

# Thomas P. Turner's Mastery of Flight™

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## FLYING LESSONS for February 13, 2025

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 most 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 in your success as the 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:

[Last week's LESSONS](#) were prompted by one aspect of the collision of a PSA Canadair Regional Jet operating under American Airlines colors and a U.S. Army UH-60 Blackhawk helicopter over the Potomac River just off Washington DC's Reagan National Airport: **the responsibility you accept when you report traffic in sight**. Much has been speculated and pontificated about causes (and the politics) behind the crash. To date the National Transportation Safety Board has provided several [updates](#) on the nascent investigation, but no preliminary report. That investigation has only just begun.


**Our LESSONS**, as always **prompted by** a mishap but **not** attempting to determine the **cause of** the tragedy, remain valid...and our readers have added their insights. So, on to the Debrief.

See:

<https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-february-6-2025/>

<https://www.nts.gov/investigations/Pages/DCA25MA108.aspx>


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### Debrief

Readers write about previous *LESSONS*

Reader and piston twin instructional expert Dave Dewhirst writes about [last week's LESSONS](#):

On the DCA crash, the *LESSON*, as you mentioned, is that **as a pilot you must correctly identify the described traffic**. Early in the aftermath discussion, it was thought the helicopter pilot thought

the traffic advisory was referring to the jet departing to the south and turning eastbound. The controller clearly described the traffic to the helicopter pilot as /South/ of his position. The wrong aircraft was north of his position. The controller had a role in not seeing the radar screen data showing both aircraft at the same altitude.

Dave provided additional observations about the DC collision, but for now I'm keeping our focus on the see-and-avoid *LESSON*. Dave writes:

**It is common for an ATC controller to ask a pilot if he has an aircraft in sight. If he does, ATC asks him to follow that aircraft.** That airspace is very busy. Asking a pilot to follow or avoid another airplane is risky, especially at night.

**Commercial air travel** took a hit, but it **is still the safest way to travel**. There has not been an air-to-air commercial aircraft accident since 1979. That is despite the fact that at any one point in time there are 20,000 aircraft in the air in the U.S., 7,000 of which would be commercial aircraft. The U.S. commercial aircraft service is regarded as the safest in the world.

Training time to become a controller is a very involved process. Training time is about two years, including actual time in a control tower. **Training is a continuous process**. To get the gig to be a controller in a facility the size of Washington National, the controller would have to have 10 years of experience and have two years of supervised training just in that facility. Also, physical disability is a non-issue. A controller must hold an FAA 2<sup>nd</sup> class medical, the same as is required for Commercial pilots.

Air Traffic Control is **an exercise in trust**. Pilots must trust the controller's "big picture" **strategic** direction; controllers must trust each pilot's **tactical** maneuver and response. If you have **traffic in sight** and are willing and able to maintain visual separation, tell the controller. He or she will then **trust** you to maneuver around it, even if the other aircraft's pilot(s) do not see you. If a controller gives you a traffic advisory and you do **not** see and positively identify the other aircraft, **do not report it in sight**. **Trust** the controller to continue to ensure traffic separation and happily accept any deviating vectors or altitude changes the controller assigns.

There are **existing and emerging technologies** that improve pilots' traffic awareness and may improve the controller's situational awareness. Conflict alarms in various forms already exist both on aircraft panels and controller scopes...part of the **trust** is that the other party has and will react to conflict advisories. Certainly the long-touted [NextGen](#) air traffic control system is **way past due**, and except for large transport aircraft **no one is required** to equip their airplane with the capability to "see" other aircraft on a panel display even if many must have the capability of broadcasting their own position. Even when (if) NextGen or whatever might replace it is fully deployed, and if (when) *all* aircraft might be required to have ADS-B In as well as Out or whatever might replace *it*, ultimately **pilots will still have to look out the window, visually acquire and maneuver around other aircraft** for the tactical close-in solution to larger strategic direction...unless we want to accept a larger "bubble" of protected airspace in the unfortunately named terminal environment. Thank you, Dave.

See:

<https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-february-6-2025/>  
<https://www.faa.gov/nextgen>

Reader Thomas Cedel adds:

Hi Tom, thanks for the overview of this aspect of the accident. Another issue I have not heard about was if the Blackhawk was talking on UHF and everyone else on VHF—of course the ATC controllers would be on both. I never flew military helicopters but my experience in multiple fixed wing aircraft was UHF and a very limited part of the VHF spectrum.

I think this is a valid "generic" point on the topic of collision avoidance. When a military aircraft is in your vicinity and you hear ATC's part of the conversation but not the military side, the military aircraft is likely on a tactical UHF radio. The controller, to simplify his/her operation, is transmitting on both so he/she doesn't have to manually switch back and forth. Listening for other aircraft and controllers' directions to them, and trying to figure out where they are in relation to you and where

they may be going, is part of the somewhat lost art of **visualizing the entire air traffic system in four dimensions** (including time) as it exists around you now and in the near future.

I'm a grandpa now so I can say "Back in my day...." But I think a good part of my visualization, even with ADS-B In and ATC participation, stems from learning to fly IFR with a pair of VORs, an ADF and a radio, and not much else for situational awareness. I distinctly remember the first time I flew with Distance Measuring Equipment (DME), after two years of flying and teaching in the clouds without it. I learned to create the four-dimensional picture in my head.

Having everything laid out on a traffic display over a moving map with a magenta describing where you're going and trend indicators where you'll be at times and altitudes in the future is **the way to go**. But that only works when everyone has that capability and the equipment that makes our system work...which is not always the case. For everything else it helps phenomenally to keep the big picture and all its players in your head, supplemented by the immense digital capability **some** aircraft possess.

FAA Advisory Circular (AC) 90-48E, [Pilot's Role in Collision Avoidance](#), provides techniques and tips for visual detection and traffic avoidance. I was surprised to find it includes a [2011 edition of FLYING LESSONS Weekly](#) in its bibliography. **Look for** (see what I did there?) [AC 90-48E](#).

Are we teaching pilots the art of four-dimensional visualization, and using cockpit displays to make it easier to visually acquire aircraft for avoidance? How can we do this better? Thank you, Thomas.

See:

[https://www.faa.gov/documentLibrary/media/Advisory\\_Circular/AC\\_90-48E.pdf](https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_90-48E.pdf)

<https://www.faa.gov/files/gsiac/library/documents/2011/Oct/57893/111013%20FLYING%20LESSONS.pdf>

Reader Kent Krizman continues:

A couple of thoughts on your insightful comments re the DCA accident. When I trained initially as an American Airlines Pilot at the AA Flight Academy ("the schoolhouse" in DFW), one of the chief pilot instructors emphatically stated that **there were TWO and only two pilot responses to ATC issued traffic. #1 "Traffic in sight". #2 Negative Contact**. These are the ONLY two responses listed in the [Pilot Controller Glossary](#) in the [AIM](#) [*Aeronautical Information Manual*].

**Unacceptable** responses include, among others: Roger, Looking, Searching, Got 'em on the fish finder, Tally ho, Negative traffic, No joy, Traffic not in sight, etc.

Pilots should use response #1 ONLY when they are ABSOLUTELY, POSITIVELY certain and sure without question that they have the correct traffic in sight, to which the controller is referring. When traffic is issued initially, pilots, usually the pilot not flying (monitoring), take 2 to 3 "quick" seconds to look in the issued O'clock direction and, if one does not immediately see the traffic, then, response #2 is the only correct response to the controller's traffic advisory.

**The controller sees the "big picture"** and if a collision danger truly exists, response # 2 affirmatively puts the controller in notice that the pilot does **not** see the traffic and it is now up to the controller to issue a vector or an altitude change. If, after the initial **traffic in sight** call the pilot loses sight of the traffic, the pilot should immediately state, **"Previously issued traffic, no longer in sight."** Keep traffic responses short, simple, to the point and in accordance with the AIM recommendations.

Thank you for the additional resources and for providing your airline viewpoint, Kent.

See:

[https://www.faa.gov/air\\_traffic/publications/media/pcg\\_10-12-17.pdf](https://www.faa.gov/air_traffic/publications/media/pcg_10-12-17.pdf)

[https://www.faa.gov/air\\_traffic/publications/atpubs/aim\\_html/](https://www.faa.gov/air_traffic/publications/atpubs/aim_html/)

Reader Gary Palmer provides even more details:

Thanks again for a great insight. I would like to amplify a couple things. You admonish how "fishfinder" and "on the box" and even "no joy" do not tell the controller if you have traffic in sight or not. **It is CRITICAL that we have eyes outside**. I have heard pilots respond to an ATC

alert of "traffic 3 miles 11 o'clock" with "got em, that's N12345." To me that pilot *must* be looking at a traffic display so it is a questionable if they actually have visual [contact].

If we do see traffic, adding the phrase "maintaining visual separation" will clearly accept responsibility for the pilot to see and avoid; and reduce some spacing requirements for ATC.

Here are the applicable [\*Pilot Controller Glossary\*](#) terms to help us all remember the correct phrasing to maintain clear and concise communications:

**NEGATIVE CONTACT-** Used by pilots to inform ATC that:

- a. Previously issued traffic is not in sight. It may be followed by the pilot's request for the controller to provide assistance in avoiding the traffic.
- b. They were unable to contact ATC on a particular frequency.

**VISUAL SEPARATION-** A means employed by ATC to separate aircraft in terminal areas and en route airspace in the NAS. There are two ways to effect this separation:

- a. The tower controller sees the aircraft involved and issues instructions, as necessary, to ensure that the aircraft avoid each other.
- b. A pilot sees the other aircraft involved and upon instructions from the controller provides his/her own separation by maneuvering his/her aircraft as necessary to avoid it. This may involve following another aircraft or keeping it in sight until it is no longer a factor.

**TRAFFIC IN SIGHT-** Used by pilots to inform a controller that previously issued traffic is in sight (although I have been told "visual" works too).

I would like to emphasize your quote of 7110-65 7-2-2(c). If the pilot reports the **traffic in sight** and will maintain visual separation from it (**the pilot must state both**), the controller may "approve" the operation instead of restating the instructions.

**NOTE— *Pilot-applied visual separation between aircraft is achieved when the controller has instructed the pilot to maintain visual separation and the pilot acknowledges with their call sign or when the controller has approved pilot-initiated visual separation.***

So a pilot response of "traffic in sight, 11 o'clock, maintaining visual separation" is a complete and clear response that should get an "approved."

Not to get too deep into the specifics of the DC collision, but this helps explain what many have said was a "confusing" transmission from the Army pilot requesting visual separation after reporting the traffic in sight. From what you say, Gary, that's precisely the language required. Thank you.

Flight instructor, retired Air Traffic Controller and (of course) *FLYING LESSONS* reader John Foster writes:

Great job as usual on your reporting regarding the tragic event in DCA. I like the way you stick with the facts.

I'd like to include another reference from the AIM for pilots to spend a few minutes reading: **Section 5. Pilot/Controller Roles and Responsibilities**. As the title suggests, this section outlines **what pilots and controllers can reasonably expect from each other** in some situations. Of course it's impossible to proceduralize every situation.

In my opinion the most important reference is to [FAR 91.3](#) which **places responsibility and authority for everything in the hands of the Pilot in Command**.

PICs must not forget that **the word "unable" goes both ways**. Whenever the situation doesn't look or feel quite right, exercise the authority provided on 91.3, and discuss it later. Remember, I want to ***be alive at the hearing***.

This doesn't mean to challenge the system, but be aware of your situation.

A brief story of an experience from many moons ago:

I departed Westchester (KHPN, north of New York City) on an IFR flight plan on a beautiful clear VMC night. As soon as I switched to departure frequency, the controller began giving me traffic calls. Well, the sky was full of aircraft landing and departing JFK/LGA/EWR/TEB/HPN, etc [the New York-area airports]. **It was impossible to determine which set of flashing lights he was going to tell me "maintain visual separation" from.** So I simply replied "looking for traffic." I did not want to take a chance of *separating myself from the wrong airplane*. The controller was probably a bit confused by my response but handled it well, and I felt safer in the congested airspace. Just an example of understanding the crossover of the roles and responsibility of the pilot and controller.

I really look forward to your emails, I'm certain they make safer pilots for the rest of us.

Thank you, John. I appreciate your learned insights.

See <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-F/part-91/subpart-A/section-91.3>

Reader/instructor and expanded-maneuvers training advocate Ed Wischmeyer continues:

To expand on your point:

*Be absolutely sure you have the aircraft you think you have in sight, in sight. Don't let down your visual scan and fixate on the one aircraft you're avoiding; there may be others and it's always possible you misidentified the aircraft that ATC pointed out.* (And so far, you're the only commenter I've seen who's picked up on this).

There is also a subtle, *systemic* problem that will likely come up in the DCA midair investigation. The tower said, "Do you have **the** CRJ in sight?" This statement is ambiguous, as "**the**" is **context dependent**. Tower's unstated context was final approach path. Tower did not explicitly state, "the CRJ on final." The helicopter answered, "We have **the** CRJ in sight," possibly referring to the CRJ taking off from Runway 1, a very visible CRJ. The systemic problem, then, is the **lack of confirmation (feedback, if you will) on visual sightings**. It's not uncommon. I once got ATC very annoyed when they asked me if I saw the Cessna 172 in such and such location and I replied that I saw **a** Cessna 172 in that location.

I've encountered a number of such traffic identification ambiguities in my 50+ years of flying small airplanes where see and avoid is prevalent. A similar problem may arise with ADS-B as **there are no established procedures for using ADS-B information when talking to ATC**.

Another good *FLYING LESSONS!* Be well.

I'm not alone in pointing out that discrepancy, but regardless you're correct: we need to confirm that the traffic we see is the traffic about which we've been warned. Thanks, Ed.

Australian instructional legend Edgar Bassingthwaight also notes:

I think it's often forgotten that **if you are on a collision course with another object / aircraft there is no relative movement of that object in your vision**. That can make it very difficult to perceive a target in an environment with background clutter. At night over a lit urban area spotting another aircraft's lights when there is no relative moment of the target? I would question whether visual separation is a viable practice in that sort of environment.

My limited experience in the DC area suggests you may be correct, Edgar. Thank you.

Finally this week, a comment from reader and flight instructor Antoine Moreau:

Tom, thank you for your insightful newsletter. I'm a first-time commenter but certainly hope to provide more comments in the future. Your commentary on the tragic accident in DC resonated with me. Should you find this bit insightful, feel free to include it in the Debrief.

As I was waiting for takeoff clearance at my local airport under the New York [Class] Bravo [airspace] a couple of weeks ago, the tower pointed out a flock of birds overflying the airport to an aircraft in the traffic pattern. "Will maintain visual separation with the birds" was the response of

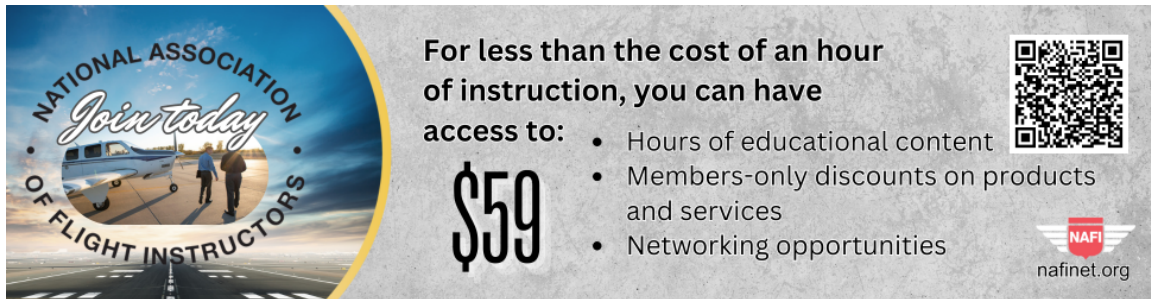
the pilot. There are many occurrences of **maintaining visual separation** being used by pilots when not necessarily relevant, and I feel the **overuse of the term has diluted the great responsibility pilots take on when accepting visual separation** when it is actually required.

I instruct often on [NY SFRA](#) [Special Flight Rules Area] flights where we transition over Newark [New Jersey, KEWR], directly over the numbers of the runway in use. To maintain Bravo separation, EWR Tower has to approve visual operation with airline traffic on final to let us through. We always discuss the meaning of the instruction, and that, **should an aircraft on short final opt to go around, it could require prompt and decisive action from the VFR pilot** who accepted visual separation to maintain it. Thank you for that reminder.

And thank you, Antoine, for your joining the conversation.

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