing flight level two four zero descending niner thousand." That was news to me, 30 years ago when he told me that. I've adopted the technique and over the years since, I hear more and more pilots using the method.

One of my more recent "Aha!" moments was learning that my before-takeoff and approach briefings had become rituals that might as well have been recorded and played back instead of me going through the trouble of reciting them. I was giving them without really considering what I was saying and the other pilot had heard them so often he wasn't really listening. We've since adopted a more threat-oriented approach to these briefings. We no longer cover the basics that everyone has heard thousands of times or things that are a part of normal pilot duties. We now emphasize the things that are different from normal and are our greatest threats.

One of the greatest benefits of a peer review is a chance to hear another perspective on how we do things, aside from those we normally fly with. Having spent many years in jump seats giving check rides and line observations, I have been eyewitness to all manner of automation misbehavior that were hard to spot from the two front seats.

I've often noticed pilots briefing their approaches without looking at the FMS, only to be confused when the "box" did something they didn't expect. I politely told the pilots that I noticed the FMS had the wrong approach or the correct approach but with the wrong missed approach. Comparing the FMS to the approach plate is not only a check on the pilot who did the programming, but the FMS itself.

Every now and then I see two pilots independently program their inside FMS, undoing the work of the other pilot and sometimes creating confusion when the FMS didn't react as planned. I explain my first two tenets of crew FMS usage: Flight plan changes should only be made by the pilot monitoring, and no changes should be made without the other pilot's knowledge. They don't always agree, but at the very least I gave them what amounts to industry best practices to consider.

I once witnessed a Gulfstream pilot struggle with a crosswind landing, attempting a wing-low landing with about 20 kt. on the wing. It ended with the airplane in one piece, but it wasn't pretty. The other pilot agreed that Gulfstreams are not easy in a crosswind. Of course, this isn't true. Both pilots were unaware that the correct landing procedure in their aircraft is to fly a crab until the flare, at which point it is aligned with the runway. See "Cross With Care" (BCA, June 2015) for more about this.

A Peer Review Will Make You a Better Pilot

At my last peer review, conducted by a friend who is a check airman at a major airline, I learned that I am not as good at observing the sterile cockpit rule as I think I am. He, in turn, picked up some excellent pointers on maintaining situational awareness while taxiing. See "Pointing and Calling" (BCA, July 2017) for more about this. The peer review has made me a better pilot and I think it helped my peer as well. You should consider inviting a peer of your own to watch you fly. It may help you both.

Editor's Note: The first two parts of this series on peer reviews are "[Importance of Peer Reviews](#)" and "[How To Conduct A Peer Review](#)."