

CALLBACK

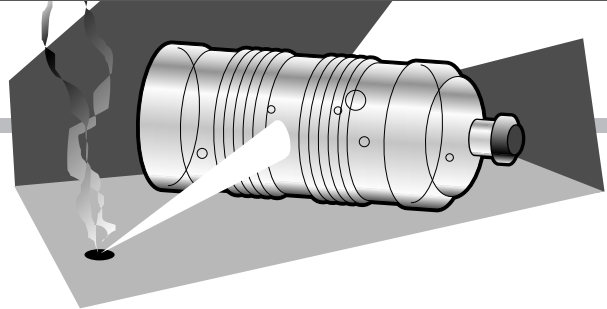
ASRS

From NASA's Aviation Safety Reporting System

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Where There's Smoke...



A special report issued by the Flight Safety Foundation in 1994 noted that "aircraft fires are rare, but their prospect is terrifying." When such events do occur, crew and passengers often have only moments to escape toxic fumes and acrid smoke. (FSF *Cabin Crew Safety*, Vol. 28, No. 6 and Vol. 29, No. 1).

Some of the more common causes of inflight smoke and fumes reported to ASRS are hydraulic fluid leaks in air conditioning packs, and electrical shorts in cockpit instrumentation. But several ASRS reports describe highly unusual incidents involving inflight smoke and suspected fire. We begin with a First Officer whose thirst had nearly unquenchable consequences.

■ *While in level cruise at 11,000 feet, I was enjoying a drink of water from a clear, plastic water bottle that I normally carry with me on flights. Suddenly, the Captain and I smelled smoke in the cockpit. About a second later, I felt an intense burning pain on my left leg. When I looked down, I found the smoke to be coming from my pants leg. The cause of this unusual occurrence also became immediately evident—the clear water bottle that I had resting between my legs had magnified the sunlight coming through the side window! The beam was concentrated...on my left leg near the bottle. At least if a fire had actually been allowed to develop, the emergency procedure would have been quite simple: 1) pull open spout; 2) squirt!*

This event has caused me to think of the possible consequences of leaving a water bottle or other clear plastic or glass object on a pilot's seat or console in an unattended aircraft parked outside in the sun.

Other pilots may wish to follow our reporter's lead and consider adopting personal procedures to prevent such "pants on fire" experiences.

"Flames in the Louvers"

The Captain of a twin turboprop Beech 99 reports that he and his co-pilot followed emergency procedures to the letter when flames were spotted in the engine louvers during a cargo flight:

■ *On a VFR flight at 7,500 feet MSL, the First Officer reported seeing flames in the louvers just aft of the inboard engine exhaust on the #2 engine. I noted the fire T-handle warning light was not on, unstrapped [the seat belt], and visually confirmed a bright yellow-orange flickering through the louvers. After strapping back in, I ordered execution of the "engine fire in flight" checklist. Engine shutdown and feather were normal.*

After completion of the checklist, the First Officer reported the fire still present. This was disconcerting, since the T-handle (firewall shutoff valve) had been pulled as part of the checklist. I immediately turned toward the nearest airport, and was on the verge of declaring an emergency with Center when the First Officer said, "Wait a minute, I see some tape fluttering." I asked him to confirm that he saw no flames, only fluttering tape. This he did. At this point, we realized that the change in airflow caused by the now feathered prop and the change in the angle of the sun as a result of the turn to the field had revealed our engine fire to be a rapidly flickering piece of orange silicone tape.

We conducted an air restart (carefully monitoring the instruments, fire warning indicators, and louvers). Restart was uneventful and we [landed] uneventfully.

Post-flight [inspection] revealed a 3-inch length of loose orange tape dangling from an orange-insulated line.

Return to Land

The pilot of a twin-engine General Aviation aircraft was on an IFR flight plan in instrument conditions when smoke filled the cockpit. Quick thinking and good resource utilization saved the day:

■ *Pilot and front seat passenger smelled [smoke] and shortly after saw smoke emanating from the instrument panel. I turned off the #2 nav/comm and found that the smoke ceased. I then pulled the circuit breaker and opened the vent window to air out the cabin. I advised ATC of the problem, and requested and received clearance to the departure airport. I asked the front seat passenger to advise the rest of the occupants of the situation, to remain calm, and asked him to retrieve my approach charts. This led to an uneventful landing. I contacted the Tower and was told no report was required to be filed.*

I have learned to keep handy the plate for the approach in use at the departure airport in the event I ever have to return for landing during IFR conditions.

As a result of this incident, the reporter has adopted a procedure—keeping close at hand the approach plates for the departure airport—that is standard for many commercial operations, and recommended for any pilot flying in actual instrument conditions. ▲

ASRS Recently Issued Alerts On...

FK-10 stabilizer trim failure attributed to tail icing
Cessna 210 engine seizure attributed to a broken crankshaft
L-1011 system failure warnings caused by cockpit electrical fire
B-727 jammed aileron due to autopilot aileron servo malfunction
Autoflight disconnects attributed to a passenger's hearing aid

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December 1998 Report Intake

Air Carrier/Air Taxi Pilots	1895
General Aviation Pilots	604
Controllers	75
Cabin/Mechanics/Military/Other	165
TOTAL	2739

Preparation for Medical Emergencies

A Captain reports to ASRS that he has adopted a new type of personal checklist following an inflight medical emergency:

■ *En route, Flight Attendants advised us of a sick passenger in the back. The flight was diverted to [airport] XYZ to disembark the passenger.*

Prior to departure [from XYZ], diversion being a thing that I had never done before, I discussed with the First Officer if there was anything else that we needed to do before departure. We couldn't think of anything so we departed.

On climbout, I realized that we had had a medical emergency and that the Flight Attendants had used oxygen and the Emergency Medical Kit (EMK). We called them up and found that they had used one [oxygen] bottle down to 500 lbs. and a second down to 1,000 lbs. They had also used the blood pressure cuff from the EMK. At least one oxygen bottle and the EMK should have been replaced or resealed before departure from XYZ.

I have since created for myself a "diversion checklist" to help me to remember what I need to [do] should I have a diversion again in the future.

If the crew had filled out the aircraft logbook with a notation regarding the emergency items, the Emergency Medical Kit and portable oxygen bottles might have been replenished at the diversion location before the flight continued. This reporter's company and others might also consider implementing a procedure for company dispatchers to follow when an aircraft diverts for a medical emergency. In the meantime, the reporter's idea of a diversion checklist is a good one.

A Case of Cursed Cuisine

A First Officer's experience with inflight illness underscores the wisdom of policies in place at many airlines that prohibit flight crews from eating the same meals during a flight or on layovers.

■ *First Officer (me) had earlier noticed an upset stomach which he thought due to an 8-hour-previous spicy lunch he had eaten. Took antacids and symptoms went away. Takeoff and climb were normal. Approximately 30 minutes into cruise upset stomach returned with nausea. First Officer went on 100% oxygen and that helped temporarily. A few minutes later, acute nausea and intense digestive discomfort manifested themselves. A doctor was summoned and her diagnosis was onset of the flu or other virus. At that point the First Officer [got sick]...*

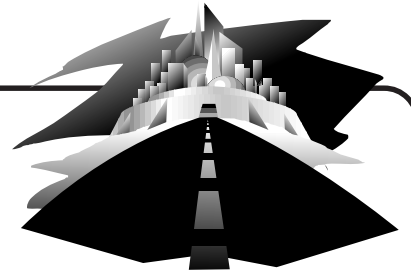
The Captain and dispatch elected to have us divert to XYZ for a new First Officer. During the flight, the Captain handled the radios most of the time...I did PNF duties such as checklists and sometimes ATC/radio communications. No emergency was declared, although

the Captain did ask for priority [handling]. After a night in the hotel I had no more nausea, but did have general flu-like symptoms...

I consulted my physician [later]. He diagnosed it as food poisoning, and after a comprehensive exam said I was well and could return to flying. Let this be a warning to crews, especially single-pilot crews, about the severity and suddenness [with which] food poisoning or a virus can strike.

We hope that all flight crews will take our reporter's warning to heart, along with the additional thought that special precautions against food poisoning need to be taken by those flying overwater routes. Ill crew members cannot easily be replaced once an aircraft is mid-Pacific or mid-Atlantic. ▲

Going for the Green



An air carrier Captain prefaces his report of a runway incursion by noting, "Follow the Yellow Brick Road—or in this case, the inlaid green taxi centerline lights—and you may not get to the Emerald City, or to the correct runway either."

■ *I called for a taxi clearance, and was told to taxi to Runway 9—no via this or that taxiway. There was a runway parallel to our track and a somewhat reassuring string of green lights passing under the nose and strung out up ahead. Only trouble was, they didn't lead to Runway 9. As I approached an intersecting runway (12/30), the co-pilot questioned our taxi route. Prior to his comment, I was thinking all was just fine. I didn't want to slam on the brakes, and by the time I realized that he was right, we were across Runway 12/30. Fortunately the runway was closed.*

I've been to this airport dozens of times before. The difference between going the right way and the wrong way amounted to allowing myself to follow a few green lights and not being more vigilant in checking the taxi route. I should have stopped the aircraft at the first hint of confusion.

The reporter fell into two traps—assuming that his aircraft was intended to follow the green taxi centerline lights, and that they would lead him to the desired runway. In this instance, one or both of these assumptions turned out to be incorrect. The First Officer's concern about the taxi route should have been a heads-up to the crew to contact Ground Control for clarification. ▲