

# CALLBACK

From NASA's Aviation Safety Reporting System



Issue 524

SEPTEMBER 2023

## BEWARE THE VISUAL APPROACH

A visual approach is an ATC authorization for an aircraft on an IFR flight plan to proceed visually and clear of clouds to the airport of intended landing. A visual approach is not a standard instrument approach procedure and has no missed approach segment.<sup>1</sup>

Differing from an instrument approach procedure in significant ways, responsibilities such as terrain avoidance, traffic separation, wake turbulence, and cloud clearance migrate somewhat from Controller to pilot during a visual approach. Other aviation issues and problems can further complicate matters. Often masquerading as serene and easily accomplished, the visual approach may be deceptively tricky and result in circumstances that challenge a pilot's abilities.

This month, *CALLBACK* shares challenges, hazards, lessons learned, and wisdom from reported incidents that culminated during visual approaches. Note the connectivity, complexity of concerns identified, and the depth of discussions inspired.

### Part 91 – I Left My Heart in SFO

This Challenger 350 Captain analyzes an eye-opening visual approach flown by the First Officer during daytime VMC.

■ *We were flying the SERFR FOUR RNAV arrival into San Francisco and were cleared for the TIPP TOE VISUAL to Runway 28L after EDDYY. Prior to joining final, we were given a heading of 350 and a speed of 210 knots and directed to descend to 4,000 feet. Approach Control called out traffic, a B777 that would be landing on the parallel runway. We visually acquired the traffic when it was turning base to final. We were then given a heading to join final (I believe it was 310 heading) and told to slow to 180 knots and maintain 3,000 feet and were cleared the visual approach. The flying pilot [FO] then requested the flaps be selected from 10 to 20 degrees. We were told to keep the B777 in sight, which we acknowledged, and were cautioned about wake turbulence. After joining final, we began a descent at the appropriate point. At approximately 2,800 feet, we encountered wake turbulence, and the aircraft abruptly rolled left to approximately 70 degrees followed by an immediate roll to the right of approximately 70 degrees. The flying pilot countered both roll excursions with opposite aileron, and we quickly recovered to level flight. We then continued the approach and landed with*

*no additional wake turbulence encounters. I estimate that the horizontal distance between us and the B777 was 2 to 3 miles. The aircraft rolled rapidly to the left and right. Both...lateral offset and horizontal spacing [were] insufficient. This combined with winds that, though reported at a direction that would possibly help keep the wake turbulence vortices away from our flight path (270 degrees reported by ATIS with the runway direction of 284 degrees), their direction was not enough to keep or blow the vortices away from us. Also, the winds on final were likely somewhat different than those reported by the ATIS, and thus could have actually been blowing the vortices toward us. The flying pilot countered the left roll with opposite aileron and the right roll with left aileron. Having flown into San Francisco dozens of times, we frequently are flying approaches with other aircraft flying to the parallel runway. Advisories of wake turbulence are common, and the appropriate mitigating techniques are employed. Given the same situation, I would direct the flying pilot to slow sooner, offset slightly to the left of runway centerline, and fly above the normal PAPI glidepath angle sooner.*

### Part 91 – Stressors to a Night Visual

A C650 Captain experienced circumstances, problems, and errors that denied the visual approach its frequent serenity.

■ *This was a Part 91 flight with numerous delays that caused [our] duty day to exceed 14 hours. On the final positioning flight, we conducted a visual approach to a non-towered runway and experienced a flap failure. A go-around was executed late in visual conditions, and an uneventful landing followed. It never should have progressed to this state. Contributing factors [included]...poor decision making, delayed decision-making, late-night pilot fatigue, unfamiliar aircraft, unfamiliar crew, poor maintenance on the aircraft, and the NOTAM system out through ForeFlight.*

### Part 135 – A Visual Learning Curve

A small twin turbojet Captain shares a lesson learned from a visual approach flown by an FO new to the aircraft.

■ *While on a visual approach to Runway 19 at Teterboro, we received an altitude alert from the Tower Controller. The incident occurred on final approximately 2.5 miles from*

Runway 19. The First Officer (FO) was the pilot flying. The FO is new to the aircraft and fell behind the aircraft, leading to a below glidepath altitude. Although I did have the airport environment in view, my mistake was...trying verbal guidance during the approach. As...pilot-in-command, I should have taken the controls immediately instead of verbally trying to get the copilot to react to the situation.

## Part 135 – IFR in Visual Approaches

A Center Controller reviews an overlooked, but poignant point of the visual approach in this dangerous incident.

■ Aircraft X was cleared for the visual approach at ZZZ and was shipped to advisories approximately 15 miles out from the airport. Aircraft Y was around 10 miles behind Aircraft X on a visual approach into ZZZ1. I held onto Aircraft Y until Aircraft X was on short final and indicating a few hundred feet above field elevation and both aircraft were on a divergent course, opposite direction. Almost immediately after I shipped Aircraft Y to advisory frequency, Aircraft X started to climb and turn away from ZZZ airport. I tried multiple times to raise both aircraft on frequency to give a traffic alert but was unsuccessful. A minute or two later, Aircraft Y reported back up to cancel his IFR, to which I called the Aircraft X traffic at his six o'clock and 400... feet. He never had the Aircraft X in sight. When Aircraft X called a few minutes later to report on the ground and cancel IFR, I explained the situation that was created [by] him going around and climbing without advising ATC. He then proceeded to tell me that he was responding to a TCAS RA on an aircraft that he observed on radar 200 feet below him just off Runway XX. I did not observe any other aircraft in the vicinity during this event. There aren't many recommendations that I can make other than pilots do need to be aware and announce their intentions when a normal approach to an airport visually is not possible, especially when IFR. There are consistent issues within the National Airspace System (NAS) regarding what a pilot can and can't do and what they are responsible for when on a visual approach under IFR.

## Part 121 – Conflicts and Confusion

A CRJ900 Captain took action to mitigate a perceived threat, but the situation quickly grew worse before it improved.

■ We were cleared for the visual approach to Runway XX and told to contact Tower. We called Tower, and they said, "Aircraft X, continue, aircraft on runway is position and hold." As we got closer, there was lots of chatter on frequency, but we were not cleared to land. We could see a plane on the runway and tried to get clearance, but lots of

chatter. Tower cleared [that] aircraft for takeoff and cleared us to land, as we were on short final. There was no way the departing aircraft could be off the runway in time, so we went missed approach. My FO reported to Tower that we were going missed, and Tower told us, "Climb to 4,000 feet, and turn right heading 270, no! LEFT, LEFT heading 270!" ...which we did. As we did our missed approach, we got a TA from [our] right, and it turned into an RA. Tower said, "Aircraft X, turn right, NO! LEFT to" a heading. I don't remember exactly which heading. We were busy responding to the RA, which my FO reported to them. Tower handed us over to ZZZ Departure, who turned us to the northwest. I asked how long this vector would be; they said not long. I said to them, "That was a total catastrophe back there!" ... They replied, "I agree." ZZZ got us back onto the visual approach for [Runway] XX again and handed us over to Tower. I was surprised to hear the same Controller! They cleared us to land, and we landed without further incident.

## Part 121 – Unraveling a Visual

This B737 Captain recounts circumstances and the approach that presented a challenge and became a serious threat.

■ The FO was flying, and we were vectored to a visual approach. ATC gave an intercept heading to final. There was a strong crosswind at altitude, and it was apparent we would intercept final after the FAF... I brought this to the attention of the FO. At the FAF, the aircraft did not descend because we were not on course. The autopilot was on. It got to the point [where] I took control of the aircraft and started down. We had been cleared for the visual. We configured and I captured the course and glide path. Stable...on final...at 500 feet...a gust caused the airspeed to increase and the aircraft to go above the glide path. I corrected a bit too much, and we got a TOO LOW TERRAIN [warning]. At that point, I was already correcting. However...I should have executed the escape maneuver... I took the aircraft at the FAF, and we got out of our habit patterns.

During the previous flight...I took the aircraft and executed a go-around...due to a bounced FO landing.... Having just done that, I may have been not willing to let the FO continue the approach. On second thought, I should have let the FO continue and do a go-around if we were not stable.

1. FAA Order JO 7110.65AA, Air Traffic Control, April 20, 2023, Section 7, Para 7-4-1, Visual Approach. [https://www.faa.gov/air-traffic/publications/atpubs/atc\\_html/chap7\\_section\\_4.html](https://www.faa.gov/air-traffic/publications/atpubs/atc_html/chap7_section_4.html)

### Learn More About ASRS UAS Safety Reporting

ASRS Alerts Issued in July 2023	
Subject of Alert	No. of Alerts
Aircraft or Aircraft Equipment	2
Airport Facility or Procedure	7
ATC Equipment or Procedure	7
Hazard to Flight	4
Other	3
<b>TOTAL</b>	<b>23</b>

524  
A Monthly Safety  
Newsletter from  
**The NASA**  
Aviation Safety  
Reporting System  
P.O. Box 189  
Moffett Field, CA  
94035-0189  
<https://asrs.arc.nasa.gov>

July 2023 Report Intake	
Air Carrier/Air Taxi Pilots	5,238
General Aviation Pilots	1,659
Flight Attendants	785
Controllers	472
Military/Other	330
Dispatchers	236
Mechanics	206
<b>TOTAL</b>	<b>8,926</b>