

CALLBACK

ASRS

From NASA's Aviation Safety Reporting System

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VFR into IMC



Instrument Meteorological Conditions (IMC) manage to sneak up on many pilots. Two ASRS reports of unintentional brushes with IMC show how easily a pilot can be caught by surprise. The first reporter, a low-time private pilot, sought ATC assistance for the IMC dilemma, and unwittingly became the recipient of an unwanted IFR clearance.

■ *My departure was at noon instead of [early morning]. I did not call for an update on the weather, and departed with my briefing from the morning. I had my head down trying to program a GPS which had been lent to me, and I got stuck in a cloud with poor visibility.*

I tried a 180 degree turn, but it did not seem to work, so I pitched up and started climbing. I contacted Center from which I was receiving flight following, and asked for a clearance to XYZ. They asked if I was IFR able and if the plane was. I said affirmative, thinking that I had training in IFR upon acquiring my Private [rating], and the plane had instruments with which I could fly IFR if I had to in an emergency situation. Then the controller gave a clearance and, at the time, I did not understand that I was indeed receiving an IFR clearance.

I told the controller I did not want to fly IFR and wanted to fly VFR. He stated, "You want to make it to XYZ, but it's IFR in XYZ." I repeated that I did not want to fly IFR. [The controller then vectored me to the closest VFR airport.] When I landed there it was fine VFR.

The controller did an admirable job of getting the pilot out of the clouds. An up-to-date weather briefing prior to the delayed departure might have encouraged the reporter to choose a destination more likely to remain VFR, or alternatively, to stay on the ground. Then, when stuck in IMC, this non-IFR-rated pilot would have received better ATC service by immediately admitting the lack of an instrument rating.

The next reporter hoped to avoid the forecast midday thunderstorms by departing in the early morning. Alas, the thunderstorms didn't read the forecast.

■ *I called FSS to get a weather briefing for VFR flight. The forecast called for a cold front to be coming in quite fast and weather to get much worse with thunderstorms developing by midday. I climbed to 12,500 feet, and noted a solid overcast layer at 11,000 feet [along my route of flight]. I contacted Center to request flight following, and checked Flight Watch to confirm there were adequate broken and scattered holes to descend safely close to my destination.*

The solid overcast layer began rising and quickly turned into cumulonimbus clouds, forcing me to climb. As I reached 14,500 feet, the clouds were developing very fast and rising all around me...In a very short time I was close to 18,000 feet. Center asked me if I was IFR capable, and I stated negative. They asked me if I had supplemental oxygen, and I stated negative. Soon I was at 19,700 feet, and Center said we have to get you back down to 12,500 feet. I was given a heading and was told to chop the power and keep wings level with a 500-600-foot-per-minute descent down through the clouds with reference to my artificial horizon. So I did as I was told...and I broke out of the clouds at 13,000 feet. I had a very bad headache and was disoriented. I was handed over to Tower [and landed uneventfully].

With 20/20 hindsight, I see that the rising cloud tops were extremely clear, strong STOP signs. I should have turned around when I confirmed the overcast layer was ascending.

Taking the conservative route—doing a 180 degree turn—is usually the better bet when facing IMC. Kudos to the sharp Center Controller for safely resolving this pilot's emergency. ▲

Not Good Form

In our next report, the commuter crew were flying in VMC on an IFR flight plan, but both were distracted from their flying and monitoring duties by Customs forms that could have waited until the flight had landed.

■ *We were given a descent clearance to 14,000 feet. It was the First Officer's leg to fly and I was filling out our crew declaration Customs form. I noticed that the First Officer was also filling out the Customs form, so I occasionally looked up to monitor our flight situation. The autopilot was descending initially, but had somehow disengaged without us knowing why. The autopilot warning announcing disengagement only occurs below 2,500 feet AGL. Because our descent was shallow and we were filling out our Customs*

forms, no one noticed we had descended through our assigned altitude until we were 500 feet below it. It was a light traffic day...and no traffic was on TCAS II. Center didn't mention the altitude deviation. In the future, I will pay closer attention to monitoring the autopilot...and I will supervise my First Officer more closely during autoflight.

The Captain filed this report to document the uncommanded disengagement of the autopilot. However, automation—the "Magic"—is never a substitute for flying the aircraft. The reminder for all is that the crew's first priority should always be on flying duties, including altitude callouts, checklists, and traffic watch. Ground duties should be saved and performed on the ground. ▲

ASRS Recently Issued Alerts On...

EMB-120 electronic engine control malfunction
B-737-800 leading edge flaps/slats malfunction
Failure of a B-757 left hydraulic system during takeoff
Ignition hazard of wooden matches in passenger baggage
Turboprop/parachutists near-collision near a New Jersey airport

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Air Carrier/Air Taxi Pilots	1968
General Aviation Pilots	685
Controllers	63
Cabin/Mechanics/Military/Other	181
TOTAL	2897

"Dry Dust and Stray Paper..."

Ezra Pound



Many pilots would prefer to avoid dealing with aircraft paperwork and logbooks. But, as the following report describes, a General Aviation pilot's look into old paperwork yielded a very serious discrepancy.

■ *We were flying on a long cross-country and had to divert and over-night due to weather. We decided to spend some time reviewing the aircraft logs, manuals, 337s [Major Repairs or Alterations], etc. Flying is a technical hobby for us, so we spend a lot more than most pilots just talking about aircraft documents and the like. While looking through some recent maintenance records, we found an invoice for a fuel bladder replacement showing a standard range fuel tank. The flight manuals, the equipment list, and all documents we could find listed long-range tanks. We had always flight-planned for long-range tanks based on those documents.*

A check on the serial number with the manufacturer verified it had been built with standard tanks. For at least 15 years, this plane was flown under the belief that it had long-range tanks. Somewhere down the line, someone made the assumption that the plane had long-range tanks, and wrote it down without looking at a written document to confirm the fact. [Then] it was spread...through all the documents associated with the plane.

The longest flight I ever made in this plane was in MVFR/IMC at night [over mountainous terrain]. We planned 5.25 flight time, plus 2.25 reserve based on long-range tanks. Flight time was 5.5 hours. We took on 66 gallons of fuel. Usable fuel is 65 gallons on standard tanks.

I have found this problem of incorrect data before. During installation of avionics in a plane I owned, someone subtracted the weight of two radios rather than adding them into the weight-and-balance. The total difference was 60 lb. (no major impact in that airplane). The error was made in 1965 and carried through every weight-and-balance up to 1995 when the plane was reweighed. I questioned why [the new aircraft weight] didn't match the old weight-and-balance. Recalculating every weight-and-balance found the discrepancy.

Dry and dusty as they may be, aircraft records often contain a wealth of interesting information—and possibly some discrepancies, too.

An air carrier Captain provides a report about a piece of paper that is a frequent source of confusion to pilots—the aircraft MEL (Minimum Equipment List):

■ *I incorrectly interpreted the leading edge flap/slat position indicator light procedure in the MEL. I deferred an item that evidently was not deferrable. I had conferred with Dispatch and the other pilot, and we were all in agreement as to our ability to defer the item. I think the problem was caused primarily by the wording of the MEL title and the unclear verbiage in that section. I should*

have read it more carefully and called Maintenance on the radio for their interpretation.

Since MELs are generally not written in "plain English," repeated readings may be required for complete understanding of their limitations and allowances. In addition, direct contact with the Maintenance Control Department may provide clarification that a dispatcher or other pilot cannot offer.

The Color of Caution

Perhaps the most commonly misread piece of paper is the aircraft checklist. This report of a checklist incident was submitted by an air carrier Captain.

■ *We were taxiing out for takeoff. The Second Officer read the taxi checklist and the First Officer responded. One item is flaps [looking for a green light]. This was responded to correctly. Prior to takeoff, the same challenge was answered again. An FAA inspector on our jumpseat stopped the checklist at this time and told us the light was not green, but **amber**. We returned to the gate. The flight was delayed for 24 hours for a flap problem.*

All three crew members missed this call. The amber light is associated with landing, not takeoff. This problem could have caused a very interesting takeoff.

This incident could have been avoided by more careful consideration of each individual checklist item, rather than rote responses to the familiar pre-takeoff agenda. ▲

Stray Blue Sheet

A corporate pilot reports that one more bit of stray paper, a recent issue of CALLBACK, made an impression. Apparently not quite a big enough impression...

■ *I was just reading in the last CALLBACK about low altimeter settings. I thought that could never happen to me. Well, guess what? [As we were climbing out] Center had cleared us to FL270. They asked our altitude, as they showed us high. Sure enough, our altimeter was set on **28.92**. The previous crew had had a setting of 28.96. I had not even looked at the first two numbers. We had some other distractions, but that is no excuse. Never say never.*

The last two numbers of the altimeter setting were so close that it didn't register with the reporter that the first two numbers were a problem—the 28 should have been a 29. ▲