



FLYING LESSONS for August 9, 2018

by **Thomas P. Turner**, Mastery Flight Training, Inc.
National Flight Instructor Hall of Fame inductee

FLYING LESSONS uses recent mishap reports to consider what *might* have contributed to accidents, so you can make better decisions if you face similar circumstances. In almost all cases design characteristics of a specific airplane have little direct bearing on the possible causes of aircraft accidents—but knowing how your airplane's systems respond can make the difference as a scenario unfolds. So apply these *FLYING LESSONS* to the specific airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence. **You are pilot in command and are ultimately responsible for the decisions you make.**

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This week's LESSONS:

I flew my employer's airplane to Oshkosh. Because I needed to be there ahead of time to help set up our display, I planned to fly up from Wichita on Friday. My plan, following suggestions I include in my traditional six-part "[Flying into AirVenture](#)" series, was to fly about 2.5 hours to Dubuque, Iowa (KDBQ), top off the fuel tanks, then make the roughly one-hour hop to Oshkosh following the NOTAM visual arrival.

See http://www.mastery-flight-training.com/tools_for_flying_safely.html

A few days before the trip the weather forecasts were for marginal VFR conditions off and on along the route. I began to think about flying IFR to KDBQ and the possibility of having to stay there overnight, since conditions were forecast to be Visual Meteorological Conditions (VMC) on Saturday morning. I went ahead and made a refundable hotel reservation at Dubuque...which would replace my plan of sleeping in the airplane the first night if I made it all of the way to Oshkosh, because our lodgings there weren't available until Saturday.

Friday morning I checked the weather early and found it was VMC to KDBQ, but with a 4000 foot broken to overcast layer—not bad, but worse than forecast. I filed IFR to cruise above the clouds, still thinking I might descend to visual conditions at Dubuque, fuel up and then fly visually under the clouds into Oshkosh. As I flew closer and closer to KDBQ, however my in-cockpit METAR showed that the clouds were lowering at Dubuque. Soon it became obvious I would have to fly the approach into KDBQ and I did, breaking out at about 900 feet Above Ground Level (AGL) for a landing in good visibility. Half a dozen Textron Aviation Oshkosh display airplanes were already there for the night with IFR reservation slots into KOSH the next morning. The ramp looked like Pensacola, Florida or Sweetwater, Texas in 1944, with dozens of North American SNJs and their Army AT-6 counterparts of the North American Trainers Association ([NATA](#)) waiting to go to Oshkosh as well. I shared a cab with a retired Air Force officer who was weathered in in his RV-8, and took the hotel room I'd reserved.

See www.flynata.org

As soon as I checked in I took another detailed look at the forecasts for the next morning. The updated TAFs looked good—MVFR with good visibility, averaging about 1800 feet overcast along the route for Saturday morning. That's not great, but it meant I could fly about 1300 feet AGL and still be 500 feet below the cloud bases, the minimum distance permitted for VFR. Sure, most of the route I could fly "one mile, clear of clouds" in Class G airspace below 1200 feet AGL, but I don't play that game even without the traffic likely to be heading to KOSH at the same time.

And, bands of brief but intense periods of rain swept repeatedly over Dubuque, taking the visibility and clouds in and out of IMC...none of which was in the day's forecasts.

A look at other Graphical Forecasts for Aviation ([GFAs](https://aviationweather.gov/gfa), which have replaced Area Forecasts) showed the ceiling would be lower along the route. The terrain I'd overfly in western Wisconsin is about 300 feet higher in elevation than Oshkosh but the cloud bases were a constant altitude Mean Sea Level all the way. In this world of immediately available weather data but the danger of sensory overload and good old pilot laziness, I've seen a trend in pilot behavior where they will check METARs, TAFs and the radar picture, make a decision and go. They apparently forget that METARs and TAFs are only valid for five miles around the reporting point, and radar shows rain but not clouds or other hazards.

See <https://aviationweather.gov/gfa>

So while a cursory check of the weather might tempt me to go, a more detailed look told me I definitely did *not* want to try a one-hour VFR trip beneath the clouds. And most importantly, **the actual weather was already trending worse than the forecasts, and there was no approaching front or other weather disruptor expected overnight that would suggest it would do anything besides be as bad or worse than the GFAs predicted for morning.**

I went to the Oshkosh NOTAM, found the procedure for obtaining an IFR reservation, and made my online request. The system lets you name your requested airport, day and time, including alternatives. In seconds I had a 9 am arrival reservation (my first choice) at Appleton, Wisconsin (KATW, my second choice after KOSH...which the website said was unavailable). I filed using the reservation code with an alternate back at KDBQ...knowing I could probably divert somewhere closer if needed, but I had the fuel to get out of busy Oshkosh NOTAM-area airspace if I had to.

One of my co-workers (who drove as far as Dubuque in a cargo van en route to Oshkosh and stayed in the same hotel) drove me to the airport the next morning. Although the forecast the night before was for 1800 broken at my departure time, the reality was 1000 overcast in drizzle. The weather at destination (KATW and KOSH) was still 1800 overcast with good visibility. But the worse-than-forecast weather at KDBQ was slowly drifting east toward Oshkosh—a larger weather trend check said it was probably not going to remain MVFR at Oshkosh.

So my plan was this:

- Depart IFR toward KATW.
- Landing at Appleton, I would wait a while to detect any new weather trend. If the weather improved enough to take off for the visual procedure at Oshkosh I would do so. If it did not in a reasonable time I'd call my co-worker and ask him to pick me up at KATW so I could help set up the display at Oshkosh, and get the airplane another day.
- If approaching Appleton I broke out high enough to proceed with the visual approach to Oshkosh I would cancel my IFR clearance and go visually to KOSH.
- If I had to miss the approach at KATW I would return to KDBQ or some other airport where I could rent a car, drive to work at Oshkosh, and return for the airplane later.
- Request to divert to Oshkosh en route if ATC permitted.

Any one of those options was equally acceptable. **Deciding this beforehand, making the appropriate decision in flight would be a low-stress event** with no temptation to second-guess or "make it up as I went." I planned my flight; now I merely had to fly my plan.

The Textron display Cessna 182 took off ahead of me on its clearance to Oshkosh. Whether KOSH or KATW, the NOTAM preferred route starts as "Direct Madison." Although I was cleared to my requested 5000 feet cruising altitude, that was his as well. So soon after handoff to Departure I was cleared to 7000 feet. I saw the C182 on ADS-B as I flew directly over him on the same course. As I approached Madison ATC directed me even higher for traffic, up to 9000 feet.

Meanwhile I tuned the #2 radio to the Oshkosh visual arrival frequency as found in the NOTAM—the printout of which I carried, with all my notes and tabs, alongside me in case I needed the visual procedure before landing. Sporadically I heard an airplane calling in on the visual approach, between the controllers' standard soliloquy about how the NOTAM was in force and if you get too close to the airplane ahead of you "it isn't going to work." So at least a few airplanes were getting in visually. Also, the clouds beneath me were breaking up a bit, revealing narrow swaths of very-green Wisconsin farmland. Sucker holes, they used to call them. The KOSH METAR on my cockpit weather was still 1400 broken, 10 miles visibility.

I was talking to Madison Approach. Appleton is in the Green Bay Approach area, while Oshkosh is controlled by Milwaukee Approach (you can see this on the applicable instrument approach charts). I had printed hard copy of charts for both airports with me, and already briefed myself on the approaches to include all the note-taking preparation I teach and use for instrument approaches (I'll cover that in a future *FLYING LESSONS*). I rebriefed the Oshkosh RNAV (GPS) 27 approach, listened to ATIS (the field had gone IFR, 800 overcast) and got ready to load and activate it on the GPS because I wanted to try something. If it didn't work I'd rebrief for Appleton—I wanted the most recent briefing to be the approach I was going to fly, so I wouldn't mess myself up.

"Contact Milwaukee Approach 127.0." Perfect! I knew my request wouldn't work with any controller other than the one with a real-time eye on Oshkosh arrivals. After checking in, then pausing for a moment to determine the sector wasn't very busy, I asked with an intentionally humorous lilt to my voice, "Milwaukee, 4SJ request." "Go ahead," the controller replied, probably already knowing what I was going to ask. "Milwaukee," I replied, "I know it's *highly* unlikely, but is there any way I can change my destination to Oshkosh? I have Information Hotel." A slight pause. Then, equally animated, the controller replied simply, "*Wait right there!*"

In retrospect that may have been holding instructions. I don't know.

"Bonanza 4SJ, you're cleared to Oshkosh. You're five miles from IGVEW [the first fix on the approach], maintain 3000 'til established, you're cleared for the RNAV (GPS) 27 approach. Oh, and if you could give me a good rate [of descent] through 4000 [feet] that would be helpful."

I gave the controller a big "thank you," threw out the rubber-coated speed brakes (extended the landing gear for drag) for an expedited descent out of 9000 feet with five miles to the fix, and activated the approach direct IGVEW. I could not have done all that if I didn't already have the weather information, the approach briefed, the GPS ready for the switch and the paper chart with my notes immediately available...not having to call it up electronically, because I was still heading for the ILS at KATW when I made my request, and I had my iPad ready for that even though I had an annotated paper chart for the ILS as well.

I'm not writing all this to boast. It's simply my public debrief of what went right on this flight. This was an extremely rare flight when I can't come up with anything that went wrong (give me time). It all comes down to preparation. I made it all click on this flight and as a result broke out of the clouds at about 800 feet over Lake Winnebago on a three-mile final for Runway 27 at precisely the place I wanted to be...knowing it was the least likely of outcomes on this trip, and I was just as ready to end up with any of the other equally acceptable options. I landed about 9:15 am and got the airplane towed into display position before several bands of showers began taking KOSH in and out of IMC later in the morning and afternoon.

The key LESSONS this week include:

- **Check not only the weather *state*** (how it exists in the briefing), **but the weather *trend*** (is it getting better or worse?).
- Part of the weather trend is not only checking which way the forecasts say the weather is going from now on, but also **how the current state compares to previous forecasts for the current time**. In other words, did yesterday's forecast accurately describe

today's weather? If not, is today's weather better or worse than was earlier forecast? If it's worse, is there a front or other major weather feature to break the trend, or do you have to assume the forecasts for later on are inaccurate too? **Forecasts and actual weather trend evaluation is something that happens over days, not hours.**

- **Don't be afraid to make requests** from ATC. But don't be disappointed or argumentative if you don't get what you ask for. Sometimes, as they say, the answer is "no."
- **Before you make a request** be fully prepared to execute it immediately. It's bad form, at the very least, to ask ATC to do you a favor and then not be able to do it when granted. It's even worse if you force yourself into a high risk, high workload condition because you aren't ready to do what you initiated in the first place.
- **Brief yourself for as many options as possible, and realize that any number of outcomes can be equally acceptable** as long as you are prepared.

Questions? Ideas? Opinions? Send them to mastery.flight.training@cox.net



How Much Flight Risk Should You Accept?
Watch this video for a thought-provoking answer to this important question.

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See https://www.pilotworkshop.com/how-much-risk?utm_source=flying-lessons&utm_medium=banner&utm_term=&utm_content=&utm_campaign=risk&ad-tracking=fl-risk

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Debrief: Readers write about recent *FLYING LESSONS*:

Readers continue to write about the report and comments on an attempted visual flight into Oshkosh while instrument conditions existed at KOSH. Clare McEwan writes:

After reading [FLYING LESSONS for August 3, 2018](#) regarding the flight into Oshkosh with multiple pilots on board and some of the questions and issues that drew comments from many readers, it occurred to me that one rule we use during our group flying tours [[Air Safaris International](#)] could be useful in a multi-pilot situation. Our tours have multiple planes, each with a client pilot as PIC. There is also a support plane with a group Lead Pilot, who is a local experienced CPL [Commercial Pilot].

If weather is less than ideal, **the Lead Pilot is given the sole authority to say that it's a "no-go"**. This decision is not made in isolation as **there is a discussion with the other pilots and a review of the situation as well as each person's comfort level** with the flight plan options being considered. However, **once he or she makes the "no-go" call the discussion is over** and we look at non-flying options.

This might be a useful approach for a group; to **have one pilot as the designated "no-go decision maker"**. And it **might be most effective if this person is not the PIC** on the day. It could also help reduce the risk of groupthink, mentioned by a number of people [in previous Debrief comments], and take some of the pressure off the PIC to feel that they have to complete the mission.

Multiple airplanes flying on the same schedule to a common destination indeed presents some unique challenges. As you say, these challenges are also present when more than one qualified pilot is flying in the same airplane as described in past *FLYING LESSONS*. I agree that individual pilots engaged in a mass flight should accept that their individual "go" call can be overruled by a Lead Pilot for the group who has more experience with the procedure and the route, and who is

actively monitoring weather and other factors that impact the safe outcome of the flight. This should include active communication with a safety observer from the mass flight at the destination as well, to get input from someone who not only sees the weather there first-hand but also understands the additional requirements of a mass arrival. This willingness to let your “go” decision be overruled will guard against an excessive zeal to complete the trip, or a misplaced sense of “mission” that often exists when a pilot is flying as part of a larger group.

The reader added:

The Lead Pilot is only given the authority for a “no-go” call for the group. **The Lead Pilot does not make a “go” call for the group. Each pilot, and their passenger(s), make their own “go” call.**

Which raises the question: *What happens if some pilots are saying “go” and some are saying “no-go”?*

There is a danger that someone will feel peer-pressured into making a “go” call when in fact they are not ready. And because we stay together as a group throughout our tours, one pilot’s “no-go” call will affect the entire group. So **we have to be very conscious of creating an environment in which anyone who is not ready to go is able to voice their concerns.** To help create this atmosphere **our go/no-go decision procedures are explained in full before the tour starts.** And **our Lead Pilots (almost all of whom are also very experienced instructors) do have to have some people skills to be able to sense the true comfort levels of each member of the group.**

It is not a foolproof system, but it does seem to work. **We have had a number of situations where the concerns of one or two people have kept us on the ground or have caused us to modify our flight plan for the day. What I find very interesting is that every one of these decisions was, in retrospect, a good decision.**

Another interesting observation I have made is that **all pilots, to their credit, are generally very understanding of somebody not being comfortable.** They seem to remember when they might have felt on the spot in a similar or comparable situation and they are therefore quite good at not trying to convince a reluctant pilot that they should be willing to go. Needless to say, **this attitude helps also the group come to a good decision.**

Thanks for all the great *LESSONS!*

Thank you, Clare, for explaining how you apply these *LESSONS* to aerial excursions involving multiple pilots-in-command exercising their responsibilities and authorities while flying as a part of a larger group.

See:

www.mastery-flight-training.com/20180727-flying-lessons.pdf
www.airsafarisin.com

First-time Debriefing Dite Steinruc writes:

As I read your report on your friends flying into OSH, my stomach churned and my heart got to beating faster. **One thing after another kept creeping up the [accident] chain. I was sure there was going to be a broken link some place.** From having minimums on baggage weight to minimums on altitude, **they kept allowing themselves to go just a little bit beyond until they were way past their minimums.**

We all figure “I got away with it last time, I’ll surely be OK again this time.” Then there is the one time that we aren’t or we just barely sneak by. All the pilots were confident they would be OK; or were they trusting the PIC and shucking their own minimums? As PIC, was he being encouraged to forego his own minimums because he put his trust in the other two pilots? Pilot 3 encouraged him to go. **We need to have the fortitude to maintain our standards/minimums and not be persuaded by someone else “better than me” or the “get-there-itis”/complete the mission.** I was thankful they made it and **I hope they learned a lesson on what not to do again rather than “See, I told you we’d be OK.”**

What about towers in the area? Since I have not been there in years, I don’t know about obstacles but that would be my first concern. I would have filed IFR and not worried about the cloud deck being so low. Did the pilots not have instrument ratings? There is a great reason to obtain it. If I didn’t have an IR, I would have waited until the weather met my minimums. It may have meant staying in a different motel than planned but better than not **“being at the hearing—BATH”.**

Thanks for your training. I always learn something new and am encouraged.

Thank you as well, Dite.

Reader, past Naval Aviator and fighter/attack squadron safety officer, and current aviation safety researcher and air crash investigator Dr. Jeff Edwards writes:

Back home [from Oshkosh] and catching up on the Mastery series. Your columns on AirVenture strikes me as a good case study of poor risk management by several pilots in an overgross airplane. It also speaks to **the poor safety culture in general aviation**. Many friends showed me Flightaware examples of Saturday and Sunday arrivals in marginal VFR and even IMC. Your friends were not alone in their poor decision making. Scary! **My rule of thumb is no marginal VFR into AirVenture because the risk of a midair rises exponentially**. While I wanted to fly to AirVenture this year [having done so at least 20 times previously], I elected to drive the seven-hour trip instead because of the marginal conditions.

As I put it last week, **Oshkosh tempts even the most conservative pilot, myself included...and it requires the greatest personal preparation and discipline precisely because it is such a complex, busy and enticing destination....** I hope all pilots reflect on the **LESSONS** that result from this example, and make positive changes in the collective safety culture. **The goal is to prevent the need for this sort of discussion on future flights** to Oshkosh and any other destination that tempts the pilot to go against his or her best judgment or violate well-considered personal minimums.

Talk of shifting risk management from emotion-based to reality-based decisions is not new, but clearly we have more talk—and work—to do. Reader and emerging aviation safety leader John Zimmerman attacked this shift this week as well in an article titled "[Only the Realistic Survive.](#)" John writes:

When we're told to "be realistic," it sometimes gets interpreted as "be conservative." That attitude will probably keep you safe, but a truly sharp pilot knows the difference between conservative and realistic. The latter means **continually evaluating current conditions and pilot skill, and never allowing them to get out of sync.**

Thank you, Jeff, and John for writing your column.

See https://studentpilotnews.com/2018/07/30/only-the-realistic-survive/?utm_source=MarketingEmail&utm_medium=email&utm_campaign=A18075C&utm_content=2.%20Only%20the%20realistic%20survive.&trk_msg=CR93MDBUHJK4P7NCH426AMA36O&trk_contact=CF9HGBDH2SAD5JNAG3EAQOJFK8&trk_sid=R700ELI9GLFLLHHEPT2JP58QE8&utm_source=Listrak&utm_medium=Email&utm_term=https%3a%2f%2fstudentpilotnews.com%2f2018%2f07%2f30%2fonly-the-realistic-survive%2f%3futm_source%3dMarketingEmail%26utm_medium%3demail%26utm_campaign%3dA18075C%26utm_content%3d2.+Only+the+realistic+survive.&utm_campaign=A18075C&utm_content=Fast+5+-+August+4th

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MentorLive Webinar
August 15th, 2018 8:00 PM U.S. Eastern Time (0000Z August 16th)
"What We Should Teach About Engines"
Presented by Thomas P. Turner, ATP, CFII and MEI.

Join Tom Turner as he shares important training concepts regarding aircraft engines that can prove to be invaluable lessons for student pilots. Why do flight instructors need to teach about engines? Engine performance management, power loss and engine failure procedures, and transition training into higher performance aircraft are just a few. These skill sets are not typically taught during pilot certificate and ratings training. If flight instructors don't teach about aircraft engines, then who will?



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