

Thomas P. Turner's Mastery of Flight®

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FLYING LESSONS for June 12, 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:

Almost every flight ends well. Using flight activity estimates and official accident reports, almost 99.9% of takeoffs end in a landing without a crash. Incidents occur twice or more frequently than reportable accidents based on my studies of FAA and NTSB reports, and many incidents result in enough damage to ground an airplane for a repairs, or even for insurance to total it and send it to salvage. But even if incidents outnumber accidents 10 times over, about 99% of all flights end without incident.

Still, it's the height of the flying season (at least in the Northern Hemisphere). With more flying, there are usually more accidents. And with more data we can look for trends.

The [FAA accident reporting website](#) only posts incident and accident reports for two weeks. That's hardly enough data to learn anything definitive. But a two-week snapshot may still give us LESSONS that help us stay in the accident-free 99%+ of flights. So what's happened in the last two weeks, according to the FAA's website?

Fatal and Serious Injury Accidents

Although most accident studies separate fatal accidents from all others, I group serious injury events together with fatalities. Sad to say, in an accident the difference between serious injury and death is often a matter of luck. Very frequently "serious" injuries are burns or head traumas. I've known pilots and their passengers who have had "serious" injuries. They're life-changing events and I don't want to diminish their severity.

These fatal or serious injury accidents were reported in the past two weeks:

1. A C182 experienced engine issues and crashed in a field.
2. A Stinson 108 crashed under unknown circumstances.
3. A Twin Otter crashed on takeoff under unknown circumstances.
4. An Aeronca 7AC crashed under unknown circumstances.
5. An Air Tractor AT502 crashed under unknown circumstances.
6. A C414 crashed under unknown circumstances.

Accidents

An “**accident**” by reporting definition is one that results in death, serious injury and/or “substantial” (a term with its own official definition) aircraft damage or the aircraft was “destroyed.” Here are the accidents that did not involve serious injury or death reported in the past two weeks:

1. SR22T porpoised during landing.
2. Pipistrel Virus landed hard and its nose gear collapsed.
3. Radial Rocket landed hard and its gear collapsed.
4. PA28 landed, veered off the runway and its gear collapsed.
5. C177RG landed long and went through a fence.
6. Weatherly 620 lost altitude and crashed in a field.
7. PA32RT experienced engine issues and crashed in a field striking power lines.
8. A C177 made a forced landing due to fuel starvation.
9. A PA32 experienced engine issues and ditched in Long Island Sound.
10. A C172 crashed one mile offshore.
11. A C172 experienced engine issues at 200 AGL after takeoff and went into the water.
12. An Air Tractor AT401 struck a power line and crashed.
13. A PA23 landed in a river under unknown circumstances.
14. A Yak50 experienced engine failure at 30 AGL, made a right 180 and crashed on the runway.
15. A Flight Design CTSW made a rough landing and became inverted.
16. A Sport Cruiser lost directional control during landing.
17. A C172 landed hard.
18. A PA22 crashed during takeoff for unknown reasons.
19. An Air Tractor 502 lost directional control during takeoff.
20. An A36 crashed into trees under unknown circumstances.
21. An RV14 veered off the runway during landing.
22. A C152 taxied into an aircraft parked inside a hangar.

Incidents

A **crash** that doesn’t meet “accident” criteria is by definition an “incident.” These incidents were reported in the last two weeks:

1. Cessna 414 experienced violent oscillation during a cloud-seeding flight.
2. PA34 landed and its gear collapsed.
3. Great Lakes landed and went off the runway.
4. PA46 collided with a hedge during takeoff.
5. Embraer EMB-505 veered off the runway during landing.
6. Nelson Special landed and flipped over.
7. C182’s nose gear broke on landing.

8. T210's gear collapsed on landing.
9. PA28 was blown off the taxiway by jet blast.
10. C182 experienced engine issues and landed in a field.
11. A Christian Eagle II ground-looped on landing.
12. An M20M landed gear up.
13. A C401's right gear collapsed on landing.
14. A Glasair I RG landed and its gear collapsed.
15. A Cozy Mark IV's nose gear collapsed.
16. A C208 struck a deer on takeoff.
17. A Cubcrafters CC18 braked hard at the hold line and pitched over.
18. A Challenger I experienced engine issues and landed in a field.
19. A C208 landed hard and its nose gear collapsed.
20. A C172 struck a bird during climbout.
21. A Sling's nose gear collapsed on landing.
22. A C310 landed after an inflight fire.
23. An amphibious deHavilland Beaver landed gear up.
24. A C150 experienced engine issues and landed off the end of the runway.
25. An amphibious C208 landed gear up.
26. A VariEze's gear collapsed.
27. A T210 landed and its nose gear collapsed.
28. A PA28 experienced engine issues and landed in a field.
29. An S35 lost power during landing and landed short of the runway.
30. An AT-6D ground-looped during landing.
31. A C182 landed hard.
32. A C182 had a hard landing.
33. An Aerostar experienced a fire in flight and the pilot got the fire out.
34. A Kitfox ground-looped during landing.
35. A Beech Sport lost control during landing.
36. A CH750 veered off the runway during takeoff.
37. A Kitfox flipped over on landing.
38. A Beech Duchess landed short of the runway.
39. A C172 struck a bird.
40. A Lancair 235 struck a bird.
41. A C185's right brake locked up and the airplane lost control.
42. A C180 aborted takeoff and lost control.
43. A Gulfstream G-IV went off the end of the runway during landing.
44. A PA28 struck a deer during landing.

45. A T210's nose gear collapsed during landing.
46. A PA28 landed and veered off the runway.
47. A C172 landed and veered off the runway.
48. A C177 landed hard.
49. A Grumman Avenger landed and a wheel came off.
50. A C182 crashed on takeoff.
51. An Arion Lightning landed hard.
52. An SR22 veered off the runway during takeoff.
53. A PA32 veered off the runway during takeoff.

A brief study of these recent, preliminary data:

- **81** total mishaps over 14 days (~6 per day on average).
- **53** incidents with no reported death, serious injury or substantial damage (65% of the total). Unless these upgrade to “accident” there will not be any investigation beyond the very preliminary, and publicly temporary, FAA report. They will not appear in accident report statistics that are based on NTSB investigations.
- **22** accidents that did not involve serious injury or death (27% of the total).
- **6** accidents that did result in at least one fatality or serious injury (7% of the total).

Look at the **preliminary** description of causal factors we see these trends among the most common:

Most serious injury or fatal mishaps involve “unknown circumstances.” This is in part because they may be more complex than other events, because it's harder to identify scenarios without deeper investigation, or (perhaps most likely) there isn't first-hand pilot testimony to tell us what happened.

Loss of directional control on the runway (LODC-R): 15 reports include terms describing a LODC-R. The FAA “prelims” seem to especially like to use the term “veered.” A few were ground loops in tailwheel airplanes—what many would expect—but most were nosewheel airplanes. Some occurred during takeoff but most during landing. LODC-R can result from trying to land or remain on the ground at too fast a speed, inattentiveness to control requirements on the runway, and of course several types of mechanical failure.

Gear up and gear collapse mishaps: 12 reports involve landing gear mishaps. Only three were landing gear up, and two of those were amphibians—a different set of training objectives for avoiding gear up landings. 75% were gear collapse events, where the gear was down but did not stay down. These could be pilot-induced: accidentally retracting the gear on the ground; result of a hard landing not described as such in the preliminary report. My experience in aviation association management suggests that improper landing gear maintenance is a bigger factor in gear collapse events than most might realize.

Airspeed during landing: Another 12 reports describe symptoms of improper airspeed management for landing. 10 were some version of a hard landing, which is another way of saying either the pilot flared high and stalled onto the runway or the pilot did not flare at all and impacted at too great a speed. The remaining two ran off the end of the runway, usually symptomatic of excess speed on final approach.

Engine failure: 11 reports involve engine failure. Of those only one caused serious injury or death, half resulted in substantial damage but little or no injury, and almost half resulted in no injury and only minor damage. None of the reports involved a successful landing on a runway

surface, and there may have been more, unreported engine failures. That said, **pilots seem to have a good record of surviving engine failure** in flight. ***Fly the airplane* and *touch down wings level, under control at the lowest safe speed*** and you and your passengers will almost certainly be all right.

Of course some of the “incidents” may upgrade to “Accident” level if investigation replaces the “damage unknown” data point with “substantial” damage. This is all very preliminary.

But the height of flying season provides several *LESSONS* to help us all sharpen and improve our flying, including:

1. **Practice good airspeed and glide path control—*flight path management*—and go around** if you are not on speed, in configuration and on glidepath to the touchdown zone as you descend below 500 feet and certainly before you cross the runway threshold. Don't delay the go-around decision hoping you'll get it under control at the last moment.
2. **Maintain your landing gear**, especially in retractable gear airplanes. Practice and reinforce good landing gear procedure in RG types to ensure you put the gear down before touchdown and, in amphibians, as appropriate to the landing type. It's important to remember that by some accounts retractable gear airplanes make up only about 20% of the total general aviation fleet, so the fact that gear mishaps tie for the second most common mishap scenario over the past two weeks tells us **how important it is for RG pilots to focus attention** to landing gear maintenance and operation.
3. ***Fly the airplane* and *touch down wings level, under control at the lowest safe speed*** and you and your passengers will almost certainly be all right, even if the engine quits.

See https://www.faa.gov/data_research/accident_incident/preliminary_data

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Debrief

Readers write about recent *LESSONS*:

I'll get to the many reader insights in my email stack in next week's report.

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NEW THIS WEEK: David Yost



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Flight Instructor Hall of Fame Inductee
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2010 National FAA Safety Team Representative of the Year
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