

CALLBACK

From NASA's Aviation Safety Reporting System



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Amateur/Homebuilt/Experimental Phenomena

Some of the most energetic, devoted, and beloved aviation enthusiasts are pilots who have built or flown aircraft designated as Amateur/Homebuilt/Experimental in the ASRS Aircraft Make and Model Taxonomy. This group comprises a large number of different aircraft types, and the pilots who fly them are equally diversified. ASRS has received many engaging reports from this accomplished pilot contingent.

This month, *CALLBACK* shares reported incidents that highlight some familiar threats and unusual hazards experienced by pilots flying aircraft classified in the Amateur/Homebuilt/Experimental group. Enjoy the ever-present freedom and sense of adventure shared, but consider also the lessons revisited and the wisdom revealed.

Anatomy of One Unstable Approach

This private pilot chronicles an inadvertent oversight and subsequent efforts to compensate for it. Results were an unstable approach and aircraft damage.

■ *Due to the proximity of trees on the downwind leg of the traffic pattern, I inadvertently stayed above standard traffic pattern and approach altitudes. [During the] final turn, my altitude remained higher than a stable approach required. In an attempt to descend quickly, I deployed the speedbrake to increase rate of descent on short final, which steepened the descent and increased the airspeed.... Sink rate and airspeed remained higher than required for a stabilized approach, resulting in a hard landing involving both main gear and the nose gear contacting the runway and a subsequent bounce. On the second contact with the runway, the nose gear collapsed, and the aircraft slid down the runway center.*

A ground observer later commented that after the initial bounce, the nose gear was turned perpendicular to the direction of flight and [began] a rapid oscillation upon second contact, which likely over-stressed the nose gear attach point to the point of failure. The nose gear wedged under the forward fuselage at an angle and created a strong left turning force. I attempted to assert directional control through differential braking but could not fully overcome the turning force. The aircraft departed the runway to the left approximately 1,000 feet from initial contact. [It] slid down an embankment for approximately 100 feet and came to rest in the grass area. An occupant was evacuated

immediately without injury, and no fuel or oil was spilled in the environment. The aircraft suffered moderate damage to the nose cone, left canard tip, and left winglet bottom. In addition, ...the nose gear...was sheared off.

The incident was preventable had I flown the standard traffic pattern with a standard approach to landing airspeed without the distractions from nearby trees and [without] the psychological factor of the runway being shorter than I am used to, but well within the demonstrated capability of both my previous flights in type and the aircraft performance. Additional practice and proficiency flights in type would also have likely contributed to prevention by increasing [my] confidence and experience in the type flown.

Fuel Management

This commercial pilot experienced an engine failure, but the cause was not conclusively identified. Technique is implied.

■ *I departed the airport for a pleasure flight. The flight was estimated to be two hours, and I topped off with fuel for a four-hour endurance. No flight plan was filed. I fly over this area frequently and navigate by ground reference. I first flew northwest to the western edge of a mountain range, then traveled east along the southern face of these mountains. My plan was to continue to fly along the mountain range to the east, and then south to land. While transitioning between the two ranges, I switched fuel tanks, and the engine immediately quit running. I switched back to the previous tank, turned on the boost pump, and increased the mixture. The propeller was windmilling. I waited for a few seconds for the engine to restart. When it did not restart, I pumped the throttle a few times. This was not successful, and the propeller stopped. I initiated my forced landing procedure at this point while turning over the engine with the key for another 20 seconds or so. I decided on the freeway. The landing was uneventful. The plane was [towed] from the freeway by a flatbed truck. The engine was restarted and a number of tests were done to isolate the cause of failure, but none could be found. I used a stretch of open road to take off and return. My Mechanic told me that I should always turn on the boost pump when switching tanks in a low wing [aircraft]. I am making this part of my normal procedure and only switching tanks when within gliding [distance] of an airport, whenever possible.*

Where the Line Gets Fuzzy

A commercial, instrument-rated pilot received a complaint after conducting planned Part 91 operations in an amateur/homebuilt/experimental aircraft that were deemed safe.

■ *Long Beach Harbor has a long history of seaplane operations that reach back to the dawn of aviation. ... Late on a hazy, but otherwise benign weather, weekend afternoon, I departed the Long Beach Airport for a short flight to the harbor. From a vantage point at the foot of the Los Angeles River, I could see conditions were conducive to seaplane operations. I contacted the Tower to inform them of my intentions to conduct multiple seaplane operations within the southern boundary of their Class D airspace and received the usual acknowledgment...catchphrase, "At your own risk."*

The area chosen for those operations lay parallel to the shoreline and 150 feet south of the swimming buoys. I have conducted many seaplane operations in this same area over [many] years, as have other seaplane pilots. My first pass remained airborne at 50 feet above the surface to ensure there were no hazards in the water. The next three passes involved multiple touch-and-goes from the surface. I saw no swimmers south of the buoys.

I departed the area southbound, climbing to pattern altitude plus 500 feet before turning 180 degrees back to the airport. Taxiing to parking, the Tower informed me there had been a complaint that my operations were too close to swimmers.

An Open and Closed Case

This Flight Instructor encountered a mechanical failure that quickly became a critical problem. The situation was handled successfully, and the failure was described in detail.

■ *I took off and made a left 270 [degree turn] to 1,500 feet MSL as directed to cross over the airport midfield and then vectors to 020 [heading]. As I rolled out on heading, ...the rear latch on my Glasair Super II pilot side door failed and slid out of the latched position and back up inside the door. I immediately grabbed the door handle and held it cross-body to keep the door from opening in flight and subsequently departing the aircraft. The Glasair gull wing door is known for departing the aircraft and possibly striking the tail in flight if it opens fully. Thankfully, the forward latching pin stayed engaged enough to hold the door in place with my having grabbed the handle and slowing the aircraft enough that the airstream stopped pulling it outward. I slowed from 140 knots indicated to approximately 90 knots indicated. At this point, I made a right turn back toward [the airport] and [entered] right downwind for the...runways. I explained the situation to Tower. They cleared the runway and cleared*

me to land. I was able to maintain a slow enough speed and descended from 1,800 feet to the runway without further incident. I taxied off as directed and into a run-up area, where I was able to shut down, explain the situation to Ground Control, retrieve my tool kit, and manually reset and lock the pilot side door for flight. I was then able to take off and fly back to [my home airport] without incident.

Upon further investigation once back home, I found that the resin block that held the rear latching pin and guide in place had completely dislodged inside the door and caused the rear latching pin to slide up into the door instead of into the latch housing and aircraft frame. This lack of closure was not evident until the slipstream was fast enough to pull the door from its recess (approximately 130 knots) and cause it to start to dislodge from the aircraft body.

Regrets Only

A high-time commercial, multi-engine, instrument rated pilot and Flight Instructor reveals the agony and the ecstasy that resulted from of a moment's worth of poor judgment.

■ *While flying back to the airport from a wonderful aerobatic flight, I was approaching from a direction that I rarely approach from. I was approximately 1,000 feet AGL slowing the aircraft in preparation to join crosswind for landing. As I neared the centerline of the runway, I made a decision that I immediately regretted. I lowered my nose and dived towards the runway. At approximately 250 feet AGL, I conducted a low approach down the runway. At the end of the runway, I did a barrel roll, entering and exiting the maneuver at approximately 500 feet AGL. Maybe five seconds passed between the thought occurring and me completing the maneuver. I then departed the pattern and reentered for landing.*

This was an impulsive and completely stupid decision, and while it resulted in no incident and was in a very remote area posing no danger to anyone, it was a deviation from my regular flying practices that I can only conclude was ego and impulse driven. I greatly regret my actions. And I greatly regret my lack of restraint and professionalism.

I have decided, in an attempt to restrain myself, to consult with regulation and aerobatic professionals to learn and retain as much regulation [knowledge] associated with aerobatic and low-level flight as possible and to not conduct any further solo aerobatics until I have completed a refresher course specifically for safe aerobatic maneuvers. I am also taking time to refresh my mindset and to acknowledge and stop impulsive and unsafe thought from entering my cockpit in any stage of flight.

ASRS Alerts Issued in June 2021	
Subject of Alert	No. of Alerts
Aircraft or Aircraft Equipment	1
Airport Facility or Procedure	5
ATC Equipment or Procedure	8
TOTAL	14

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June 2021 Report Intake	
Air Carrier/Air Taxi Pilots	4,751
General Aviation Pilots	1,717
Flight Attendants	1,010
Controllers	443
Military/Other	354
Mechanics	243
Dispatchers	183
TOTAL	8,701