CALLBACK

From NASA's Aviation Safety Reporting System

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The *Aborted Takeoff* Decision

An aborted takeoff maneuver can encompass a complex series of decisions and actions, all of which may elevate the threat level to crew, passengers, and aircraft. At low speeds, many specific causes are observed. At higher speeds, causes tend to fall into one of a few general categories: fires or fire warnings, engine failures, predictive windshear warnings, or aircraft that are unable or unsafe to fly. The pilot-in-command has the final authority for the decision.

During any takeoff, events occur quickly. Situations can evolve fast, and decisions and actions must be precise, timely, and correct. Professional pilots and crews practice aborted takeoff procedures during recurrent simulator training to maintain proficiency for normal line operations.

This month, *CALLBACK* presents a few of the many rich aborted takeoff incident reports that ASRS has recently received. Note their complexity, decisions that were made, follow-up consequences, further actions, and anything you might have done differently, were you in the pilot's seat.

Part 135 – Blowin' in the Wind

This air taxi regional jet Captain described an unexpected discrepancy while making a takeoff on a ferry flight.

■ *We were to reposition [the aircraft]. I had flown 5 legs with this SIC (Second in Command) over the preceding three days. I performed a walk-around with him prior to our first leg to judge his level of knowledge of the aircraft. Having been typed on this aircraft and flown with another Captain prior to our pairing together, he knew the exterior well. On this day, the SIC was left to preflight the exterior while I coordinated with Company, loaded the FMS, and performed first flight checks. As time of departure approached, I asked if the preflight was done, chocks removed, and cones/carpets removed from about the aircraft. The SIC confirmed that all was complete and cleared from the aircraft for taxi. We finished all checklists, started, [and] taxied out to Runway XXL for takeoff. During the takeoff roll, thrust was set, callouts were made for thrust set, airspeed alive, and 80 kts cross checked. I looked at my airspeed to verify we had accelerated through 80 kts. My airspeed indicated 40 kts, the bottom and starting point of this aircraft's airspeed indication. Just as trained, I applied maximum brakes, retarded thrust, applied maximum thrust reversers, alerted Tower of our rejected takeoff, and cleared the runway. After parking back at the FBO, it was discovered that the SIC had failed to remove both the standby and primary pitot tube covers during his walk-around. I had failed to do a final walk-around after him. I discussed with my SIC the importance of a thorough and detailed preflight and the potential consequences of anything less. I notified my Company Operations, Chief Pilot, and Maintenance of the occurrence. In this case, following up on the actions and responsibilities of my SIC could have prevented this. Had I stepped out of the aircraft prior to door closure, I might have seen the covers. Always follow behind each other. Verify each other's work. Never let your guard down. Ask detailed questions like, "Are you sure?" [and] "Did you count the number of covers?" even if they sound diminutive.*

Part 121 – See Something, Do Something

A B737-800 Captain performed an aborted takeoff that resulted from subtle and direct threats. No injuries were sustained, lessons were learned, and a suggestion was shared.

■ *Lining up on the runway centerline, I believe after being cleared for takeoff, I noticed a large bird land to the left side of the centerline, roughly 3000 ft. beyond our position. I pointed this out to the FO (First Officer) (pilot flying), and we continued with normal takeoff procedures. As we approached the bird's position…the 80-kt call was not yet made (my attention was focused primarily outside the aircraft), and it did not relocate, as we'd both later discussed was our mutual expectation. Instead, it stayed where it had landed, and only attempted to move as we came within perhaps one or two hundred feet of it. As we passed its position, we heard and felt a significant impact on the left side, and we elected to abort the takeoff, expecting that damage had likely been done to the engine and/or aircraft at that point. With thousands of feet remaining, we rejected the takeoff by closing the thrust levers, using no reverse, having no autobrake actuation, and nominal/normal braking, and [then] cleared the runway at roughly a midpoint high-speed taxiway and returned to a gate, to learn that the Number One Engine had sustained damage. A large bird landed on the runway at or shortly after the time of our receipt of*

takeoff clearance. I do not recall being trained to consider the presence of non-fixed/mobile obstructions, animate or otherwise, as a reason to decline, cancel, or reject takeoff clearance or a takeoff maneuver, but I do recommend this becoming a training scenario/lesson, as I realize now that simply delaying our takeoff until the trespassing bird could be seen to have evacuated the runway environment would have almost certainly…precluded this incident. I will, from now on, never again attempt a takeoff with any obstruction, living or not, fixed or mobile, within the takeoff flight path.

Part 121 – I Can See Clearly Now

This B777 crew described an aborted takeoff involving critical aircraft systems malfunctions. No injuries occurred, and the incident was successfully terminated.

From the First Officer's report:

■ *I began the takeoff and set the thrust. As we accelerated, smoke began to pour into the cockpit, hindering…visibility. The crew recognized the problem as smoke was identified. Shortly thereafter, reject was declared.… The Captain [took] control of the aircraft and rejected the takeoff roll.…*

From the Captain's report:

■ *[We] had to reject the takeoff because of smoke in the cockpit pouring in between 70-80 KIAS. Rejection was around 80 KIAS. Masks were donned during [the] reject, and cockpit visibility was very low. Just enough visibility to see a taxiway turnoff as I was slowing on the rejected takeoff. Tower reported smoke coming out of the left side, then left engine, of [the] aircraft. As we cleared the runway, cockpit windows were opened to allow better visibility. I shut down the left engine as we cleared the runway and slowly brought the aircraft to a full stop and set the parking brake. Coordination was done between myself and onsite Fire Coordinator on VHF1. The Fire Commander ensured me the engine was not on fire, although smoke continued for at least 10-15 minutes. I'm assuming now it was because…the oil in the engine was throughout the engine because of a blown seal or bearing. During all of this, the First Officer accomplished the Rejected Takeoff Checklist. [The] right engine was also shut down. No APU was started. Even though only the APU air was deferred, I was now not confident in the analysis done by local Contract Maintenance and thought it best practice to leave the aircraft shut down. Local Maintenance had said before departure that they prefer we not run the APU because of the oil/smoke situation of the previous flight. In hindsight, I should have insisted [that] either it was [inoperative] or operating, but not this in-between. We passed to the Company Chief Pilot and Ops via cell phone that we would be losing radios in 10-15 minutes and needed a tug. ATC was also informed.… We were towed to site XXX. Two deadheading pilots in the back of the plane confirmed that during the incident, the back half of the cabin had almost no visibility because of smoke and the front half was also filled with smoke, but [had] better visibility. In the cockpit, most of the smoke entered under the feet of myself and the First Officer. It took no more than 5-7 seconds for [the] entire cockpit to be filled with smoke. [The] 3rd and 4th pilots reported they could barely see the backs [of] our heads,18 inches away, and the instruments were not visible because of smoke during [the] rejection.*

Part 91 – A Rotation to Remember

A 6000-hour solo C172 Flight Instructor was about to lift off when aircraft control was lost. The incident highlights some sound wisdom regarding attention to detail in aviation.

■ *I was cleared for takeoff on Runway XXL. At rotation, my seat slid to the rear. My feet were unable to reach the rudder pedals, and the airplane veered left. I pulled the throttle to idle. The plane was heading towards the VASI. I slid the seat forward, regained direction control, and steered left.… I stopped the plane just beyond the VASI and told …Tower what…happened and [that I] needed no assistance. I was cleared to exit Runway XXL at Taxiway 1, cross Runway XXR, and…contact Ground. Ground cleared me to taxi to the runup area for Runway XXR and phone…Tower, which I did.… Airport Security drove up, and I submitted my driver's license and pilot certificate. I then restarted and taxied back to parking where I was met by our Maintenance crew. The Tower phoned me to verify there was no damage or injuries. Maintenance readjusted the seat. I test-flew the plane once around the pattern on Runway XXR and then continued with my intended mission. I was fortunate with 2 things. First, the conditions were dry, so I had no issues with direction control and braking in the grass. Second, in choosing my departure on Runway XXL, I had the least likely chance of hitting people, vehicles, or aircraft…left of that runway. While I had maximum braking and significant rearward seat pressure during the magneto check, I will be more diligent in checking that my seat is locked in place.*

The reports featured in CALLBACK are offered in the spirit of stimulating thought and discussion. While NASA ASRS does not verify or validate reports, we encourage you, our readers, to explore them and draw your own conclusions.

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ASRS Alerts Issued in June 2025	
Subject of Alert	**No. of Alerts**
Aircraft or Aircraft Equipment	2
Airport Facility or Procedure	14
ATC Equipment or Procedure	10
Hazard to Flight	3
Other	5
TOTAL	**34**

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June 2025 Report Intake	
Air Carrier/Air Taxi Pilots	5,876
Flight Attendants	1,691
General Aviation Pilots	1,683
Military/Other	930
Controllers	399
Dispatchers	327
Mechanics	218
TOTAL	**11,124**