

# New York Wing

Standards/Evaluation

Air Operations

Safety Newsletter

**Civil Air Patrol  
United States Air Force Auxiliary**



January/February 2016 Vol 2 Issue 1

You might have heard that FAA Administrator Michael Huerta recently gave a speech introducing the FAA's "Compliance Philosophy Order." You can read key parts of the speech in the latest issue of FAA Safety Briefing, so let me share here the summary. Compliance is expected and required of everyone who operates in the National Airspace System, or NAS. Compliance means following the rules, but it also means going beyond the rules by taking proactive measures to find problems and fix them to manage or mitigate the risk they create in the system.

## Risk-based Decision-making

The greatest safety risk in the NAS does not arise from a specific event or its outcome. Instead, we have to evaluate risk based on the operator's willingness and ability to comply with safety standards. The greatest risk comes from an operator who is unwilling or unable to comply with rules and best practices for safety. So what does that mean for you the CAP Pilot? Given these foundational concepts, Compliance Philosophy means that in the case of pilots who are willing and able to comply, and who are cooperative in taking the steps necessary to get back to compliance, the best way to meet our safety goal in CAP is to use tools like training, education, or better procedures. To continually add to our knowledge and practice making full use of the opportunities presented at the squadron and group levels and with our IP's.

FAA Safety Briefing Jan/Feb 2016 issue

"Semper Vigilans"

Maj. John Kolmos

NY-001 DOV-A



## Check Pilot Survival Notes

By: Major General Joseph Vazquez

Civil Air Patrol National Commander

**(Shared by Lt. Col. Brian Benedict N.Y. Wing DOV)**

It's been 28 years since I started giving CAPF-5 and (when they became separate) CAPF-91 check rides. In that time, I've seen CAP requirements become more demanding, with increases in the training required prior to a check ride. Despite that, the basics of the check ride have stayed mostly constant – a check pilot evaluates the pilot to the standards required, and based on judgment passes or fails the applicant. Many times, an applicant shows up a little “rusty” in one or more flight maneuvers, and if not too egregious a check pilot will have them try it again or as part of a different maneuver. While we stress evaluation first, it is not uncommon for check pilots to provide some instruction after an applicant successfully demonstrates a maneuver, to show a better way of doing it. But one area requiring great care is what we actually ask our applicant to do. CAPF-5s are one of the more hazardous sorties pilots engage in, creating more landing and takeoff incidents than other types of CAP flying. As a check pilot, you have it within your power to promote a safe flight, or set things up that virtually guarantee a mishap! There are a number of “rules” I've come up with over the years, to govern the way I conduct a CAPF-5 or CAPF-91. There are likely many others, but in the interest of sharing here are eight check ride rules I always employ:

- 1) Never ask a pilot to do anything you are not proficient in doing yourself. Self-explanatory!
- 2) Don't specify unsafe parameters. A case in point – short field landing demonstrations. I always select a long runway to do this, never an actual short one. I also specify a displaced threshold, not the actual beginning of the runway, as the start of the simulated short field. Lastly, I demand the applicant not use anything other than normal braking after landing.
- 3) Avoid creating an overwhelming distraction on short final. You REALLY don't want to explain why you panicked an applicant into snatching up all the flaps and dropping an airplane on its tail! Realistic distractions or calmly stated requests to go around – okay. But think again about popping your window open and screaming “look out” ... the joke may be on you!
- 4) ALWAYS establish who has the controls, and the mechanism for transferring control. “I thought Sam had it” is a poor excuse for why you let an aircraft taxi into the back of the fuel truck!
- 5) Guard the controls as if an applicant is a first time solo student. I don't care if Fred has 10,000+ hours – today might be a very bad day for Fred, which could make it a very bad day for you too, if you're not mentally flying the aircraft every moment! You really need to be prepared to act as a flight instructor, and provide corrective inputs if things are going south. Which brings me to...

Continued on next page....

6) Don't let things go too far out of parameters! Students learn by making small errors, and instructors have to allow students the latitude to go outside of optimal to learn. Likewise, evaluators need to determine if applicants are consistently, or only rarely, outside of evaluation standards. But just as with students, once things go beyond small errors and into unsafe territory, action must be taken. My criteria are simple – I let them take it to the point of failing standards, or to a point I can still safely recover the aircraft (whichever comes first). Once that point is reached, I take over and it's time to land and talk things over.

7) Never make it too easy or too hard. As check pilots, we have wide latitude to specify what needs to be demonstrated, and what does not. But making it too easy with few demonstrations (“I just can't fail the wing commander!”) or too hard with many demonstrations (“time to take that airline pilot down a few notches.”) is failing a basic tenant of evaluation – impartiality. If you are evaluating for the same flight privileges, there should be no difference between what you ask a 300 hour or a 3000 hour pilot to do.

8) Trust - but verify. Check the weather. Double check the flight plan. Always do an independent quick walk around the airplane before climbing in to confirm the pilot really did disconnect the tow bar, put the gas caps back on, etc. When I take off as a check pilot I figure I'm “buying” that airplane and I'm ultimately responsible for making sure everything is done correctly.

In conclusion, it should be noted there are many good practices related to check rides, and likely I missed some of the better ones. But however you do it, recognizing your own limitations and taking nothing for granted with check ride applicants is always a good approach. Let's do what we can, and make flight evaluations a less hazardous (and less stressful) operation for everyone concerned.

Editor's note: This article contains Gen Vazquez' personal techniques and “rules” learned through many years of flying check rides, offered to help keep us all a bit safer when flying these sorties. Nothing in this article is meant to over-ride expressed check ride guidance or requirements prescribed by the FAA or CAPR 60-1.



## Mastery of Flight

By Tom Turner

A goal of mastery reaffirms that passing a checkride signifies completing only the first phase of a lifelong odyssey, not the end of learning. Unlike saying “I fly safely” (which sounds passive), to say “I fly with mastery” indicates an active commitment to high standards, including continuous improvement using objective measurements of professionalism that produce results.

For example, as an ATP-rated pilot I am continually comparing my performance to the standards I was required to demonstrate when I earned that highest of civilian pilot ratings. But even before I was preparing for my ATP Practical Test I was using ATP standards as my goal. I can use this objective measure when debriefing my performance after a given flight. Did I fly that approach to ATP standards? Did I touch down on speed and in configuration in my identified landing zone? If not, what do I need to do to attain that level of mastery? The ATP Practical Test is in many ways the Instrument checkride flown to more exacting standards—exactly what every IFR-rated pilot should be striving to do whether they ever intend to earn the Airline Transport Pilot certificate (which, under new U.S. regulations, is likely to be out of reach for all but airline career-path pilots). The Practical Test Standards (soon to be replaced by the Airman Certification Standards) is one objective measure of mastery of the airplane.

A VFR-only pilot can (and should) work to maintain performance at Commercial Pilot standards—he or she may never take the Commercial checkride, but as a goal of mastery the Commercial standards essentially cover all Private/Recreational/Light Sport tasks and maneuvers with many of the performance tolerances cut in half, with a few advanced stick-and-rudder maneuvers thrown in. That’s another objective standard of mastery, with specific goals to work toward.

Comparison of select Practical Test Standards tolerances for Private/Recreational/Light Sport and Commercial pilots

Look for the advanced, master standards for the type of flying you do, and work to meet those standards. Flying aerobatics? There are industry accreditations to attain. Engage in recreational, amateur formation flying? Earn your FFI formation card, and insist that anyone who flies near your airplane holds the card also or is actively training to meet that standard. Anything less means you’re failing to seriously pursue mastery of the task.

But the stick-and-rudder skills of the Practical Test Standards are still just part of what it takes to truly master your aircraft. In past LESSONS I’ve addressed the concept of “promoting yourself to captain,” because that’s the skill level our passengers expect us to have, the level of expertise we want and need the public to perceive of general aviation pilots, and finally, what it takes to truly master an airplane. But often I failed to provide specific guidance on how to earn this promotion. That I intend to change, and learn more myself in the process.

In future LESSONS I plan, with your significant help and input, to address that gap. I’ll be addressing the four stripes that symbolize the captain of an aircraft, and specific things you can do to earn those stripes after earning your wings—which is merely the first step in mastering your airplane, your license to learn. As a preview, consider that mastering your aircraft (not just “being safe”) requires mastering each of these areas:

The specific aircraft, including its technology.

The environment, including airspace, air traffic control (as required) and weather.

Human factors, including fatigue management, stress and situational awareness.

And something given very little attention in pilot training but that is the essence of mastery of flight, pilot responsibility and command.

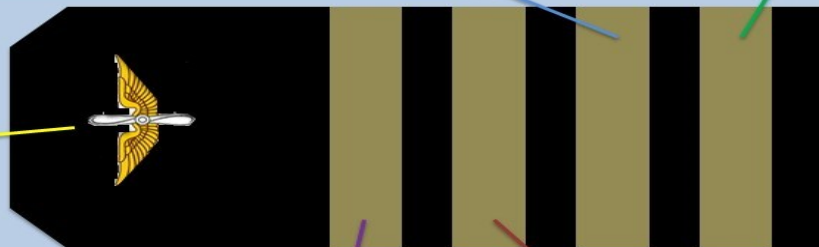
*You’ve earned your wings...*

**...now earn your stripes**

**Your first stripe:**  
Mastering the airplane and its technology

**Your second stripe:**  
Mastering the environment and weather

**Your wings**  
(checkride passed):  
Only the first  
step



**Your fourth stripe:**  
Mastering responsibility and command

**Your third stripe:**  
Mastering human factors and  
situational awareness



Task	Private PTS	Commercial PTS
Traffic patterns	Altitude $\pm 100$ feet Airspeed $+10$ kts	Altitude $\pm 100$ feet Airspeed $+10$ kts
Normal takeoff	Airspeed $V_y +10/-5$ kts	Airspeed $V_y +5$ kts
Normal landing	Airspeed $1.3 V_{so} +10/-5$ kts Touchdown $-0/+400$ ft from identified spot	Airspeed $1.3 V_{so} \pm 5$ kts Touchdown $-0/+200$ ft from identified spot
Short field takeoff	Airspeed $V_x +10/-5$ kts to 50 ft AGL	Airspeed $V_x +5$ kts/-0 to 50 ft AGL
Short field landing	Airspeed $1.3 V_{so} +10/-5$ kts Touchdown $-0/+200$ ft from identified spot	Airspeed $1.3 V_{so} \pm 5$ kts Touchdown $-0/+100$ ft from identified spot
Steep turns	Bank angle 45 degrees $\pm 5$ degrees Altitude $\pm 100$ feet Rollout on heading $\pm 10$ degrees	Bank angle 50 degrees $\pm 5$ degrees Altitude $\pm 100$ feet Rollout on heading $\pm 10$ degrees
Slow flight	Altitude $\pm 100$ feet Heading $\pm 10$ degrees Airspeed $+10/-5$ kts Bank angle $+10$ degrees	Altitude $\pm 50$ feet Heading $\pm 10$ degrees Airspeed $+5/-0$ kts Bank angle $+5$ degrees

*(Comparison of select Practical Test Standards tolerances for Private/Recreational/Light Sport and Commercial pilots )*

***It's important to note that "earning your stripes" is equally applicable in a Light Sport or Piper Cub as it is in an IFR Cessna, a Bonanza, a Baron, a Malibu, a PC-12 and a single-pilot Citation Mustang. The only distinction is the topics and tasks you must address to develop mastery of the specific airplane you fly, the way you fly it.***

***Further, at times you may be master of one airplane but not another, or master of one set of conditions (night, IFR, etc.) but not others. It takes constant practice and constant self-evaluation, to determine when you are truly captaining your aircraft and not merely flying it.***

***Mastery is not something you pursue and then "graduate." It is a life-long process or retaining existing skills as you develop new ones. Whether you are paid to fly is irrelevant; the goal is to attain and retain a level of professionalism regardless of the airplane you fly...to satisfy your own goals, but also to live up to your responsibility to passengers, your family and others who depend on you, and to the industry as reflected by the public's perception of personal aviation. Subscribe to "Mastery of Flight Training" It's free and excellent resource! Use this address:***

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*12/30/2015 Mastery of Flight Training, Inc.*



***Master CFI Tom Turner holds an ATP certificate with instructor, CFII and MEI ratings with a Masters Degree in Aviation Safety. He was the 2010 National FAA Safety Team Representative of the Year and the 2008 FAA Central Region CFI of the Year and has logged over 2,500 hours instructing.***

***Tom was a Captain in the United States Air Force and has been Lead Instructor for the Bonanza pilot training program at the Beechcraft factory; production test pilot for engine modifications; aviation insurance underwriter; corporate pilot and safety expert. In addition, Tom was a contract course developer for Embry-Riddle Aeronautical University. He now directs the education and safety arm of a 9000-member pilots' organization. Master CFI Tom Turner holds an ATP certificate with instructor, CFII and MEI ratings with a Masters Degree in Aviation Safety. He was the 2010 National FAA Safety Team Representative of the Year and the 2008 FAA Central Region CFI of the Year and has logged over 2,500 hours instructing.***

# CALLBACK

From NASA's Aviation Safety Reporting System



Previous issues of CALLBACK1 have targeted the very serious matter of General Aviation (GA) fuel exhaustion and fuel starvation incidents. However, the problem of missing or improperly fastened fuel caps was not discussed previously and it has shown up in a significant number of recent ASRS fuel incident reports.

While there are several lessons offered in the following fuel cap incidents, the one that would ultimately have prevented each of these events from occurring is perhaps the most obvious— check the fuel caps after fueling. By topping off your fuel management wisdom with this lesson and the others mentioned below, you can help reduce preventable fuel related incidents.

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## Out in the Cold Without a Cap

A C182 Pilot was lucky to have an airport within gliding distance after the engine ran out of fuel. A post-fueling pre-flight could have prevented this embarrassing bladder-emptying event.

■ On an IFR flight in VFR conditions at 4,000 feet, the engine lost power. I immediately switched the [GPS NAV] to Nearest Airport. The temperature was -4C so I had already pulled the carb heat and noticed that the fuel gauge on the left tank was empty and the right tank read a bit over half full. I switched to the right tank, but still no power. All the while I continued my glide toward the airport. At about 2,500 feet I saw the airport and set up for a power-off landing which was uneventful.... I cancelled my IFR clearance and notified the briefer that...the flight had terminated uneventfully.

My first thought was that the fuel line from the right tank had frozen and fuel was exhausted from the left tank with plenty in the right tank. The temp on the ground was +2C so I expected that this might be OK once the plane warmed above freezing. When I left the FBO office and walked back to the plane I noticed that there was something different about the right wing gas cap. Sure enough, upon closer inspection, it was hanging by its chain well clear of the filler port.

Prior to the flight I had purchased 40 gallons of fuel (top off) and while the lineman fueled the plane I did my walk-around preflight. I thought I had done a very good job of this, but if I had done the walk-around after the refueling I would have seen the fuel cap condition.... I could say that this was caused by the lineman not replacing the fuel cap, but in the end it is my responsibility to manage all aspects of the flight and checking the oil filler cap and the fuel caps fall under that as well. I also had a second chance to discover the missing cap since I flew to an intermediate stop in this condition and departed with the cap off and still unnoticed.

Continued on next page.....

With the cap off, fuel is gushing out over the top of the wing and trailing off past the flaps. The weather was cloudy and visibility was limited, but still VFR during takeoff and initial climb out. This white background would perhaps make the fuel loss less apparent, but I'll bet if I would have looked, I would have seen it.

During flight the plane appeared to me to be heavy on the left side. I noticed this and continually examined the ball and rudder trim, but never understood what was making me think something was abnormal. I scanned the gauges but was always satisfied that the fuel was OK because the gauges were never real good at showing the fuel level when it had over 3.5 hours of fuel remaining anyway.

I dipped the tanks after the incident and found that both tanks were completely empty. I then called my A&P/IA who was familiar with this. He explained to me that the erroneous high fuel level indication of the tank with the cap missing was caused by the empty fuel bladder bottom surface buckling. The bladder was being sucked up by the low pressure over the wing which also propped up the fuel float sensor bar and resulted in the gauge indicating a high fuel level.

### **An Uneasy Feeling Precedes an Unplanned Landing**

This Pilot got rushed and forgot to check the fuel caps after refueling a borrowed C182. An hour from the destination airport, the Pilot also failed to pay attention to a feeling that something wasn't right. When that something is corroborated by a fuel gauge on EMPTY, do as the Pilot suggested—pay attention to the feeling.

■ I pulled up to the fuel pump and dipped both tanks. There were 10 gallons in the right tank and 25 gallons in the left. I decided to put 25 gallons in the right for a total of 60 gallons. However, the pump stopped at 20 gallons due to my error in operating the self-serve pump. Another aircraft had pulled up behind me, waiting to fuel up, so I felt a little rushed and decided not to re-engage the pump for the extra five gallons I had originally planned.... I quickly re-calculated the difference the five gallons would make in my planning (55 gals vs. 60 gals). Having never flown this aircraft before, I wasn't completely sure what the normal fuel burn would be, so I calculated a 15 gallons-per-hour burn. I flight planned for a 2 hour trip, so with 55 gallons on board I figured I had about a 3.6 hour endurance, with the required fuel reserve.

We took off...and eventually got handed off to Center. I was having trouble communicating with Center, so I canceled Flight Following and continued on my way. It was also about this time I noticed the left fuel gauge showing empty. Not having flown this airplane before, I didn't know whether this was normal or not. I started feeling a little uneasy and I did consider stopping...to investigate and refuel if necessary, but decided to keep going as we were only about an hour away from home. When we got about four miles past [another airfield], the engine stopped. I immediately turned back toward the field. I relayed my intentions (the field was closed this day so no one was in the Tower). I set up for a glide to the runway but as I got closer I saw X's on the runway numerals. I then decided to set up for a landing on the other runway. During this time I had asked my passenger to get the CTAF frequency (which wasted precious time and altitude) and by the time he found it on the sectional, my altitude had depleted to about 600 feet above the surface. I was still on downwind so I immediately turned to lineup on the runway, about midfield. I overshot the runway so I banked sharply to get back on . The

centerline. The aircraft was about 15-20 feet above the runway and just ran out of energy. We impacted the runway fairly hard but there was no damage and no one was hurt.

While we were sitting on the taxiway awaiting the tug, I got out of the aircraft and the first thing I saw was the left fuel cap was not securely fastened to the fuel port. I also dipped both tanks and they were completely empty. I surmised that all the fuel had been siphoned or vented out of the open fuel port.

Lessons learned/suggestions: 1) Never allow yourself to get rushed for any reason. Had I not been rushed, I would have double checked to ensure all caps were securely fastened. 2) When you get that feeling that something isn't right, pay attention; it probably isn't. If I had listened to myself about the uneasiness I felt about the fuel gauge and landed, I would have noticed the fuel cap being off, refueled, and avoided this situation altogether. Finally I would like to say that I have been flying for [many] years and have always been very safety conscious. I never thought that one day I would run out of fuel, but it happened. If you don't practice emergency procedures, especially dead-stick landings, you're doing yourself a great injustice. I do every time I go up and it paid off this time. Let your training take over and remember— fly the airplane, no matter what happens.

**Callback: 1#416, September 2014 and #405, October 2013**

Controller issued Low Altitude alerts are created by either the Minimum Safe Altitude Warning (MSAW) or the Low Altitude Alert System (LAAS). The systems are similar as far as pilots are concerned, although MSAW has some predictive capabilities. The alerts are intended for IFR aircraft but may be requested by VFR aircraft, and are designed "as a controller aid in detecting potentially unsafe aircraft proximity to terrain or obstructions." The alerts generally result in the controller issuing a "Check your altitude" call and often include an altimeter setting and altitude reference (MDA, MVA, etc.). Nuisance false alarms can be generated as the computer cannot predict a pilot's intentions and delays in Mode C updating can delay a timely warning.

Even though there are excellent Terrain Awareness and Warning Systems (TAWS) and Ground Proximity Warning Systems (GPWS) in many aircraft, the ATC alert systems provide a useful backup for pilots.

The following ASRS reports show the benefit of having the controllers keeping an eye on a pilot's altitude.

### **Flying Straight Toward Trouble**

Before they could resolve an ambiguous clearance, two C172 Pilots were "alerted" about their proximity to terrain. Misunderstandings between Pilots and Controllers are problematic. In the approach or departure environment they can be critical.

■ We were climbing via a published departure. At around 3,000 feet we contacted Departure Control who gave us a new altimeter setting and then proceeded with the following clearance: "Fly straight out; climb and maintain 9,000 feet." Our altitude was approximately 3,800 feet and we were still heading westerly toward terrain, not yet established on the outbound radial. The student noted that it was strange for ATC to vector us close to terrain while we were this low. A moment later, ATC gave us a Low Altitude alert and suggested a right turn to 090. Then ATC mentioned a possible deviation and gave us a number to call.

There was confusion about what the ATC clearance actually meant. The clearance "Fly straight out" was filled with ambiguity (we were still flying westerly and not heading northwest on the published procedure radial). The clearance was perceived as a vector for the climb. Before we had a chance to request clarification, the Low Altitude alert was issued.

***A Monthly Safety Newsletter from The Office of the NASA Aviation Safety Reporting System Issue 430***



# Poster

**Study Title:** The experience of older pilots over the age of 40 in training who are transitioning to technologically advanced aircraft: A grounded theory

**Researcher:** John A. Kolmos

**Email Address and Telephone Number:** 631-905-7188/jkolmos@capellauniversity.edu

You are invited to be part of a research study. The researcher is a doctoral learner at Capella University in the Harold Abel School of Social and Behavioral Sciences.

## **WHAT IS THIS STUDY ABOUT?**

The researcher wants to learn about adults from the ages of 40-85 years and their experience in training and transitioning from manual performed tasks in aircraft to technically advanced aircraft.

## **WHAT CRITERIA IS REQUIRED TO BE A PART OF THIS STUDY?**

You are invited to be in the study if you meet the following criteria:

- 40-85 years and had experience in training and transitioning from manual performed tasks in aircraft to technically advanced aircraft. Technically advanced aircraft (TAA) are aircraft with computer screens and computer input devices as opposed to the standard round dial instruments and switches. Aircraft such as the G-500, 1000 or 5000 series or Avidyne systems.
- All participants will be between Forty and Eight Five years of age (40-85) regardless of gender. Must be a certificated pilot and have gone through ground and aircraft transition training from standard avionics to the technically advanced aircraft avionics.

Sign a consent form to be a part of the study, name and identification are strictly kept confidential

If you do not meet the description and requirements above, you are not able to be in the study.

## **HOW MANY PEOPLE WILL BE IN THIS STUDY?**

About twelve (12) participants will be in this study.

## **WILL IT COST ANYTHING TO BE IN THIS STUDY?**

You do not have to pay to be in the study.

## **I AM INTERESTED AND/OR HAVE QUESTIONS, WHAT NEXT?**

Please contact the above researcher by phone or email of your interest and any questions you may have.

## END NOTES

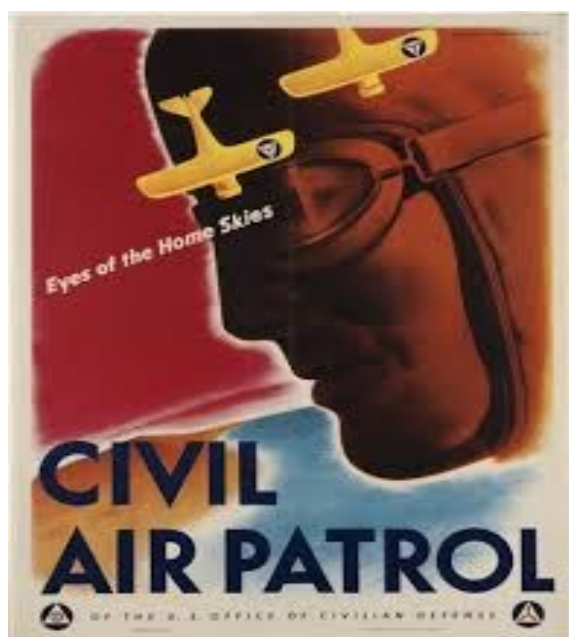
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Email me anything you may like to include in newsletter related to aviation, CAP aircraft, events etc...



A LITTLE NOSTALGIA FROM THE GOOD OL 'E DAYS.....



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**Civil Air Patrol Core Values - Integrity,  
Excellence, Volunteer Service, and Respect**

