

## CHECKLIST USAGE

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May is a busy month for us. End of semester time means check ride time for many. While stage checks and practical examinations occur throughout the year, they become concentrated in late April and early May and the pace becomes down right frantic by mid-May.

As rides become more concentrated trends become more obvious and one I've noticed is lack of or poor use of checklist. Maybe checklist usage is part of all new pilot training and it is normal to have shortfalls in this area? I can assure this is not the case. Failure to use or improper use of checklists has been a problem as long as I've been flying. Innumerable accident chains could have been broken by proper checklist usage. The FAA requires it, OU Aviation Department requires it, all Airlines and most corporate flight departments require it, all military branches require it so why is this a problem in general aviation? Unfortunately I believe the most common reason in GA is "I don't need it"! Amazing when you consider that over 90% of the world's professional operators require it yet GA pilots, on their own, determine it to be unnecessary and burdensome.

PTS special emphasis area 11 states "Throughout the practical test, the applicant is evaluated on the use of an approved manufacturer's checklist or its equivalent." Our OU Aviation Department SOP and TCO's also require checklist usage. Recently, several flight evaluations that were otherwise satisfactory were graded unsatisfactory due to lack of checklist usage. Don't let that be you but also, don't let that be the reason you use a checklist. Use it because generations of industry professionals have decided it is the only safe way to operate in a complex environment. The following is an excerpt from an article published by AOPA:

Ah, the checklist. If Shakespeare was a pilot, he'd have written an ode to it.

Once confined to the world of aviation, formal checklist discipline is now common in hospitals, assembly lines, product design, maintenance, and just about any other instance where loss of essential time, money, or bodily function can result from improper procedures or forgotten items.

Some pilots can't imagine flying without one. Like a child wandering the yard without their favorite blanket, they'd quite literally be lost without that laminated piece of paper guiding them through each phase of flight. I've seen pilots who seemed to enjoy using the checklist more than the actual flying.

Others have a difficult time understanding why a written list is needed at all, especially in simple or familiar aircraft. “Use a flow or mnemonic and let’s get going!”, they’d say. While I disagree with that attitude, I understand where it comes from: too many badly-designed checklists.

As anyone who’s operated a wide variety of aircraft types (I’ve flown over 60) can tell you, poor checklists are more often the rule than the exception, and the worst of them will leave a long-lasting bad taste in your mouth. They disrupt the flow of a flight much the way an actor with poor timing can disrupt a scene.

One of the great aviation mysteries is why so many lousy checklists continue to exist. They’re not limited to small aircraft, either. The manufacturer-provided checklist for the Gulfstream IV, for example, is comically long. I don’t know who designs these things, but I highly doubt it’s the line pilot who’s going to be using it day in and day out.

The answer to such cosmic riddles is far above my pay grade. What I can say for sure is that it’s vital for aviators to understand both the purpose for a checklist and the proper way to use one.

The purpose should be self-evident: to ensure that nothing important gets missed. Lowering the landing gear, setting the pressurization controller, those sorts of items. The key word is important, and I think that’s where many checklists fall apart because once the document gets too long, human nature dictates that pilots will either skip items inadvertently or leave the entire thing stowed.

Proper checklist usage? Now that’s something a bit more complex. When an aviator is new to an aircraft, the checklist serves as a “do” list. In other words, each item is read and then the action is performed. Even if a cockpit flow exists and is being taught, the list will have to be read and performed one step at a time because the pilot is simply unfamiliar with the location of switches and controls.

As time goes by, the flow and/or checklist is slowly memorized. Eventually the pilot reaches the point where they’re actually faster and more comfortable performing the items from memory. There’s absolutely nothing wrong with that. In fact, it’s a good thing, because it allows the checklist to serve as a CHECK list. Once everything is done, you quickly read through the items on the page to ensure you haven’t forgotten anything.

In my experience, it’s not the neophyte who is at greatest risk for missing something, it’s the grizzled veteran who whips through the flows at lightning speed and then neglects to use the checklist at all. It’s overconfidence. They’re so sure they haven’t forgotten anything of life-altering consequence. And to be honest, they’re usually right — but that’s not the point.

I see this kind of failure quite frequently when flying glass panel aircraft with pilots who are computer-centric Type-A personalities. They're literally too fast with the flows and need to slow down a bit.

Caution is also warranted when circumstances force a pilot to perform tasks out of their normal order. Often this happens due to interruption from ATC, line personnel, passengers, weather, or even another pilot.

Speaking of weather, here's a case in point: I was in New Jersey getting a jet ready for departure during a strong rainstorm. We had started up the airplane to taxi to a place on the ramp where it was somewhat protected from the weather so our passengers wouldn't get quite as soaked when they arrived. That simple action broke up the usual preflight exterior flow and as a result I neglected to remove the three landing gear pins. Thankfully the other pilot caught it during his walk-around, but it shows how easily that sort of thing can happen.

The best checklists, the ones that are truly effective, share some common traits. For one thing, they're short and sweet. They hit the critical items in a logical order and leave the rest out.

In an aerobatic aircraft, a pre-takeoff check would cover the fuel selector, canopy, fuel mixture, flight controls, etc. In a swept-wing business jet, on the other hand, the critical items are different. Flaps become a vital item, because unlike other aircraft, if those aren't set right the airplane can use far more runway than you've got available. It may not even fly at all.

Checklist design and usage is an under-appreciated skill. As with many things in aviation, when it's done right it's a thing of elegance. Art, almost. So next time you're flying, take a critical look at your checklist and the way you use it. How do you — and it — measure up?